Exploring the Hidden Costs of Human–Wildlife Conflict in Northern Kenya

Jennifer Bond and Kennedy Mkutu

Abstract: Human–wildlife conflict (HWC) is often considered in terms of how the impact on humans can be mitigated, but in the context of the larger goal of meeting conservation goals. This article explores the hidden costs of HWC on human well-being in northern Kenya through a qualitative case study of Laikipia County. Drawing on narratives of wildlife as destructive, wildlife as inherently more important or valuable than humans, and wildlife preservation as a pathway for capturing resources, it explores the impacts of HWC on human well-being, situating the study within the HWC, political ecology, and human security literature.

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Résumé: Les conflits humains-faune (CHF) sont souvent considérés comme des moyens d'analyser l'impact de la faune sur les humains dans le contexte des objectifs de conservation. Cet article explore les coûts cachés du CHF sur le bien-être humain dans le nord du Kenya grâce à une étude de cas qualitative du comté de Laikipia. Il s'inspire d'une variété de récits sur les CHF—incluant la faune sauvage comme destructrice pour les humains, la faune comme intrinsèquement plus importante que les humains et la chasse comme voie de capture des ressources—pour explorer les impacts du CHF sur la sécurité et le bien-être des humains.

Keywords: Conservation; farmer; human security; Laikipia; pastoralist; political ecology

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Introduction

Human–wildlife conflict (HWC) refers to those interactions between humans and wildlife that are perceived as detrimental for either party. Examples of HWC include livestock predation, crop raiding, damage to infrastructure such as grain stores and water channels, and physical harm or death. These conflicts are seen throughout the world, in both urban and rural contexts, and there is a general consensus that they are often linked to human–human or human–state conflicts (Hill 2004; Knight 2000; Peterson et al. 2010). But while the victims of these conflicts are certainly the wildlife species that are caught in the fray, human individuals and communities are also the victims. Studies of HWC often focus on the economic outcomes for humans (e.g., Hill 2004; Messmer 2000; Naughton-Treeves & Treeves 2005; Walpole & Thouless 2005), although more recent studies have moved beyond the human economic focus to a focus human well-being (for example Jhadav & Barua 2012). The threat of HWC to humans can be significant, particularly at the household level, in terms of injury, disease, and the disruption of schooling and daily life because of the need to guard crops or livestock (Hill 2004). While some individuals or households may be at greater risk of crop-raiding or predation due to variables such as proximity to forests, this risk may not fully show their vulnerability, which also will vary depending on wealth, livelihood strategies, and social capital (Dickman 2010).[1] For example, one household may be able to tolerate a certain amount of economic loss due to crop-raiding, while the neighboring household cannot (Naughton-Treeves & Treves 2005). In addition, there are certain "hidden impacts" of HWC, such as fear, anxiety, and post-traumatic stress (Barua et al. 2013; Ogra 2008). We argue, therefore, that the study of HWC requires a comprehensive approach that considers not only material threats to human well-being, but also the less visible psychological impact (see Mudaliar & Rishi 2012).

Because the issues surrounding HWC are so numerous—including behavior (both human and wildlife), geography, ecology, politics, and

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socioeconomics (Nyhus et al. 2005), modifying human behavior alone will not fully solve the problem (Karanth & Madhusudan 2002, cited in Nyhus et al. 2005). Indeed, HWC is increasingly being conceptualized in large geopolitical terms (Treves et al. 2006) involving hegemonic conservation narratives, the "foreignisation" of space (Letai 2011; Zoomers 2010), land grabbing or "green grabbing" (Benjaminsen & Bryceson 2012), and "green militarization" (Duffy 2014; Little 2014; Mkutu & Wandera 2013, 2016; Mkutu 2015). These factors feed into the political root causes of HWC and have a "glocal" (Swyngedouw 2004) dimension, whereby wildlife "crises" must be viewed in the context of globalized food economies and export markets.[2]

One particular problem is that narratives emphasizing the environmental crisis caused by poaching and cattle raiding (see Bond 2014) can be used to legitimize the priorities of certain stakeholders over others in environmental decision making (see Leach & Mearns 1996; Roe 1995) and for capitalist expansion (Büscher et al 2012; Igoe & Brockington 2007)—a process of "resource capture" in which those with power or status in a certain realm (political, economic, social) are able to divert resources in their own favor. The contestation among communities, the state, and nonstate actors over the control of wildlife and conservation, and the legitimacy of such involvement, can therefore be seen as competition for control over wildlife as an economic asset (Garland 2008). The ideas of "neoliberal conservation"—a term that is itself perhaps inherently contradictory—legitimize the application of economic solutions to environmental and development problems without adequately considering the ways in which such "solutions" exacerbate the very problems they are supposed to be addressing. As Büscher et al. state, "neoliberal conservation functions as an *ideology*, becoming socially (and ecologically) embedded through generating the hegemonic governance structures and practices through which it is reproduced" (2012:15; see also Fletcher 2010, 2012).

