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A Gendered Environmental Justice Perspective of Tiger Reintroductions to Sariska Tiger Reserve

Elena C. Rubino
Texas State University, ecr71@txstate.edu

Kalli F. Doubleday
University of Texas, kdoubleday@utexas.edu

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Cover Page Footnote

Please address all correspondence to Dr. Elena C. Rubino (ecr71@txstate.edu).

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Elena C. Rubino
Texas State University

Kalli F. Doubleday
University of Texas

ABSTRACT

The reintroduction of Bengal tigers (*Panthera tigris tigris*) to the Sariska Tiger Reserve in Rajasthan, India, has resulted in perceived increases of human-wildlife conflict for local villagers. Because previous evidence from other settings suggests that women may experience human-wildlife conflict differently than men, this research employed a comprehensive environmental justice framework to explore how women have been uniquely impacted by tiger reintroductions. Findings from focus group discussions with villagers suggest that women bear greater burdens from increased tiger presence, yet these costs are not typically acknowledged by men, and women do not feel that their perspectives were considered in the reintroduction process. Viewing human-tiger conflict through an environmental justice lens allows us to offer socially-oriented mitigation recommendations, such as empowering local women to engage in self-organized activism.

KEYWORDS

Bengal tiger, environmental justice, gender, reintroduction

INTRODUCTION

The Sariska Tiger Reserve (hereafter, “Sariska”), located in the Alwar district of Rajasthan, India, was designated as a protected area for the specific purpose of supporting a viable Bengal tiger (*Panthera tigris tigris*, hereafter, “tiger”) population in 1979 (Jain and Sajjad 2016), yet it had struggled to maintain a healthy population due to poaching, retaliatory killings, and poor management (Narain et al. 2005). After over a decade of

intentionally inflated tiger population numbers, Wildlife Institute of India officially declared that tigers had been locally extirpated as of late 2004 and that tigers had not been a significant force on the landscape for many years prior (Narain et al. 2005).

To remedy the extirpation, tiger reintroductions from Ranthambhore National Park to Sariska began in 2008 and continued through 2013, establishing nine adult tigers back onto the landscape (Sankar et al. 2013). Reintroductions have been successfully implemented to restore large carnivore populations across the globe (Hayward et al. 2007; Wolf and Ripple 2018). Reintroducing carnivores to parts of their historic ranges can offer ecological benefits, such as reducing extinction risk and repairing ecosystem function by reactivating predators' effects via trophic cascades, as well as socioeconomic impacts, including benefits such as generating increased wildlife tourism opportunities, and potential harms such as attacks on livestock, pets, and humans (Wolf and Ripple 2018).

Sariska serves as an exemplary case study of these same tensions between the benefits and costs of carnivore reintroduction. Ecologically, tiger populations continue to increase in Sariska, where there are now 20 individuals, including cubs, which is touted as a significant, ongoing conservation success (Chauhan 2020). Socioeconomically, however, Sariska's tiger reintroduction has generated mixed results. Whereas men focus on benefits related to improved tourism employment, protection (e.g., crops, property), and animal husbandry (e.g., disease control, herd fertility), women predominantly perceive increased costs and risks related to their personal safety and household responsibilities (including grazing livestock, collecting fodder/wood, and securing sufficient household income through the sale of buffalo milk) (see Doubleday 2020 for more detail regarding women's workloads and how they are affected by tiger presence). These differing perspectives exemplify the need to investigate how and why some groups bear greater burdens as a result of conservation policies, such as reintroductions.

ENVIRONMENTAL JUSTICE THEORETICAL APPROACH

Civil rights and environmental activists joined forces in 1982 when the state of North Carolina dumped PBC-contaminated soil at a landfill in Warren County. The disposal of the toxic waste in an economically poor, African American community sparked protests which began the environmental justice movement (Schlosberg and Collins 2014). This movement recognizes the enmeshment of people and the environment (Schlosberg and Collins 2014), noting that environmental interventions

often negatively impact marginalized groups the most (Bose 2004). The environmental justice movement seeks the fair treatment of people, ensuring that no group of people bears a disproportionate share of environmental consequences (Bullard and Johnson 2000).

