Land Use Policy 51 (2016) 215–228

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Fencing elephants: The hidden politics of wildlife fencing in Laikipia, Kenya

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ARTICLE INFO

Article history:
Received 15 July 2015
Received in revised form 25 October 2015
Accepted 10 November 2015

Keywords:
Elephant
Human–elephant conflict
Conservation
Fences
Boundaries
Kenya

ABSTRACT

Conservation is a fundamentally spatial pursuit. Human–elephant conflict (HEC), in particular crop-raiding, is a significant and complex conservation problem wherever elephants and people occupy the same space. Conservationists and wildlife managers build electrified fences as a technical solution to this problem. Fences provide a spatial means of controlling human–elephant interactions by creating a place for elephants and a place for cultivation. They are often planned and designed based on the ecology of the target species. Yet as we show in this case study, behind their technical façade, fences are highly political. This article presents the process of planning and building the 121 km West Laikipia Fence: created to prevent elephants from moving out of large private and government-owned ranches and onto smallholder cultivated land to the west of Laikipia County. We seek to show how the construction of a fence to solve the problem of HEC led to the division, reinforcement and communication of territory on the ground and how this was captured and shaped by different, and sometimes conflicting, political interests.

1. Introduction

Conservation is fundamentally a spatial practice (Adams et al., 2014), based, as it is, on the conceptual separation of human and non-human, and the protection of one against the other. The establishment of protected areas has been the leading strategy of conservation since the end of the nineteenth century (Adams, 2004; Sheail, 2010). In colonial Africa, conservation policy constituted a new order for nature and human society, as the colonial state sought to separate animals and people. Protected areas were the cornerstone of that strategy, firstly in the form of game reserves, and latterly (especially after World War Two), in the form of national parks. An Anglo–American nature aesthetic drove a vision of nature as wilderness, and the creation of protected areas as islands of the wild in a peopled landscape (Neumann, 2004). Thus the Selous Game Reserve was carved out of Liwale District in colonial Tanzania in the 1930s, abandoned to its elephants, while people were moved out (Neumann, 2001). The story of displacement and dispossession has become a standard of critical political ecology (Brockington, 2002; Brockington et al., 2008; Kelly, 2015), with Africa as one of its prime exemplars (Neumann, 2002; Garland, 2008).

The conceptual and practical placing of nature within specific spatial bounds can be thought of in terms of the creation of conservation territories (Peters, 1994; Hughes, 2005). Elden (2010: 810) described territory as an object of governance: 'a rendering of the emergent concept of 'space' as a political category: owned, distributed, mapped, calculated, bordered and controlled'. The creation of territorialisation is a process reflecting the exercise of power, and the control of space, people and nature. Kelly (2015) identified protected areas as 'internal territories', areas set aside within national boundaries where nature and the use of nature by people, are controlled.

Sack (1986: 32) noted that territory is easy to demarcate since in principle it requires only one kind of a marker or sign: the boundary. Territorialisation can be defined as the process by which institutions attempt to control actions by drawing boundaries around a geographic space, excluding some categories of individuals from this space, and prescribing specific activities within these boundaries (Vandergeest, 1996). The key element in conservation territorialisation is the demarcation and enforcement of boundaries, and these boundaries are the spatial focus of legal and coercive action in support of conservation outcomes (Peluso, 1993).

There is a rich scholarly literature on the politics of boundary making. Jones (1945) described four stages of boundary making: the allocation of territory; delimitation (choosing the alignment);

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http://dx.doi.org/10.1016/j.landusepol.2015.11.008
0264-8377/

demarcation (the physical marking on the ground); and administration (perpetuation of the physical boundary). Within political geography, boundaries have typically been analysed at the scale of the state, as the most explicit manifestation of the large-scale connections between politics and geography (Newman and Paasi, 1998). However, the creation of boundaries at finer scales also generates significant political processes. Newman (2006: 148) suggests that the alignment of borders is 'normally determined by political and social élites as part of the process of societal ordering and compartmentalisation'. Although a boundary may appear to be a clearly defined line, it is often an outcome of a complex, contested negotiation between different actors (Häkli, 2008). The process of physically demarcating a boundary is the 'crux of all boundary making' (Holdich, 1916: 208): 'it is in this process that disputes usually arise, and weak elements in the [plan] are apt to be discovered'.