The neoliberal agenda has promoted economic pathways to conservation such as ecotourism, trophy hunting, bioprospecting, and payments for environmental services. These pathways are not restricted to the private sector, as community-based conservation has been pushed throughout the world, particularly in Africa. Yet despite this community involvement there is a disconnect between neoliberal conservation and human rights (Goldman 2011). For purposes of conservation, communities are often dispossessed of their land and access to resources (Brockington & Igoe 2006; Garland 2008; Goldman 2011; Little 2014).[3] At the least, they are often denied involvement in the management or creation of conservation areas (Goldman 2011; Peluso 1993). But often the consequences are much more severe, including loss of livelihoods and sometimes even criminalization. This kind of dispossession is also a loss of history, cultural identity, power, and representation (Brockington & Igoe 2006). As Garland (2008) points out, Africans, and especially local communities in Africa, are burdened disproportionately with global wildlife maintenance despite the commonplace

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notion of wildlife resources as the birthright of people everywhere. The structural inequalities and associated power differentials between those who bear the cost of wildlife, on the one hand, and those who reap the benefits or make the decisions regarding wildlife, on the other, are significant, global, and often neocolonial in nature.

These structural inequalities are present in Kenya (Mkutu 2017), where HWC was first highlighted in the early twentieth century as an issue affecting pastoralists, particularly regarding their access to water and grazing resources and the transmission of animal diseases (Matheka 2005). The politicization of conservation has a similarly long history in Kenya, primarily involving contests, sometimes violent, over land and wildlife resources during decolonization (Matheka 2008; Peluso 1993). While this violence was usually perpetrated by the state, this militarization of conservation in Kenya has more recently involved private interests (see Mkutu & Wandera 2013).

This article examines the implications of HWC on human well-being, specifically within the context of rural development, taking as its point of departure two assumptions in particular: (1) that various forms of conflict in rural contexts are inextricably linked and impinge on individuals' and communities' human security (Bond 2014); and (2) that conservation interventions should consider the contexts in which they are embedded, as they will have both intended and unintended consequences for the communities involved (Greiner 2012; Holmes & Brockington 2012). We draw on narrative data from Laikipia County, Kenya, to illustrate the need to consider human well-being in HWC studies. We demonstrate, through our empirical findings, the need to investigate not only the visible but also the hidden impacts of HWC on individuals and communities—a holistic perspective that calls attention to costs that are often overlooked. Building on other studies that advocate for human rights–and social justice–based approaches to conservation (e.g., Fletcher 2010; Igoe 2007) and that advance an understanding of the hidden dimensions of HWC (e.g., Barua et al. 2013; Ogra 2008), we argue that in order to bring about sustainable and successful HWC management, we need to understand the entire context of HWC beyond the visible economic and physical aspects.

Methodology

Human Security as an Empirical Lens

Human security is the condition in which humans are free from want and need. As opposed to traditional views of security, which focus on security of the nation-state, the human security paradigm takes the individual or the community as its object or focus of concern: It asks, specifically, "security for whom?" (King & Murray 2001; Tadjbakhsh & Chenoy 2007). Human security is constructed from various interrelated forms of security such as economic, personal, environmental, food, health, political, and community security (Tadjbakhsh & Chenoy 2007; UNDP 1994), and its preservation

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depends on identification of interdependent threats, both agency-based and structural (Tadjbakhsh & Chenoy 2007). Although context dependent, the concept of human security does not ignore the impacts of global phenomena, both environmental and economic, on the local level (Dalby 2008). Furthermore, human security is determined by temporal factors such as colonialism and climate change as well as by spatial determinants such as trade liberalization (Barnett & Adger 2007). The notion of human security comprises concepts such as “freedom from want,” “freedom from fear” (UNDP 1994), “freedom to live in dignity,” and “freedom from hazard impacts” (Hardt 2012), and it builds on Sen’s (1999) conceptualization of development as directed to the goal of freedom, rather than simply economic growth. Freedom from want encompasses safety from chronic threats such as political repression, disease, and hunger, while freedom from fear implies protection from harmful disruptions to daily life (Mesjasz 2008). Freedom to live in dignity refers to human rights, democracy, and the rule of law, while freedom from hazards acknowledges the link between human security and protection from both natural and man-made hazards (Brauch 2008).

While human security as a concept has largely been debated in the context of international relations, many scholars have also used it as a framework for analyzing conflict at a more local level, including Kenya (e.g., Kumsaa & Williams 2011). In this article we use human security as a lens for viewing HWC at the subnational level while noting the “glocal” nature of the conflicts in terms of geography and temporality, in addition to environment, sociopolitics, and economics.

The Case: Laikipia County, Kenya

Laikipia County lies within the semi-arid region of the Rift Valley and is one of forty-seven counties in Kenya (Burugu 2010). Laikipia County supports large numbers of wildlife, which move among private, government, or communally-owned land. Large cattle ranches and conservancies (large-scale ranches either designed exclusively for wildlife management or incorporating cattle production) make up 50 percent of Laikipia, with agriculture and horticulture production also significant. Wildlife management is often coupled with tourism activities such as the provision of accommodations (hotels, restaurants, etc.) and the organization of game drives as entertainment, and forms a public–private partnership (PPP) with the Kenya Wildlife Service (KWS) to meet conservation goals.