Although most understandings of environmental justice focus on equity, or the distribution of environmental costs and benefits (e.g., air quality in different communities [Miranda et al. 2011] or the distribution of urban green spaces [Wolch, Byrne, and Newell 2014]), a broader definition is required to attain the goals of justice (Schlosberg 2004). Simply considering distributions ignores the sociocultural and institutional relationships in place that underlie those allocations of environmental goods (Young 1990). More comprehensive definitions, which we have chosen to adopt here, include three components that are necessary to achieving justice: 1) equity in the distribution of risks/benefits, 2) recognition of the participants and experiences of affected communities, and 3) participation of these communities in the political processes that create and maintain environmental policy (Figure 1; Schlosberg 2004). It is the lack of recognition (i.e., devaluation) of populations and their exclusion from participation that creates conditions that result in unequal distribution (Schlosberg 2004).

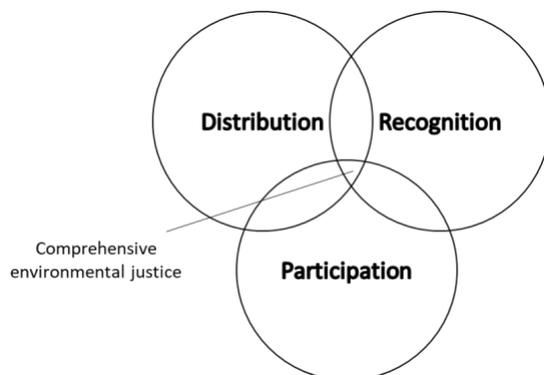


Figure 1: The Three Components of Comprehensive Environmental Justice, per Schlosberg (2004)

Environmental injustices are often studied in relation to race and poverty, two areas that have driven the environmental justice movement (Buckingham, Reeves, and Batchelor 2005). Yet many geographies of environmental injustice are gendered, as well, because women's social roles as mothers, food providers, and primary health care providers expose them more to environmental risks (Bell and Braun 2010; Buckingham et al. 2005), while they are simultaneously less involved in

political decision-making and formal political arenas (Ferree and Mueller 2004). Research has only begun to fully investigate the gender-differentiated impacts of environmental injustices, documenting how injustices can disproportionately affect women (often related to areas around the home). For example, studies have explored how women are unequally affected by land and forest degradation due to mining in Appalachia (Bell and Braun 2010) and India (Bose 2004), municipal waste management in Ireland and the United Kingdom (Buckingham et al. 2005), and pollutants in California (Brody et al. 2009). Notably, evidence also suggests women tend to initiate, lead, and participate in environmental justice activism more than men (Bell and Braun 2010; Rainey and Johnson 2009), making them vital to the sustainability of the movement.

Applying an Environmental Justice Lens to Human-Wildlife Conflict

Human-wildlife conflict (HWC) refers to negative interactions between people and wildlife (Gore and Kahler 2012), including livestock depredation, the destruction of crops or stored food, or disease transmission (Dickman 2010). Research has begun to recognize the gendered differences of the impacts of some instances of HWC, although few studies explore HWC using an environmental justice lens (e.g., Jacobsen and Linnell 2016; Schnegg and Kiaka 2018). Particularly in rural, natural resource-dependent communities, women can experience a disproportionate HWC burden, often due to gendered divisions of labor and their marginalized positions in society (Allendorf and Allendorf 2012). For example, as a result of HWC, women can suffer from inequitably increased workloads, exposure to insect-borne disease, economic hardship, and decreased physical safety (e.g., risk of wildlife attack), psychological wellbeing, and food security (Chowdhury et al. 2008; DeMotts and Hoon 2012; Doubleday 2020; Ogra 2008). These gendered experiences can prompt disparate attitudes towards wildlife. Consistent with their experiences, women hold more negative attitudes towards wildlife in settings where frequent wildlife interactions lead to crop and livestock losses (Gore and Kahler 2012; Kaltenborn, Bjerke, and Nyahongo 2006). These different attitudes can result in variations in tolerance towards living with wildlife (Carter and Allendorf 2016), a required component of coexistence.