Barriers are the physical realisation of boundaries and take many forms: most conspicuously fences and walls (Spierenburg and Wels, 2006). However they universally function as both physical markers and as symbolic icons that convey particular political meanings in the social landscapes in which they exist (Peters, 1994; Suzuki, 2001). They help to institutionalise the collective recognition of property rights and fix control over land use (Kotchemidova, 2008). They are a spatial projection of power that transforms not only the relations between nature and society but also social relations within a landscape (Van Sittert, 2002) in which 'people negotiate the meanings of land, resources and property' (Sheridan, 2008: 154). Boundaries and associated barriers reflect the nature of power relations between actors and the ability of one party to determine and impose categories of inclusion and exclusion of others (Ganster and Lorey, 2005; Newman, 2006). Geopolitically, walls have been signatures of territorial reconfigurations (Waterman, 1994; Thomas 1999; Daniel, 2000; Griggs, 2000; Brawer, 2002) and are increasingly being built along national boundaries to define migration policies (Loyd et al., 2013). Furthermore, fence materials themselves have shaped sociopolitical landscapes. The invention of barbed wire in 1873, for example, transformed the American West, as settlers demarcated their patch of land in the frontier (Peffer, 1951). As Krell (2002: 160) notes, 'barbed wire has always functioned in that paradoxical zone, between protection and division'. Barbed wire represents symbolic as well as physical power: as Razac (2002) notes, barbed wire embodies heavy memories of the trenches of World War I; and the concentration camps of World War II.

In conservation, fenced boundaries define conservation territories, strengthening the fortress approach by physically actualising the nature-society divide (Brockington, 2002). Fences for conservation purposes tend to be planned and built to separate nature from threatening human activity (Hayward and Kerley, 2009), invasive species (e.g. Brook et al., 2004), disease (e.g. Sutmoller, 2002) or persecution resulting from conflict or the illegal killing of wildlife (e.g. Packer et al., 2013). Protected area boundaries are often fenced to exclude local people (redefining human movement onto protected land as trespassing, the collection of fuel wood, cattle fodder or food as theft; hunting for meat as poaching; and making a home as encroachment, Homewood and Rodgers, 1991; Spierenburg and Wels, 2006; Brockington et al., 2006; Duffy, 2000; Büscher, 2010). At the same time, such fences typically permit entry for certain categories of people (e.g. tourists).

Conservation fences may be planned for technical reasons, but their construction is highly political. Wels (2000) describes how the white shareholders of Save Valley Conservancy in Zimbabwe wished to generate revenue to invest into its neighbouring communities through a hunting tourism operation. To do so, it was a legal requirement to build a veterinary fence to keep buffalo off neighboring farmland. To white conservancy shareholders the fence represented a necessary means to generate benefits that could flow over their boundary. However for surrounding smallholder farmers the fence represented an 'insurmountable physical and symbolic obstacle, because it puts the disputed signature of the white owner and its social identity on the land' (Wels, 2000: xxi). In the Karoo region of South Africa, the enclosure of the open semi-arid landscape with fences from the late 19th Century – to define private ranches and later, conservation areas, and exclude trespassers – constrained the mobility and resilience of people and wildlife (Sheridan, 2008; Roche, 1908; Rohde and Hoffman, 2008; Benjaminsen et al., 2008). Today, these hardened fenced boundaries persist, supported by the narratives of powerful conservationist actors about land degradation, and contribute to the insecurity of rights and livelihoods of the poor (Benjaminsen et al., 2008).

In the context of fenced conservation boundaries, patterns of exclusion and inclusion also extend to animals, both domestic and wild. The expansion of human settlement and cultivation onto elephant range could be understood as an act of forced colonisation. Donaldson and Kymlicka (2011) describe such human encroachment as an act of appropriation and an assault on the sovereignty of wild animals. Elephants can certainly be understood as political actors, exercising agency in the political ecology of human–elephant conflict (Evans and Adams, in preparation). Thus when the boundaries of Etosha National Park, Namibia, were drawn and enforced, dogs that had been used for herding by Herero pastoralists for centuries were no longer allowed: dogs that crossed into the Park were shot as a threat to wildlife (Hoole and Berkes, 2010). Likewise, conservation boundaries determine what wild animals can do. Wild animals may roam at will within protected areas, designated as 'wildlife', to be protected, photographed or researched. Yet once those same animals cross a protected area boundary and intrude on landscapes designated for people, they are re-classified as marauding, dangerous pests (Wels, 2000).