Previous studies in Laikipia have found that HWC predominantly involves elephants (Graham et al. 2010) and large carnivores (Frank et al. 2005) and to a lesser extent wild dogs (Woodroffe et al. 2005), and some studies suggest that pastoralists in Laikipia are relatively tolerant of wildlife predation (Frank et al. 2005; Gadd 2005). According to the terms set by the Wildlife (Conservation and Management) Act, Chapter 376, Section 62, of the Laws of Kenya, individuals who have suffered bodily injury from wildlife (or their

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heirs, in cases of death) may apply for compensation. Under previous laws (i.e., from 2006 until the implementing of the 2013 Constitution of Kenya) the maximum compensation paid was KES50,000 (USD500) for injury and KES200,000 (USD2,000) for death (KWS 2012). However, since 2013 the new principles of devolved governance and decision making include the delegation of wildlife matters to the county level. County Wildlife Conservation and Compensation Committees (CWCCC) (Section 18–20) have been formed, and compensation values have increased markedly. For human death compensation is now KES5 million (USD50,000), and for human injury with permanent disability it is KES3 million (USD30,000). Other injuries can claim up to KES2 million (USD20,000), depending on the extent of injury, while loss of or damage to crops, livestock, and other property is valued at market prices. It should be noted, however, that the fieldwork for this study was undertaken in 2011–12, before implementation of devolution and the new Wildlife Act.

Conflicts related to wildlife among pastoralists, farmers, and large-scale ranchers have become prevalent in Laikipia, often reaching violent levels (Bond 2014). There have been several instances of violent conflict between pastoralists and agriculturalists (Mkutu 2008) and between pastoral tribes (Mkutu 2001, 2008) in relation to cattle rustling and resource access, which is spurred by the proliferation of small arms (Mkutu 2008). Land grabbing in Laikipia has been an issue dating back to the colonial period, and since the 1990s there have been land grabs by tribal, political, and military elites of government land, or “outspans” (Letai 2011). Some residents claim that there is now a land rush in Laikipia on the part of foreign diplomats, aid workers, and farmers (Letai 2011), which could potentially lead to a “foreignisation” of space (Zoomers 2010). Some have speculated that nature conservancies, in addition to supporting wildlife conservation, are motivated by the opportunity to forge links with wealthy foreign trusts and investors (Letai 2011), and that their conservation activities will allow them to retain their land rights into the future (Mkutu & Wandera 2013, 2016; Mkutu 2015). Another problem that has been noted is that several of these conservancies, both community and private, employ scouts for maintaining community security who are also in the National Police Reserve (NPR). As reservists (NPRs), these scouts are armed by the government but are employed by nongovernment actors, to whom they alone are accountable (Mkutu & Wandera 2013; Mkutu 2015).

Data Generation

This article is based on research undertaken in Laikipia County between August 2011 and July 2012. Data generation methods consisted of sixty interviews and sixteen discussion groups with farmers, pastoralists, and practitioners (e.g., wildlife, agricultural, livestock, wildlife, and NGO extension officers) in Laikipia. The research also included a survey of farmer and pastoral perceptions, which has been reported on elsewhere

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(see Bond 2014a, 2014b). The study as a whole focused on natural resource conflict within Laikipia; the data presented here concerns the impacts of HWC in particular. Interviews and group discussions were undertaken in either English, Maa, Pokot, or Kiswahili, with English translation during the interview. The qualitative data generated were analyzed through content and thematic analysis with Nvivo8 software, which codes interview elements and aggregates these individual codes according to themes. The data are presented below in a narrative style to highlight the depth of the interlinked issues and emphasize the qualitative aspects of the findings.

The "Hidden" Impacts of HWC in Laikipia

This section presents the empirical findings of our interviews, focusing on the often hidden or nonvisible dimensions of HWC. We found three main narratives about the hidden costs of HWC on human well-being: wildlife as destructive, wildlife as more important than humans, and wildlife as pathways for resource capture.

Wildlife as Destructive

In addition to the mostly visible costs (economic, physical) which are often the focus of many HWC studies, there are considerable human costs of HWC that are often nonvisible, temporally delayed, and psychological (Barua et al. 2013; Ogra 2008). This section explores the kinds of destruction experienced by various community members in Laikipia and the difficulties they face in recovering physically, economically, and psychologically.

Many people in Laikipia perceive wildlife as destructive in relation to human safety, community infrastructure, and private infrastructure and resources. One farmer had his grain store broken into in March 2011 by an elephant that damaged the building and a fence, resulting in the loss of thirty-five of his fifty bags of maize. The equipment to rebuild the infrastructure cost approximately KES10,000 (USD100), and the value of his labor in the month-long project of reconstructing the building and fence was, as he put it, "priceless." The incident also affected his mental health: "The damage is permanent. When I go to bed, I never sleep comfortably; I'm always waiting for elephants. Sometimes I wake up in the morning and I'm tired, I never rested, and I'm expected to work during the day, so my productivity goes down" (interview, Gatundia, Laikipia West, July 20, 2012).