Because recognizing situations as unjust prompts particular strategies for action (Čapek 1993), the lack of environmental justice framing in HWC studies results in missed opportunities to employ social justice approaches when attempting to mitigate wildlife conflict. To

demonstrate the utility of considering how populations are impacted differently by the distribution of HWC (which is a function of how they are recognized and participate in wildlife-related discussions), we used an environmental justice lens to explore locals' perceptions of tiger reintroductions in the Sariska Tiger Reserve. In doing so, we reveal how gendered labor roles and social positions result in unequal burdens from tiger reintroduction and offer strategies to prevent and address inequitable HWC, rooted in achieving social justice.

METHODS

In line with our interest in using an environmental justice framework to attain more just conservation policies, a significant goal of our research was to give a voice to the women in and around Sariska (Ragin and Amoroso 2011) who have been excluded from the tiger reintroduction process, yet are most influenced by tiger presence on a daily basis. We aimed to understand these women's worlds and share their stories to heighten their visibility within the conservation community (Ragin and Amoroso 2011). We employed focus group discussions (FGDs), interviews, walking tours, and over 200 hours of community volunteer work to understand the psychological and sociocultural structures and processes among Sariska locals. FGDs (Berg 2001), the primary source of data presented here, were conducted from 2014 to 2017 with a team of local interpreters fluent in local dialects of Rajasthani, Hindi, and English. Interpreters worked in study area communities, providing a baseline of trust for interactions. Our semi-structured approach to FGDs began with broad questions designed to guide discussions about daily life when sharing the landscape with tigers and perceptions of tiger extirpation and reintroduction (Berg 2001), yet also allowed for participant-driven conversations where respondents identified and discussed their most relevant experiences (Stewart and Shamdasani 2015). FGDs were split into mixed gender (MG-FGDs; 2014-2015) and women-only (WO-FGDs; 2016-2017) to create spaces for different social interactions (e.g., Heary and Hennessy 2002). MG-FGDs were necessary for understanding different experiences and dynamics between genders, whereas WO-FGDs were vital for exploring sensitive topics that would not be socially acceptable to discuss among men. For example, MG-FGDs involved questions regarding participants' attitudes towards Sariska's status as a Tiger Reserve, the positive and negative aspects of tiger extirpation and reintroduction, and how extirpation and reintroduction events changed their daily lives. WO-FGDs mirrored these same questions, but also

included questions related to dowries and livestock-specific labor which resulted in women discussing gender-based violence, which was not brought up in MG-FGDs. The order of questions and follow-up probes were dependent on the flow of the discussion.

We collected data from a 10 km radius around Sariska, which was divided into four quadrants to account for the mobility of tigers and how locals perceived and encountered tigers in different areas. We conducted a total of 52 FGDs (13 per quadrant), where 39 FGDs were conducted within 5 km of Sariska and 11 were within 1 km (including on the boundary of and inside Sariska). Quota and convenience sampling (Berg 2001) were used to recruit respondents and ensure that gender and age bracket quotas were met. Consequently, FGDs consisted of natural groups of relatives, neighbors, and friends who were familiar with each other, allowing for more open and comfortable conversation (Frey and Fontana 1991). Panels represented diverse generations, occupations, and other demographics, and a total of 416 people participated (256 people in 32 MG-FGDs and 160 women in 20 WO-FGDs). All respondents verbally consented to the research protocol (approved by University of Texas IRB) and all agreed to being identified by their distance from Sariska, which is included next to quotations. We continued data collection until saturation, or when there was a high frequency of repeated information and themes (Fusch and Ness 2015).

All FGDs were recorded with participant consent and recordings were translated and transcribed by a professional transcriber fluent in Rajasthani, Hindi, and English. Transcripts were randomly crosschecked by other professional transcribers to ensure detailed and unbiased transcription. Transcripts and field notes were analyzed using Dedoose analysis software and open and axial coding were used to identify and draw relationships between themes in the data (Berg 2001). For this analysis, we focused on coding for the environmental justice components of distribution, recognition, and participation and utilized the two FGD formats to detect patterns related to group perspectives and to compare between group experiences.