Where people and wildlife coexist, a common result is described as 'human–wildlife conflict'. This widely used term refers to negative interactions between people and wild animals, conflating the impacts of wildlife on people and their activities, and associated conflicts between conservationists and other people about these impacts (Redpath et al., 2015). Human–wildlife conflict is a problem throughout Africa, not only around protected areas from which animals issue forth and raid farmer's crops, but also where wild animals and people share unprotected land. Many animals raid crops (primates, bush-pigs and rodents, for example), but the most intractable crop-raiding problems in Africa are associated with the African elephant, *Loxodonta africana*. Human-elephant conflict (HEC) is recognised to be a serious problem across African elephant range, particularly along the hard boundaries that separate cultivation from wildlife areas (Graham et al., 2009; Hoare, 2012). HEC encompasses the range of negative interactions that occur between people and elephants sharing a landscape and includes significant damage to crops, property, livestock risk to human life andthe retaliatory killings of elephants (Barua, 2010; Graham et al., 2012). Elephants have a vast requirement for space and resources (Blake et al., 2003; Leggett, 2006), and although elephant numbers have declined since the latest poaching crisis began in 2011 (Nellemann et al., 2013; White, 2014), human settlement and the expansion of smallholder cultivation on rangeland used by elephants have created conditions for conflict in many countries.

HEC is among the most emotive and political form of human-wildlife conflict (Lee and Graham, 2006). Elephants embody diverse cultural contradictions: they are a serious and sometimes dangerous crop pest and are locally feared. HEC can elicit violent responses from people. Mariki et al. (2015), for example, described the killing of six elephants in northern Tanzania as a result not only of a desire for retribution for crop or property damage but also of a wider, underlying resistance to the appropriation of land for conservation that had marginalised and disempowered local people. At the same

time, internationally, elephants have an iconic status, are widely revered or even loved, and in conservation terms are regarded as threatened, and are protected (Lorimer, 2010; Barua, 2013).

The importance attached to elephants, and their destructive power, puts a political premium on reducing HEC in elephant range countries Africa. Experiments have been made with 'community-based', reactive HEC-mitigation measures such as chili fences, watchtowers, lights, noise-generation and bees. All have proved to be ineffective at deterring elephants at a large scale due to the labour and technical skills required (Sitati and Walpole, 2006; Graham and Ochieng, 2008; Hoare, 2012). The attempt of government wildlife managers, to address conflict is hampered by limited resources, and the fact that crop-raiding is intermittent, difficult to predict and widespread in space (Graham et al., 2010). Delayed response to raids and the problem of finding the animals concerned (leading to the wrong animals being targeted), makes official responses often both unsatisfactory and ineffective (Hoare, 2012).

The failure of deterrence methods in reducing crop-raiding has led to increasing investment in electrified fences to manage the problematic relationship between farmers and elephants. In Kenya, for example, the Kenya Wildlife Service estimates that a total of 1245 km of electrified fencing currently stands in Kenya with an additional 1000 km under the process of construction (KWS, 2014). Electrified fences are an attempt to create hard boundaries that control human-elephant interactions and designate separate spaces for elephants and for farmers.

Despite their stated technical and ecological purpose, elephant fences are inherently political. HEC reflects and generates complex political interactions—between conservation agencies and farmers and between different land users, over rights to use land and the right to protection from crop-raiding. Fences, offered as a technical solution to this problem, serve to hide the politics of elephant crop-raiding and of access to land. The depoliticisation of policy interventions through the deployment of technical narratives has a long history in development. Ferguson describes how, with the flick of a switch, the anti-politics machine depoliticises 'everything it touches, everywhere whisking political realities out of sight, all the while performing, almost unnoticed, its own pre-eminently political operation' (Ferguson, 1990: xv). In her analysis of a conservation and development intervention in Indonesia, Li (2007: 126) describes how boundaries were inscribed and social-political processes rationalised in technical terms; in this process of 'rendering technical', project implementers 'highlighted only those problems for which a technical solution could be proposed'. Anti-politics is inherent to science-based policy interventions, aspiring to provide technical solutions to problems that are fundamentally political. Büscher (2010: 48) contends that anti-politics is a necessary political strategy for those implementing the conservation intervention to 'make things happen'.

In this paper, we analyse the politics behind the anti-political process of conservation boundary-making through the construction of elephant fences. We focus on the process of planning and constructing a 121 km electrified fence in Laikipia County, north-central Kenya, along the border of large cattle ranches to stop crop-raiding by elephants on neighbouring smallholder land. The stated intention of the West Laikipia Fence was to separate elephants from cultivation. We explore the politics behind its construction, especially the way in which its construction furthered the underlying political interests of different stakeholders. We seek to show that the fence that was built was the outcome of complex political negotiation and conflict between stakeholders. In particular, we consider the way the fence served to define, communicate and reinforce territory in a way that helped secure the land tenure of powerful actors.