A man whose farm is in close proximity to Rumuruti forest was charged by an elephant on his property in March 2010. His wife and a neighbor eventually succeeded in scaring it away with fire and yelling, but he suffered extensive injuries including a dislocated hip, a tibia/fibula fracture, and a lumbar spine compression fracture. While the KWS paid for the initial hospital fees, his injuries required regular medical check-ups for which he received no compensation; his family was unable to pay the fees and had to

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rely on the support of local social networks. Now he cannot physically tend to his crops and his wife has had to take on extra duties within the farm, leaving less time for her to care for the children (interview, Gatundia, July 21, 2012).

A teenager in the Gatundia area of Laikipia West was riding his bike along a road surrounded by maize crops and sheltered by a row of trees when an elephant charged from behind the trees, knocked him off his bike and throwing him into the ditch and adjacent crops. The boy managed to scramble away and call for help, but he related that the incident left him with severe neck pain and headaches, making it difficult for him to sit for long periods of time or to concentrate on his schoolwork. He has nightmares in which the incident repeats itself, is deprived of adequate sleep, and remains afraid of walking alone in potential dangerous areas (interview, Gatundia, July 20, 2012).

Many respondents in Laikipia reported that elephants had damaged their crops, mostly during the night, as other studies have found (see, e.g., Graham et al. 2010), although occasionally in the morning (see also Bond 2015). One female maize farmer from Naibor, Laikipia East, stated that in an attempt to manage elephant predation she now cultivates a smaller area than previously, with the assumption that the more modest scale will provide less incentive for the elephants—or at least that her losses from predation will be smaller, which has turned out to be the case. Unfortunately, her usual strategy for recovering from her losses—which has been to sell some of her livestock in order to buy maize for replanting—has also been curtailed by the menace of livestock rustling in the area. She reported losing all of her (approximately) forty goats to people who appeared with spears and machetes on three separate occasions. Since her husband's usual role was herding, he now had to look for other casual work, and she said that he is "physically well but not mentally well." She believed that the rustlers were pastoralists who target the agriculturalists around Naibor, and the threat was sufficient to make her think of moving, as others have done (interview, Naibor, Laikipia East, Nov. 19, 2011).

Thus the loss of livelihood from HWC is compounded by the (often uninvestigated) loss of alternative livelihoods (e.g., cattle production), which results in both visible kinds of insecurities (e.g., food, economic, and livelihood insecurities) and more hidden costs (e.g., fear, nightmares, loss of identity and self-esteem). An employee of the Kenya Wildlife Service suggested that where the impacts of HWC are compounded by cattle rustling, people should be reliant on food relief: "They can ask for maybe . . . relief food. Because we don't compensate maybe crop destruction, we cannot compensate goat raiding. . . . So it will just be survival for the fittest" (interview, Rumuruti, Laikipia West, Nov. 22, 2011). This rather candid comment suggests a solution to the visible impacts of loss of food but does not acknowledge the psychological or hidden impacts of this conflict or the livelihood contribution necessary for food security.

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Wildlife as More Important than Humans

Most pastoral and farmer respondents claimed that the government, including the KWS, and other conservation organizations care more about wildlife than the human populations of Laikipia. As one pastoralist stated, "when a human is killed the government do[es] nothing, but when an elephant is killed they run like a horse" (group discussion, Dol Dol, Oct. 8, 2011). This statement was later included in the survey questionnaire, and 89 percent of respondents either agreed or strongly agreed with it (Bond 2014b). Similar comments were expressed by other respondents. "KWS is more caring about the wildlife than the human being," said a participant in a group discussion. "If a human being is killed by a wild animal then they never even turned up there, but if you kill an elephant today here, you'd see a helicopter. . . ." (Kanampiu, Laikipia West, March 28, 2012). According to another male farmer, "the issue here is that these animals, especially the elephants, are very important. I don't know whether to the government or through the tourists, but the plight of the natives is usually ignored" (interview, Gatundia, Laikipia West, July 20, 2012).

An employee of the Kenya Wildlife Service stated that the mandate of the KWS is "wildlife security." He acknowledged that human–wildlife conflict in Kenya was due partly to the lack of an effective land use policy and that "the policy of compensation is weak" (interview, Nanyuki, Oct. 7, 2011). But what he described as a "weakness" was viewed by farmers and pastoralists as a complete failure and as part of an implicit valuing of wildlife over humans. One farmer from Laikipia West whose son was killed by an elephant in their crop stated,

> It takes too long to compensate, but if they do it's only 200,000 KES[4] and it hasn't happened yet. It should be 3 million and above because it's life and that's uncompensatable. . . . They might not compensate or they take too long but there's nothing you can do. . . . If there could be a way for people to get lots of money for death then the government would feel the cost and put up a fence. (Interview, Gatundia, Laikipia West, July 19, 2012)

Other respondents concurred that the compensation process is slow, unless one is connected to elites who are able to exert their influence. One respondent in the Olmoran area of Laikipia West was attacked by a hyena while trying to scare it away from the chicken coop. The KWS transported the man to the hospital but otherwise has provided no compensation money and the household has gone into debt to pay the medical bills. He visits the KWS office but he said that the employees "muck [him] around" by telling him repeatedly "next week" (interview, Magadi, Laikipia West, Nov. 28, 2011). Another male farmer stated that "when they [elephants] come, they feed and we don't get anything from government. . . . There is no compensation" (interview, Gatundia, Laikipia West, July 20, 2012).