FINDINGS

Distribution

Female respondents articulated that tiger presence in Sariska results in severe threats and burdens that they must navigate daily. Perhaps the most direct threat from tigers that women perceive is that of physical harm. Female respondents consistently described living with anxiety and

fear due to their household responsibilities of grazing livestock and collecting fodder and wood in tiger habitat. For example, one female respondent described, “Collecting the wood from bamboo brush on the hill, I’m scared” (~0.5 km), and another explained, “We [women] get up at 5 in the morning. We work for the entire full day in the jungle...we could be killed” (~4 km). Female respondents also recognized the risk inequality between traditional men’s work (most often farming or intermittent labor) and women’s work, which often requires multiple trips per day into Sariska. Not only was men’s work routinely reported to be less physically demanding, but female respondents also emphasized that women’s work requires significantly more time “exposed” to tigers, “[Men’s work] is scattered... not difficult like we are suffering in the jungle” (~4 km). Another female respondent summarized the unique challenges women face while fulfilling their household duties:

This life is difficult-- we have no water, we are poor, we live in kutcha [mud, dung, and thatch] houses. We [women] have days with our backs to man-eaters. It is dangerous. It is not wise. We do not understand why [the Forest Department] has brought [tigers] here. Yes, it is risky. We are risking our lives every day at 5am, at 6 am, at noon, at dusk... No, [men’s work] is not risky like going to the hills [of Sariska]...Yes, we are scared, but we go. (~3.5 km)

The presence of tigers also leads to disproportionate threats to women related to law enforcement by the Forest Department. Given the extraction of natural resources by locals, the Forest Department instituted restrictions on activities such as grazing, using forest products, and constructing structures within Sariska in an effort to minimize ecosystem degradation in the reserve (Jain and Sajjad 2016). According to our respondents, the Forest Department is stricter regarding wood collection than grazing. Correspondingly, many female respondents expressed concern over the possibility of jail time or other punishment for wood collection in Sariska, although they were less worried about official reprimands that result from being caught grazing, “Forest officers arrest us if we are caught bringing wood from the jungle” (~4 km). Of note, our respondents described grazing as a predominantly woman-led activity, although it is also conducted by a minority of men, whereas wood collection is a strictly female duty. As such, women find themselves in conflict with the Forest Department; “These forest officials have barred us from entering there, and by doing this they have snatched our work from

us..." (~7 km). Female respondents recognized that their household responsibilities are considered illegal and thus they are more frequently at risk of official repercussions from the Forest Department than men.

In an indirect, but no less severe, fashion, tigers pose a threat to women by endangering their livestock. Female respondents indicated that livestock are of crucial importance to women. Foremost, the milk from livestock is a family's most reliable source of money, "Milk is the main source of income, we sell milk, then we buy food and clothes for our kids" (~6 km). As such, the threat of livestock predation by tigers overpowers any potential benefits for the majority of female respondents, as they note: "There cannot be any benefit of [tigers]; rather, it is risky for villagers as they will eat our animals" (~1.5 km), and "We rear cattle and they provide us our livelihood. If they [are eaten], how could we live?" (~1.5 km).

To minimize the chance of livestock predation, female respondents explained how they do "all the hard work" of collecting fodder from the forest for their livestock, risking their own lives (threatened by tigers and the Forest Department) rather than those of their livestock. As such, tiger presence leads to increased workloads specifically for women, where female participants estimated they collect an average of 22 lbs of fodder for livestock per day over the course of an average of 4 hours per day inside Sariska or the buffer area. Despite women's efforts, however, milk production suffers when livestock are unable to properly feed. For example, one female respondent noticed a drop in production because her livestock could no longer graze freely due to tiger presence, "[Before] our buffalo roamed freely, but now they are bound [after tiger reintroduction], so there is a lot of difference in milk" (~0.5 km). Another noted that the enforcement of natural resource extraction restrictions caused milk production to fall, "Now we face a situation, we get less milk because we are not permitted to go inside [Sariska] to collect grass" (~0.5 km). Thus, tiger presence continues to be costly, even when women attempt to minimize the risks they face.