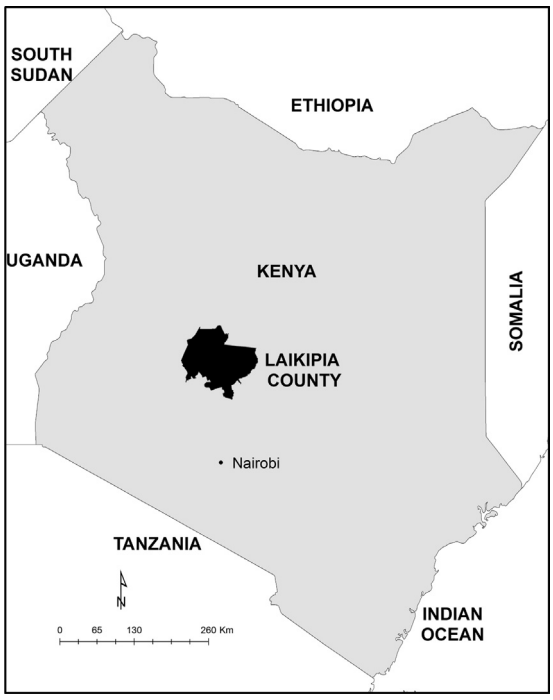

Fig. 1. Location of Laikipia County within Kenya.

2. Study area

Laikipia comprises a 9800 km^2 plateau and one county located on the equator between Mount Kenya, the Aberdare Mountains and the Rift Valley in north-central Kenya (Fig. 1). Rainfall is typically bimodal seasonally, but is unpredictable and may fall at any time of year. However rainfall declines from 800 mm per annum in the south to just 300 mm in the north (Berger, 1989). Laikipia has no formally protected wildlife areas, but contains the second highest abundance of wildlife in Kenya, after Maasai Mara National Reserve (Kinnaird and O'Brien, 2012).

Ownership of and access to land in Laikipia has been punctuated by waves of exclusion and inclusion. The first of these involved the two Anglo-Maasai Treaties in 1904 and 1911. Under the first, the colonial government moved Maasai people into Laikipia from the Central Rift Valley to form the Maasai Northern Reserve. Under the second, in 1911, they evicted them to allow European Settlement, causing the death of many people and cattle (Hughes, 2006; 2007). The British government wanted to create an export-orientated free market economy in the British East African Protectorate (Pestalozzi, 1986) and in pursuit of this set the highlands of Kenya (dubbed 'The White Highlands') aside for European settlement. The eviction of pastoralists from Laikipia in 1911 reflected the colonial government's view of pastoralism as irrational, uneconomic and based on accumulation for its own sake (Kenya Land Commission, 1933).

Once cleared, Laikipia was swiftly subdivided into large land units for European settlers. Large ranches over 10,000 acres were thought to be needed for profitable cattle production (Vaughan, 2005). European settlement had dramatic social impacts on Laikipia (Wambuguh, 2007). It created a small, powerful, European elite that was responsible for the management of almost all land in Laikipia.

After Kenyan independence in 1963, some settler families retained their properties, but many Europeans sold up and left the country. Some former settler land in Laikipia was bought, both under government schemes and by private land buying syndicates, and subdivided into 1.2–5 acre plots for settlement, mostly by Kikuyu smallholders from Central Kenya (Kohler, 1987; Thouless, 1994). Initially, such settlement was planned in the light of land

suitability, but over time the political aim of settling as many landless people as possible and the demand for land for economic security and to profit from land sales, became dominant drivers of land exchange (Huber and Oponde, 1995). As a result, properties in more arid areas were purchased and subdivided (Graham, 2007), and the size and cultivation potential of plots distributed among shareholders declined over time. Many plots were abandoned or never settled at all (Kohler, 1987) because they were too dry for rain fed agriculture and lacked a water source for irrigation, or because of legal disputes with land buying companies.

Under the Land (Group Representatives) Act of 1968, the Kenyan government also established group ranches in order to encourage pastoralists to settle, commercialise, conserve rangeland and invest in infrastructure (Grandin, 1987). Many group ranches in Kenya failed in these objectives due to their insufficient size and pasture, elite capture and governance issues (Herren, 1991) Eleven group ranches were established in Laikipia.

Laikipia today therefore comprises a mosaic of different land uses and tenure shaped by colonial and post-colonial land policies. Large commercial cattle ranches cover 39% of the County, smallholder plots cover 34%, government owned land 8.5% (one ranch, veterinary outspans, land bought by the government settlement trust fund and swamps), group ranches 7%, forest reserves 7%, and urban areas 4.5% (LWF, 2012). The result is a spatially chaotic juxtaposition of various kinds of large land units with populations of wildlife, and scattered smallholder farms. This has made Laikipia particularly vulnerable to crop-raiding by elephants.