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A pastoralist from Laikipia West also highlighted the discrepancy between those who benefit from wildlife and those who are burdened with the cost, making the point that increased community involvement and benefits from wildlife management would lessen human–wildlife conflicts: "It is only that the community should be told that these things are important for us and this is how we'll benefit, it will be OK. If they benefit you won't have any problems" (interview, Nairobi, July 19, 2011). One civil society respondent, an employee of a wildlife NGO, echoed this, suggesting that the compensation scheme should be removed entirely and replaced with investment in communities' sustainable livelihoods and related infrastructure:

> [Compensation is] . . . not going to work, not now, not ever. . . . You have to look at livelihoods. . . . I would build a big greenhouse with a picture of an elephant on it and then [communities would] make the money. . . . Not everyone can do tourism, but there is a lot more that can and should be done to enhance livestock production and the financial gains from that. (Interview, Nanyuki, Nov. 10, 2011)

This comment reflects the assumption that investing in community and agricultural development (both crop- and livestock-based) would build up the resilience of rural communities to HWC losses and alleviate their economic and marginalization. A similar point was made by another NGO employee, who suggested that compensation issues were a function of the lesser value placed on humans than on wildlife and that the issue of compensation would lose its relevance if the community itself became a beneficiary of the wildlife. "It is only possible to abolish compensation when you reconcile conservation with the [people's] land rights" (interview, Nakuru, Dec. 5, 2011).

Wildlife as Pathways for Resource Capture

Another local narrative about HWC in Laikipia concerns the perceived function of wildlife as a pathway for resource capture—namely, the "capture" of land along with water sources and grazing areas. This narrative embodies historical grievances related to land grabbing and current conflicts over resource access, grounded in both the colonial era and the postcolonial resource grab. Many respondents stated that they have amicable relationships with privately owned neighboring conservancies, due to the opportunities provided for agistment of livestock, employment, schooling, and health care.[5] However, several respondents claimed to have strained relations with conservancies due to a perceived unequal distribution of resources accumulated by politically connected individuals.

Further, because of the capture of these resources, pastoralists have been less able than the conservancies to bear the losses caused by wildlife.

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While stock loss is also an issue for the ranches, the ability to cope with the loss reinforces inequity. According to the wildlife NGO employee,

> Lions are a significant problem with livestock, as are hyenas. First of all, it's about the bottom line. Private ranches lose cattle to wildlife as well, but why don't they mind? Because of their bottom line. Maybe they might lose cows worth half a million, but he gets 5 million from the tourists coming to look at those lions. (Interview, Nanyuki, Nov. 11, 2011)

Many respondents commented that pastoralists should be allowed to graze their stock inside conservancies. This would increase the likelihood of disease and insecurity of endangered animals (from poaching), but they believe that large conservancies should look beyond their own interests. The employee of a wildlife NGO stated that "the lack of grass outside the ranch is . . . also the problem of the rancher because they will get challenged for their land, and they have a moral obligation to the people outside their ranch, seeing as though they have so much land" (interview, Nanyuki, Nov. 11, 2011). This comment has links to the concept of fairness of land distribution from both the colonial and postindependence periods, suggesting that ranchers have been able to access large tracts of land (through market processes or otherwise) where the average Kenyan has not. The use of this land to generate further income through wildlife management and tourism further stretches the inequities between elites and local communities, many of which have ancestral ties to Laikipia (e.g., the Maasai, see Hughes 2006). A private conservancy in Laikipia West was the target of arson in 2015, with the fires supposedly lit by surrounding communities to challenge the conservancy's perceived power. The same conservancy has been hit by several fires since 2009, with conservancy leaders blaming pastoralists and pastoralists blaming others (Gakio 2015; Muchangi 2015). The same conservancy was the site of a gunfire attack in April 2017 that left the owner wounded (Kean 2017). Several respondents claimed that conservancies, on occasion, open their gates to release wildlife: they "let out some [wildlife] and lock the fence again," said one pastoralist during a group discussion (Dol Dol, Laikipia North, Oct. 8, 2011). In one instance, a conservancy owner did this because he wanted to protect an acacia species on his property, the habitat of the Platus monkey, which tends to be destroyed by elephants. However, Waweru (2016) argues that even without the opening of gates, conservancies are not always able to contain wildlife within their fences, with animals moving through them and raiding neighboring farms.

Land tenure and access to resources such as pasture and livestock are central issues in Laikipia, not only from a HWC perspective, but in terms of natural resource management, historical grievances, and conflict more broadly. A civil society informant involved in land policy stated that conservation lobbies are very powerful and fail to see the perspective of local people, namely the importance of land to their livelihoods (interview, Nakuru, Dec. 5, 2011).