Furthermore, these costs extend beyond family income. In addition to the loss of household cash and consumption value when milk production decreases, WO-FGDs often focused on the interfamilial conflict associated with lost income from inadequate livestock production; "That is the problem, we are not able to meet expenses, and we have a big problem in the home [referring to domestic violence]" (~3 km). Female respondents recognized the inequity of this response from men given the gendered household responsibilities, pointing out that, "...they [men] work in mines, earn around 200-250 rupees, and give nothing to the family but

drink [alcohol] every day, and after drinking beat their wives. If they [wives] have no money, they beat them again” (~3 km).

Not only do women risk threats within Sariska to protect themselves from abuse, but also to protect their daughters. Respondents noted that diminished family incomes from tiger presence also impact dowry payments, and offering small dowries or the inability to pay post-marriage can lead to the abuse of newlywed daughters by in-laws or the new husband. This situation is exacerbated by dowry inflation, which was frequently mentioned in WO-FGD, “In the past, marriages were not that costly, but nowadays because of the desire to show off, they are becoming expensive” (inside Sariska). To compensate for lower incomes and higher dowry-related payments, some families must take out loans, which can ultimately result in a cycle of intergenerational poverty; “How do we pay interest on a loan when we are not able to even repay the principal? We need to pay 4-5 percent interest” (~6 km). Livestock are considered the most significant component of a family’s income used to pay for dowry-related expenses. As such, livestock signal the ability to pay larger dowries and are key in arranging “good marriages.” Conversely, losing livestock to tiger predation can be catastrophic to families negotiating or in the process of paying dowries. Families are not awarded compensation for predated livestock because grazing inside Sariska is illegal, even though many consider it necessary for livestock to thrive on the landscape. To avoid the abuse and shame associated with underpaid dowries and poor marriages, women continue to put themselves at risk by collecting fodder and grazing livestock within Sariska.

Female respondents consistently expressed bearing the burden of the costs of tiger presence in Sariska, yet male respondents were quick to highlight the benefits associated with tiger presence in Sariska; “[Tigers] are good for us” (male respondent, ~2 km). In particular, male respondents applauded improved tiger populations because of the associated rise in available employment within hotels, as guides, and in construction as a result of increased tourism. However, female respondents noted that they are not able to benefit from the opportunities tiger tourism generates. One female respondent lamented, “It is not an option. Jobs for them [men] as guides will not touch us [women]”, and another explained, “We will continue [to work inside Sariska] no matter if there are [tourism] jobs” (~8 km).

Recognition

Despite near universal agreement among female respondents that women are disproportionately negatively affected by tiger presence, in WO-FGDs, they highlighted that men tend to not acknowledge their challenges. For example, one respondent explained that men do not think to consider the dangers women face when they perform their household responsibilities, “[Husbands] tell their wives to get out from the house without a thought [to tigers], and in the evening he calls her back inside [to prepare dinner and fulfill marital duties]” (~3 km). Another respondent described how women’s hardships go unnoticed, “How much effort we are putting for that milk that no one knows? We collect fodder for buffalos for hours that no one cares about” (~6 km).

Consistent with female respondents’ portrayals of men in WO-FGDs, some male respondents in MG-FGDs appeared to be genuinely unaware of how tigers influenced the daily lives of women. An exchange between a male and female respondent illustrates this well:

Male respondent: Tigers could be [in Sariska], but in the jungle, not in the village.

Female respondent: Listen to me, where would we go? For many things, we are needed [for our families’ welfare] to go to the jungle. Where would we go and where would our animals go [if we cannot go to Sariska]? Day, night we go to the jungle.” (on Sariska boundary)

The male respondent in this exchange did not reply, processing the female respondent’s argument. In other cases, in apparent efforts to minimize the roles of women, male respondents frequently used gender-neutral terms when first responding to questions about who is mostly like to see or has seen tigers. For example:

Male respondent: Those grazing cattle [are the ones who] usually encounter tigers.

Translator: Who are ‘those’?