Stakeholders in the Laikipia landscape have very different interests in relation to land and elephants, and different powers to pursue them. Responsibility to protect wildlife, and to protect citizens and private property against wildlife, lies with the parastatal Kenya Wildlife Service. Various conservation NGOs seek to secure the place of elephants in the Laikipia landscape. The owners of large-scale ranches mostly tolerate elephants, and indeed many have developed wildlife tourism enterprises as they diversified their business models (Thouless, 1994; LWF, 2012). Smallholder farmers fear crop-raiding and want elephants to be excluded from their land and their crops, or removed altogether. Pastoralists tend to have a more tolerant relationship with elephants (Gadd, 2005; Graham 2007), and have long sought access to grass for their livestock across Laikipia's mosaic of land tenure.

The use of land in Laikipia by elephants has changed over time. Colonial and post-colonial records suggest that elephants were rare in Laikipia at the end of the nineteenth century, presumably as a result of over-hunting for ivory by coastal trading caravans (Neumann, 1898). Records start to increase in the 1970s, probably because of the rise of intense poaching to the north in Samburu in the 1970s and 1980s, which is believed to have driven elephants into Laikipia (Thouless, 1992). By the 1990s, elephants were common on ranchland in Laikipia.

Although Laikipia contains no formally protected areas, ranch land provides over 3600 km^2 of undeveloped habitat where human population densities are very low ($1/km^2$). The dense vegetation and provision of water from livestock dams within ranches provides good habitat for an estimated 6400 elephants (Ngene et al., 2013). Ranches also provide a daytime refuge from which elephants can move at night to raid smallholder crops (Graham et al., 2009). Elephants are the largest, widest ranging and most destructive species in Laikipia. Crop-raiding had become a politically prominent wildlife issue by the early 80s, arousing hostility to both elephants and those managing them (Jenkins and Hamilton, 1982). By the early decades of the twentieth century, Laikipia had amongst the highest numbers of HEC incidents in East Africa (Graham et al., 2010).

As crop-raiding by elephants increased on smallholder farms, intolerance of elephants grew among smallholder farmers. Elephants were increasingly seen by smallholders to 'belong' to ranches since they benefitted from the presence of elephants through tourism (Thouless, 1994), and ranchers faced mounting political pressure to keep elephants off their smallholder neighbours' land. Both smallholders and the politicians who represented them began to view electrified fencing as an obligation of large-scale ranchers. In 1982, the Wildlife and Conservation Management Department proposed a single fence across Laikipia to prevent elephants from moving from 'wildlife-tolerant' large-scale ranches in the low rainfall area to the east and north, onto the wetter area of smallholder cultivation in the south and west (Jenkins and Hamilton, 1982). However, without funding to support construction costs, and in the absence of consensus from all ranchers, this fence was not built. Instead, electrified fences were only built by better-endowed ranches to stop elephants raiding (Thouless and Sakwa, 1995). Other ranchers did not fence their properties, because of a low presence of elephants (or an active policy of deterring them), because of cost or because they believed that the Laikipia landscape should be contiguous wildlife habitat, not subdivided by fences.

In 2002, the idea of a Laikipia-wide fence was resurrected. Thouless et al. (2002) developed a fencing strategy for Laikipia under the Laikipia Wildlife Forum that followed Jenkins and Hamilton (1982) proposed line. However, to avoid problems of ownership and maintenance of a single fence, the strategy advocated a 'modular approach, which would support the construction of individual fences that fitted within an overall framework' (Thouless et al., 2002: 3). By 2007, contiguous sections of electrified fence had been constructed along the perimeter of ten different properties on Laikipia (Fig. 2), but there was a large gap to the west. The fence that was constructed to close this gap – the West Laikipia Fence – is the focus of this paper.