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Summary: Exploring the Hidden Impacts of HWC on Human Well-Being

The local narratives discussed above confirm what many scholars have found—that HWC affects the food and economic security of individuals and households (Naughton-Treeves 1998), although this impact is often difficult to quantify (Naughton-Treeves & Treeves 2005). The damage to crops from animal predators is significant, especially because it is often the staple foods, such as maize, that are most affected (Weladji & Tchamba 2003). In addition, various solutions that have been proposed—such as the provision of food relief for affected households, or the pursuit of alternative livelihoods—are not adequate. On the one hand, we agree with the conclusion of the U.N. Development Program that "people should be able to take care of themselves: all people should have the opportunity to meet their most essential needs and to earn their own living" (UNDP 1994:24). On the other hand, while some scholars state that coping strategies and alternative livelihoods are key for individuals and households to reduce vulnerability to human–wildlife conflict (see, e.g., Dickman 2010), these studies often don't consider other processes within the rural context that also threaten these alternative livelihood strategies.

The impacts of crop loss and stock predation are compounded when farmers' and pastoralists' alternative livelihood strategies are also undermined by other conflicts, such as cattle rustling, or through institutional gaps such as insecure land rights and loss of access to resources. When HWC tends to be considered separately from other conflicts and processes within the rural context, its impacts remain partly invisible. Indeed, in relation to human–wildlife conflict, "context matters" (Stedman 2012); as illustrated by the example of the female maize farmer in Naibor, the impact of the elephant raiding her crop was far more significant than the visible crop loss. The impact, in fact, was multidimensional, both visible and hidden: a loss of livelihood from maize production, and then the failure of livestock production as a solution to crop loss from elephants. This impact was further compounded by her husband's need for medical attention and his loss of self-esteem as he had to transition from self-employment to seeking work elsewhere. Similar outcomes were seen with the farmers in Gatundia whose psychological trauma from encounters with elephants was ongoing and temporally delayed. Health insecurity from being attacked from wildlife may have implications for food and economic security through a person's reduced capacity to pursue his or her livelihood, and as Gifford (2007) notes, the psychological well-being of people affected by environmental disruptions will also have economic and political impacts. Traditional quantitative livelihood surveys, which are common in HWC research, do not capture the changes in dynamics and relations among household members or uncover the hidden impacts of HWC such as psychological trauma, fear, and illness. While studies have found that pastoralists in Laikipia are generally quite tolerant of large carnivores (Frank et al. 2005), this economic tolerance may mask the hidden costs of these losses on the cultural capital

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and habitus of a pastoralist community (in terms of personal and collective security), which is based on the livestock herd. This notion of cultural capital relates not only to the individual, but also to the cultural identity of the community.

The Underlying Human–Human Political Conflict

Compensation Schemes

An exceptionally small minority of respondents in this study had received any compensation for injury, death of a family member, or loss of crop or livestock inflicted by wildlife, and even for those who had received compensation it certainly was not adequate. One respondent claimed that he knew of someone who had received compensation because he was able to use his network to lobby for his case, suggesting a local assumption that the likelihood of benefiting from institutional schemes is tied to privileged sociopolitical connections. Practical barriers and bureaucratic inadequacies also increase transaction costs for the rural poor in relation to filing compensation claims. This kind of burden, as well as the continual effort required to pursue compensation in terms of filling in forms and leaving the farm to visit the KWS office, reinforces the social differences or institutional inequality between the farmer or pastoralist and the elite bureaucracy (Barua et al. 2013; Bulte & Rondeau 2005; Jadhav & Barua 2012). This can be seen in the case of the respondent from the Olmoran area who was repeatedly told to come back "next week." For him, the time spent visiting the KWS office was time lost from pursuing livelihood and income-generating activities—a tradeoff that is not faced, for example, by bureaucrats or those who have socio-institutional networks to draw on. It should also be pointed out that previous schemes of compensation in Kenya were abandoned due to corruption and poor infrastructure (Frank et al. 2005; Western & Waithaka 2005) and this research has not found evidence of an improved compensation system. Without such institutional improvements, increases in compensation amounts are unlikely to mitigate or lessen HWC.

Even compensation claims that are successful address only the visible and direct impacts of the incident in order to increase human tolerance for wildlife (Barua et al. 2013), and respondents spoke of the average compensation payment as so inadequate that it seemed to be a morally indefensible judgment regarding the value of a human life. While the new Wildlife Act aims to increase the compensation benefits for victims and penalties for poachers, the processes of developing the Act has been criticized for lacking transparency and genuine public participation (Gachanja 2013; Kahumbu 2011). This has been the case, many claim, despite the promotion of decentralization in the Kenyan constitution and the guidance of scholars claiming that devolution of wildlife management and conflict resolution to the community level will assist in alleviating HWC (Western & Waithaka 2005).