Male respondent: Women. (~1 km)

However, a notable exception to this pattern of male respondents dismissing women’s experiences was among young (18-25) adult male respondents, who often expressed conflicting attitudes regarding tiger reintroduction. These respondents voiced considerations for their own

opportunities, as well as the risks to women. In one example, a young male respondent stated that the situation created by tiger reintroduction is “unfair.” When probed, he continued, “[Like] what [my] aunt was saying [before], the tigers create problems for them [women] when they go to the jungle for fodder. Otherwise [tigers] are very good” (~8 km).

Participation

Although we did not explicitly ask respondents about their involvement in the state’s decision to reintroduce tigers to Sariska, female respondents consistently expressed sentiments that indicated their perspectives were not considered in the reintroduction process. For example, male respondents spoke of the benefits of tigers on the landscape, “There should be more tigers in the jungle” (male respondent, ~2 km), yet female respondents actively called for their removal: “Take them from here,” “Yes, they should definitely be removed” (~1.5 km), and “...Tigers should not come here [and more should not be relocated here]” (~10 km). Female respondents longed for tigerless Sariska, reminiscing about “better” fodder collection and grazing opportunities that led to higher milk production and describing it as “a good time [because women] were able to graze our cattle very well” (inside Sariska). Respondents also indicated that they felt their families continue to hold them to past expectations when milk production was easier and more productive.

DISCUSSION

Marginalized Women in Wildlife Conservation Policy

Our findings illustrate compelling differences in the perceptions of human-tiger interactions between women and men. Unlike men, women frequently highlighted the fear and anxiety they felt now that tigers are present in Sariska. WO-FGDs were particularly enlightening in that women were more comfortable expounding on the deeper, more indirect reasons they felt tiger presence jeopardizes their safety, predominantly through threats to livestock, leading to increased workloads, lower household income, and domestic violence. Similar gendered inequalities in human-wildlife interactions have been documented in a variety of settings. In India, women were more likely to experience increased workloads and economic hardships, and diminished physical and psychological wellbeing due to human-elephant conflict (Chowdhury et al. 2008; Ogra 2008). Women were also disproportionately affected by human-elephant conflict in Botswana, where female-headed households may have less diversified incomes, making crop loss more detrimental. Additionally, women with

children may be less able to defend their fields at night by tending to fires (DeMotts and Hoon 2012).

Although our female respondents mainly focused on the gendered costs associated with tiger presence, they also noted that they do not benefit from tiger reintroduction to the extent men do, either. This lack of perceived benefit from wildlife has also been documented to explain gendered differences in perceptions towards wildlife. For example, Carter and Allendorf (2016) found that two-thirds of the gender gap in attitudes towards tigers in Nepal is explained by beliefs about tigers, where men were more likely to recognize the benefits of tigers. Similarly, Allendorf and Yang (2017) found that men were more likely to have positive attitudes towards the Gaoligongshan Nature Reserve in Yunnan, China because they had more knowledge of the reserve and were more likely to perceive benefits of the reserve.

Yet, despite the growing evidence of different distributional HWC experiences for men and women, the gendered differences in costs and benefits can remain “hidden” to other stakeholders (i.e., men) (Ogra 2008). For example, Ogra (2008) found that the documented disproportionate costs women bore due to human-elephant conflict were “invisible” to survey respondents, in that half of respondents perceived that men and women were impacted equally. Our results mirror this finding in that female respondents felt men do not acknowledge their unique hardships. Consistently, male respondents appeared to both intentionally and unintentionally disregard women’s experiences. These gendered patterns of recognition (or lack thereof) are likely attributed to women’s marginalized position in society and the gendered labor roles they fill (Allendorf and Allendorf 2012; Ogra 2008).

In a similar vein, women’s lower status in the communities in and around Sariska (Doubleday and Adams 2019) may explain why our female respondents felt ignored in the tiger conservation policy process. Collectively, they voiced opinions calling for the removal of tigers from Sariska, which were contrary to the wishes of male respondents and the reintroduction policy in place. The exclusion of women from conservation activities is not unique to this case, however. Women across the globe have been found to be disregarded in political activities and decision-making, including conservation policy (Bandiaky 2008; Mukadasi and Nabalegwa 2007). Intentional or not, excluding women from such political processes virtually ensures that the needs of these stakeholders will not be met and that women are unable to actively address their own interests (Bandiaky 2008; Mukadasi and Nabalegwa 2007).