3. Methods

This paper draws on fieldwork that was carried out between January and December 2012. As part of a wider social-ecological study, the first author conducted in-depth interviews with a range of stakeholders of the West Laikipia Fence project. Grimble and Wellard (1997) define stakeholders as any person or group, organised or unorganised, with an interest or stake in an issue or system. We identified the stakeholders as those organisations and individuals involved in planning and construction of the West Laikipia Fence, as follows: (1) local political leaders at the county level and in the seven sub-locations through which the West Laikipia Fence passed (the administrative structure of the Government of Kenya divides counties into locations and sub-locations, which are headed by a location chief and a sub-location chief elected by county government officials); (2) conservation organisations working in Laikipia: the Laikipia Wildlife Forum and Kenya Wildlife Service; (3) owners or managers of ranches (hereafter called 'ranchers') that bordered the West Laikipia Fence and ranchers elsewhere in Laikipia who had experience of electrified elephant fences; (4) smallholder farmers who lived and/or farmed within 3 km of the fence (this distance was selected on the basis of a GIS analysis of the distance between GPS locations of five collared elephants throughout 2010 and 2011, that determined the mean distance moved by an elephant crop-raiding was 2.6 km into smallholder land from the fence Evans, 2014); (5) pastoralists who lived and grazed within 3 km of the fence.

In the case of political leaders, conservationists and ranch managers (stakeholder groups 1–3), all individuals or representatives of relevant organisations were interviewed. In some cases more than one individual was interviewed in an organisation if the first interviewee suggested that they would have further insights. In the

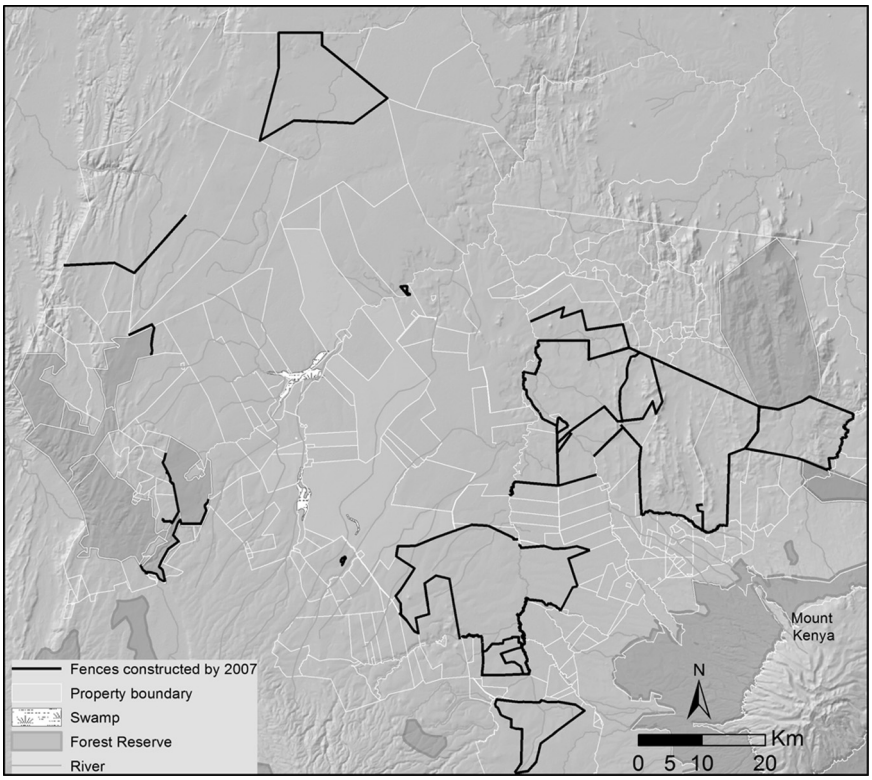

Fig. 2. Elephant fences in Laikipia in 2007.

case of smallholder farmers and pastoralists (stakeholder groups 4 and 5), snowball sampling was used to choose interviewees. The first individuals interviewed were purposively selected from existing knowledge of the fence and the area (Evans, 2014), and asked to suggest other people who had been involved in consultations regarding the planning and building of the West Laikipia Fence.

We started the interviews by informing the participants about the research. Interviews were informal and conversational in style and loosely guided by a list of topics for discussion, specific for each stakeholder group. In total, we conducted in-depth interviews with 63 individuals. Interviews were carried out in either English by the first author or in Kiswahili or Maa and translated verbally to the first author. We used a combination of recording and note-taking. We also held seven focus group discussions in each sub-location along the West Laikipia Fence to understand the history of community engagement with the fence. Additionally, we carried out interviews with key informants who were chosen based on their knowledge and ability to contribute insightful information on the use of fencing to deter elephants. Finally, we reviewed relevant grey literature and other studies. We transcribed interviews soon after they finished. We coded transcripts with an initial descriptive coding system of surface-level messages, and then a pattern coding system to reveal patterns and perceptions (Hoggart et al., 2002). Respondents were kept anonymous, and are identified in this paper by a number.