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The strained relations between government wildlife managers and communities, and communities' anger over their marginalization and perceived subjugation, can be seen in the arson attacks on the conservancy in Laikipia West (Brockington 2004; Scott 2008). In general, animosity between KWS/conservancies and communities stems from a perceived lack of respect for the communities which, when coupled with historical grievances regarding land, reinforces their perception that they are marginalized and considered as existing on the periphery of mainstream society. When considered from a human security perspective it highlights the restriction of the freedom to live in dignity (Tadjbakhsh & Chenoy 2007). This marginalization perception is also fueled by dominant and perpetuating narratives by elites of pastoralists as "backward" (Bond 2016), an attitude seen locally as a form of neocolonialism (Garland 2008), especially because many of the conservancy owners in Laikipia are European, and some of them have remained on the land owned by their family since the colonial period. The comment quoted above from an employee of a wildlife NGO who suggested building a greenhouse decorated with pictures of wildlife is a good example of the lack of respect underlying such ventures—what Büscher et al. (2012) describe as the appropriation, misrepresentation, and spectacle of neoliberal conservation. The greenhouse was proposed as a way of promoting local livelihoods and simultaneously promoting local tolerance of wildlife damage as a trade-off for improved livelihood options. Yet the fact that a representation of an elephant on the side of a greenhouse would mostly remind its users of the reason for their loss of crops, not to mention their lack of direct compensation, was obviously not considered by this NGO representative. The suggestion also assumes, of course, that all locals whose livelihoods had been damaged by wildlife would be able to access the greenhouse—or would want to.

Land

Many studies have found that a contributing factor in HWC is the settlement of human populations in wildlife migratory corridors (Granados & Weladji 2012)—or rather, the movement of people into previously unsettled areas as wildlife recolonize parts of their range (Dickman 2010). Yet in the Kenyan context the push factors contributing to this human resettlement are not only human population growth, but also deeply politicized matters of land tenure as well as cultural changes in resource use (Knickerbocker & Waithaka 2005).

Recent studies within political ecology have focused on the role of land alienation or changes in resource access, management, and use for environmental purposes—processes referred to as "green grabbing." These studies often use analytical frames of "primitive accumulation" or "accumulation by dispossession" to investigate the changes in relationships between resource users and owners, often with implications for greater social inequity (Fairhead et al. 2012). Recent studies of wildlife conservation and tourism highlight that government policies have facilitated the accumulation of resources by

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powerful elites under the guise of conservation, and have even used violence to enforce these laws or policies (Benjaminsen & Bryceson 2012; Mkutu 2015). In the Kenyan context, Matheka (2008) shows that conservation and land are inextricably linked and that each arena is highly politicized.

Kenya has a history of land grabbing from the precolonial period through the present. In 1904 the British East Africa company made a controversial agreement with the Maasai of Laikipia which caused them to move (at gunpoint) to the current Maasai Mara to make way for the "White Highlands" in central Kenya (Hughes 2006). In the postindependence period large tracts of land were grabbed by successive presidents and political elites, in the process laying the foundation for future grievances with ethnic dimensions (Oucho 2002). Recent land appropriation through narratives of conservation is taking place within the context of an ambitious development vision (Vision 2030) for northern Kenya combining oil and gas exploitation and related transport infrastructure. The planned transport corridor will also pass through Laikipia County and has already led to competing land claims and resulting conflict between pastoralists and conservancies (Mkutu & Wandera 2016; Mkutu 2017). Thus land appropriation is being interpreted within an already politicized and sensitive context of insecurity and uncertainty about the "foreignisation" of space (Letai 2011; Zoomers 2010).

Our respondents noted what they perceived as an undercurrent of hegemony in the various narratives of conservation linked to land tenure and resource access. They perceived global conservation groups as holding powerful influence over the government, while the government is more interested in the opportunities afforded through these conservation links than in the well-being of rural communities, which largely bear the costs associated with wildlife. Within Kenya, wildlife conservation has largely been developed in recent years through conservancies, either as private or communal operations (KWS 2013). In Laikipia, while many of these private conservancies are perceived as playing a positive role in the community through the provision of education and medical services in addition to employment opportunities, some conservancies are perceived negatively as vehicles for resource capture by the elite (Bond 2014). The conservation of wildlife on large tracts of land, some of which can be traced directly to the colonial period, is seen as a tool for the elite's retaining of their land rights, which otherwise could be open for contestation under clauses in the new constitution that challenge foreign ownership (Mkutu & Wandera 2013).

In many cases, government oversight is being evaded altogether. Letai (2011) discusses various claims by Kenyans that small plots of land within larger conservancies are being sold to foreigners without the knowledge of the relevant government authorities. These claims have not been confirmed, though it is undeniable that many conservancies in Laikipia operate tourism enterprises for luxury travelers who often pay for their holiday in their home countries, thus bypassing the Kenyan tax authorities (Letai 2011). While community conservancies reinvest a percentage of earnings into community development such as education bursaries, these communal benefits do not

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offset individual costs of living with wildlife (Walpole & Thouless 2005), and an unequal portion of the benefits is diverted via endemic channels of corruption to elite members of the community. The establishment of community conservancies on contested land, with support of outsiders unfamiliar with the local context, can also exacerbate local conflict dynamics and lead to unintended consequences (Holmes & Brockington; Peluso 1993) such as conflict over land tenure (Greiner 2012). Therefore, when an elephant raids a crop or a hyena takes a goat and that animal has come from a large conservancy, the cost to the farmer or the pastoralist is greater than the visible impact to their economic, food, or livelihood security. The cost of further marginalization is hidden. HWC investigations, therefore, need to consider the sociopolitical contexts within which these conflicts are embedded and the impacts these have on human well-being.