Understanding the ways marginalized populations are impacted by conservation policies may help explain why attitudes towards conservation can vary among groups. The negative attitudes our female respondents had towards tigers is consistent with the findings of other studies that explored gendered attitudes towards predators. Compared to males, female villagers have been found to be more fearful of leopards (*Panthera pardus*), hyenas (*Crocuta crocuta*), and cheetahs (*Acinonyx jubatus*) in Tanzania (Kaltenborn et al. 2006), less tolerant of jaguars (*Panthera onca*) and other cats in Belize (Harvey, Briggs-Gonzalez, and Mazzotti 2017), and less likely to have a positive attitude towards tigers in Nepal (Carter and Allendorf 2016). However, few studies seek to explain why women's attitudes were different (see Allendorf and Yang 2017; Carter and Allendorf 2016). Understanding why marginalized groups have different perspectives can aid conservationists in addressing the factors influencing attitudes, ultimately improving tolerance for wildlife (Carter and Allendorf 2016), which is necessary for human-wildlife coexistence.

Piecing it Together with an Environmental Justice Framework

Despite research independently investigating marginalized peoples' disproportionate conservation burdens, a lack of recognition of these burdens, and their poor representation in policy-making participation, few studies have sought to comprehensively explore all three of these concepts and how they relate. By utilizing an environmental justice framework, we are able to not only document the gendered distributions of tiger reintroduction costs and benefits for women in and around Sariska, but illuminate the sociocultural relationships that create these unequal burdens for women. Viewing our findings within an environmental justice framework elucidates that the tiger reintroductions to Sariska have exacerbated pre-existing inequalities (where women are marginalized in society due to their lower social status), resulting in manifestations as human-wildlife conflict (Dickman 2010). Yet rather than recognize the larger system of gendered social inequality, women myopically view tigers as the source of their problems related to unfairness and inequity.

It is in the interest of conservation to address such social injustices and inequalities because any conservation action that does not take them into account risks reinforcing them, thus undermining conservation goals (Martin et al. 2016). Employing an environmental justice framing for our results allows us to offer unique strategies for improving social justice while mitigating human-tiger conflict in Sariska (Čapek 1993), resulting in more effective conservation (Martin et al. 2016). Although technical

interventions aimed at reducing HWC are helpful in the short-term, successfully cultivating long-term change requires addressing the underlying social issues (Hill 2015). One of the most powerful actions typically utilized to counter environmental injustices is self-organization and empowerment, where marginalized people can work together to improve the practices and policies that have created unfair conditions (Bullard and Johnson 2000). Women, in particular, have been a historically marginalized group that has effectively combatted environmental injustices by leading and participating in environmental justice activism (Bell and Braun 2010; Rainey and Johnson 2009). Evidence in the natural resource conservation context also indicates that women's participation in resource management groups throughout Latin America, Africa, and Asia resulted in increased collaboration, conflict resolution, and ability to self-sustain collective action (Westermann, Ashby, and Pretty 2005). Furthermore, women's participation in natural resource management groups was correlated with better natural resource conservation and regeneration, as well as rule enforcement and compliance (Agarwal 2009). The women of Sariska have the potential to engage in and benefit from such activism and participation in the policy process, but external efforts (e.g., from nongovernmental organizations focused on environmental justice) can be made to help empower women and prepare them for sustained self-organization.

The case of gendered attitudes towards carnivores and their reintroduction is not unique to Sariska, and the reintroduction of predators and other megafauna are likely to become more common as local extinctions become more frequent (Hayward et al. 2007). As such, women's inclusion, and the inclusion of other marginalized groups, in wildlife conservation policy is necessary for sustainable human-wildlife coexistence. Viewing reintroductions through an environmental justice lens in the reintroduction planning stages can proactively gauge support for the reintroduction, illuminate why there may be differing views, and include all stakeholders in the decision-making process. Continuing to monitor attitudes towards wildlife can also indicate when unintended consequences have developed, and efforts can be made to address these problems. Utilizing the environmental justice framework can help preempt HWC and foster policy processes that provide opportunities for social justice, enabling humans and wildlife to successfully share the landscape.

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