4. Conception

4.1. An apolitical fence

In early 2006, the Laikipia Wildlife Forum (hereafter 'the LWF') developed a proposal for an electrified fence to be built along ranch boundaries in western Laikipia. The LWF had been established in 1992 under the leadership of a ranch owner who was a direct descendent of a former white landowner. He saw the forum as an institution 'to build bridges between ranchers and their neighbours' (Interview no. 28, February 2012). From its inception, the LWF was a membership organisation, in which any individual or institution could join for a varying fee. The LWF's membership was diverse and included ranchers, smallholder farmers, pastoralists, group ranches, natural resource user groups, schools, conservation and development NGOs. The LWF had ambitious conservation goals, in that it sought to represent the interests of its entire membership, although as we discuss, these interests were often in conflict.

A win–win narrative dominated the LWF's proposal. On one hand, the fence would 'safeguard the livelihoods of small-scale farmers in the west. . . through increased food security and reduced livestock theft' (LWF, 2006: 8). On the other hand, it would protect biodiversity – particularly elephants – by reducing the number of 'elephants killed due to human-wildlife conflict'. Furthermore, it would 'support biodiversity related livelihoods' – specifically tourism – as well as improving attitudes towards wildlife and consolidating conservation efforts in Laikipia (LWF, 2006: 8). Beyond the direct impacts, the proposal also claimed that the fence would reduce 'unsustainable resource use practices' because, human-wildlife conflict is known to force 'people to poison elephants and into activities such as charcoal production and bush meat trade...and poaching' (LWF, 2006: 2).

McShane et al. (2011) describe how win-win language about the simultaneous achievement of positive conservation and development has come to dominate the external and internal discourse in conservation organisations. Community-based conservation was born out of this win–win approach, on the basis that local people are more likely to support conservation if they have stake in its management, that excluding them from the decision making process is an infringement of their human rights, that they have traditional governance systems for natural resources and that the costs of conservation are directly offset (Adams and Hulme, 2001; Baker, 2004; Brockington et al., 2006). Despite their frequent failure to achieve conservation and development objectives (Barrett and Arcese, 1995; Songorwa et al., 2000; Wells and McShane,

2004) win–win narratives of conservation continue to dominate the sector. McShane et al. (2011) note that such approaches have the appearance of being ethical, efficient, and highly marketable and are therefore appealing to donors. Furthermore the win–win paradigm avoids the 'potentially divisive political requirements of understanding and confronting explicit trade-offs between competing stakeholders' (Wells and McShane, 2004; McShane et al., 2011: 969; Salafsky, 2011).

The LWF funding proposal framed the West Laikipia Fence as a technical issue, lying completely outside the realm of politics. The complexity of the social landscape and politics that underpinned access to land was reduced to a simple and ostensibly 'technical' solution: an exercise in anti-politics (Ferguson, 1990; Büscher, 2010). Apolitical rhetoric, like win–win language, had a powerful function in Laikipia: to ensure and justify support and resources from donors. The LWF and the MP were highly effective at raising funds. Within a year they raised nearly 65 million Kenyan Shillings (US$ 970,000) from the Dutch Government, the Government of Kenya (through the Kenyan Wildlife Service, and Constituency Development Fund), and from the International Fund for Animal Welfare. The proposal, as well as appealing to donors, also served to fulfill their organisational aim of appealing to much of their membership. HEC represented a 'significant diplomatic challenge' for the LWF (Interview no. 21, September 2012) in that a large component of their membership were angry and frustrated by elephants destroying their crops, while another component were trying to conserve elephants, and another component owned most of the elephant habitat within ranches.

4.2. Political fence

Even though the funding proposal for the West Laikipia Fence sought to be apolitical, the issue of HEC and of fencing as a solution to it was already highly charged politically. In the run up to the 2007 Kenyan elections, HEC had become a prominent and politicised campaigning topic in Laikipia. Mounting intolerance towards elephants amongst smallholders led aspiring politicians to rally the support of their smallholder constituents with promises of solving the problems they faced in sharing a landscape with elephants. The reduction of crop-raiding was an integral component of the campaign run by the incumbent Member of Parliament (MP) for Laikipia West Constituency who was seeking to hold his seat in the upcoming election at the end of 2007. The MP had been a prominent leader behind the 'Africanisation' of Kenya after independence. He helped to establish many of the land-buying companies for Kikuyu smallholder from central Kenya in western Laikipia and had himself bought a 22,000-acre ranch in western Laikipia.