"Wildlife Security"

An increasingly studied area of conservation political ecology concerns the role of security personnel and the military in conservation—so-called "green militarization" (Duffy 2014; Mkutu 2015). Peluso (1993) notes that under the guise of conservation, many states use violence to appropriate resources and attempt to build legitimacy. This violence often involves killing poachers without trial (Peluso 1993), a form of wildlife security that has become increasingly militarized in recent years. In Kenya, members of the National Police Reserves (NPR), who are voluntary peacekeepers, are armed by the government to respond to incidents of crime such as stock theft, although they are not remunerated and are not usually given any form of uniform or identification. In recent years, conservancies within northern Kenya have worked collaboratively with the national government to promote "wildlife security" through the use of NPRs as wildlife "scouts." These NPRs are still armed by the government, but they are paid by, and accountable to, the conservancies as part of a public–private partnership. Approximately nine thousand NPRs operate in the Rift Valley province of Kenya (Mkutu & Wandera 2013), of which approximately two hundred and seventy-nine armed scouts are in Laikipia. These scouts are also engaged in other community policing, such as tracking raided livestock. One of our respondents claimed that while scouts are supposed to use their weapons only "with reasonable force" and are not supposed to kill, but only to immobilize their target, they are allowed to kill poachers who are "resisting arrest."

This legitimizing of scouts' use of force within a context rife with illegal arms use, insecurity, conflict, and cattle raiding (Bond 2014; Mkutu 2008) is troubling. Cattle raiding is a highly politicized, complex, and sensitive issue in northern Kenya (Bond 2014b; Greiner 2013; Mkutu 2008; Schilling et al. 2012) and with claims that NPRs are armed through illicit markets, using Community Development Funds (CDF), and with no management by any legislature, the potential for these groups to be corrupted or co-opted by private militias is even more alarming (Mkutu & Wandera 2013). While a survey of pastoralists and farmers in Laikipia found that they prefer NPRs

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to regular police because NPRs are perceived to be more trustworthy, there were also concerns that these NPRs use their weapons to propagate rather than solve crime (Bond 2014b; Mkutu & Wandera 2013). Thus programs supposedly designed for the provision of "security" perpetuate the exact opposite, with intended or unintended implications for conflict, violence, and insecurity in the region. Indeed, the term "wildlife security" betrays the underlying objective of protecting wildlife rather than humans as well as the premise that force is a legitimate method for preserving this security.

Conclusion

The foregoing analysis has shown that the contexts within which HWC occurs are complex, sensitive, political, and often violent, and that conservation processes carried on within these contexts may cause unintended consequences for communities—not only loss of livelihood, but also psychological trauma, illness, fear, insecurity, and loss of identity. The narratives of HWC in Laikipia highlight these often hidden impacts on human well-being. Here a diversity of land tenure arrangements and the neoliberal conservation agenda have concentrated large tracts of land in private possession, inspiring suspicion and mistrust among the rural populations. These land arrangements have perpetuated a neocolonial and profit-centric approach to wildlife conservation that threatens the livelihood of local communities. These threats include not only the vulnerability of crops and farmland to animal predation, but also the threats to livelihood strategies that are undertaken as an alternative to farming, such as livestock production. While predatory practices such as cattle rustling are often perceived as external to conservation, they are all part of web of challenges resulting from the neoliberal and resource-capture agenda that threatens rural life (Bond 2014b).

We hope that by highlighting the hidden and compounded aspects of HWC on human well-being, more robust policy and conflict management processes may be pursued. As Lewis and Jackson (2005) have pointed out, policy development in relation to HWC and conservation is a complex matter that requires both institutional skills and an understanding of the relationship between conservation and local livelihoods. We suggest (like, e.g., Barua et al. 2013 and Igoe 2007) that policymakers need to extend their focus beyond practical economic matters to larger issues of community well-being—to think beyond wildlife security to human security and social justice.

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Notes

1. In more formal terms, “vulnerability” refers to the ability of a social-ecological system to adapt to exposed stress; see Adger (2006).
2. The term “glocal” refers to the fact that processes of globalization are both global and local.
3. There is disagreement among some scholars as to the extent of displacement from protected areas, particularly in central Africa (e.g., Curran et al. 2009), but several studies have shown that while there is evidence of displacement, this knowledge base is disjointed and by no means robust (e.g., Brockington & Igoe 2006).
4. These compensation prices were prior to the new constitution, which came into force in 2013.
5. Livestock “agistment” refers to arrangements whereby domestic livestock is allowed to graze on land not owned by the livestock owner.

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