The MP was also a major proponent of wildlife governance reform in Kenya. He developed and lobbied for a Wildlife Bill in 2004 that attempted to decentralise Kenya's wildlife governance, which the President did not pass (Kabiri, 2010). The MP's political interest in wildlife in his constituency meant that he was closely involved with the work of the LWF. The MP had worked closely with the Director of the LWF (who served from 2009 to 2012) in developing, attempting to lobby his wildlife bill through parliament in 2004.

The opportunity to close the gap in the Laikipia-wide fence to finally solve HEC was an attractive prospect for the MP's re-election campaign in 2007. Leading the fencing of western Laikipia's ranches appealed strongly to his smallholder farmer constituency, who were suffering from persistent crop-raiding by elephants leaving the ranches. It also helped secure the position of their large ranch neighbours, of which he was one, by promising to remove the nuisance of crop raids. Sitting on a ranch house veranda in September 2005, the MP asked the ranchers and the LWF whether they could help him to complete the trans-Laikipia fence. The LWF Director saw the MP's political backing as an opportunity to secure funding for a large-scale conservation project: one that provided a simple, technical, solution to the complex problem of HEC in Laikipia. Furthermore, it was a high-profile and politically supported solution. Additionally, for the LWF Director, the fence also represented his own beliefs about the relationship between people and wildlife:

> 'The reason why most Kenyans are ambivalent or loathe wildlife is because the relationship they have with wildlife is a direct one. If you don't desire a direct relationship with wildlife and if you can stop having a direct relationship with wildlife, your attitude towards wildlife will change.' (Interview no. 22, September 2012)

The MP wanted the fence built quickly. In February 2006, he and the LWF set up a committee to provide technical advice on the building of the fence, comprised of the MP, the LWF, the Kenya Wildlife Service, local politicians and ranch owners. He also engaged the media. An article published in the Daily Nation newspaper laid out his political past and future intentions, entitled '[MP] proposes 50 million KES fence to keep out elephants' (Daily Nation, 2006). In it, the MP was quoted as saying, 'destruction of crops and loss of lives by wild animals would have been curbed by the Wildlife Bill which the President declined to assent to. We have no choice but to erect a fence' (Daily Nation, 2006: 6). The LWF Director recalled the 'persistent pressure' placed on him by the MP in the form of weekly phone calls to speed up the process of funding and building the West Laikipia Fence:

> 'Coming from an elder of the political establishment of Kenya, you pay attention.' (Interview no. 22, September 2012).

Even before the West Laikipia Fence was built, it served the purposes of two significant stakeholders: by promising to reduce HEC, it forwarded a political campaign and it helped a conservation organisation to achieve its goals.

5. Planning the fence

5.1. Consultation

The LWF's proposal simplified the social complexity of Laikipia. It focused the West Laikipia Fence on a target group: the 'stakeholders and beneficiaries' were the smallholder farmers living 'in close proximity' to the fence (LWF, 2006: 8). Ferguson (1990: 83) described how, in the concept of a development intervention in Lesotho, 'the centrality of agriculture in the local economy was the unquestioned premise of the entire project', although migrant wage labour was the most important source of income for most households. Similarly, the local economy promoted by the West Laikipia Fence proposal was framed wholly around cultivation, since smallholders were the stakeholders whose livelihoods were suffering from frequent elephant crop-raiding, even though livestock keeping was important for many people on Laikipia.

Kikuyu smallholder farmers are politically significant actors within Laikipia. Most own their land and depend on it for their livelihoods; they are vulnerable to attack by elephants. Through his campaign for the fence, the MP was contributing to securing their tenure of land, their livelihoods, and also their votes. However, smallholder farmers were not the only people living outside the ranches on Laikipia. Different pastoralist groups have used Laikipia for centuries (Lane, 2010; Watson, 2014), and were widely distributed across the area. Research carried out in the mid-2000s had flagged the increasing importance of Laikipia's unoccupied subdivided smallholder land to pastoralists (Lane, 2005; Gadd, 2005; Graham, 2007). Yet the LWF proposal only referred to pastoralists

indirectly, in terms of their significance to elephants. They were framed as broadly tolerant of wildlife: stable wildlife numbers in the dry north and east of Laikipia were attributed to 'attitudes towards wildlife amongst pastoralist communities' (LWF, 2006: 4). Pastoralists' use of land was not considered central to the proposed fence. Although the LWF's fencing strategy had warned that pastoralists have undermined other electrified fences in Laikipia (Thouless et al., 2002), the proposal stated that 'the fence structure itself... will not impinge on the movements of people or livestock' (LWF, 2006: 6). Moreover it claimed that the fence would have an additional positive social impact on smallholders' security by 'controlling livestock movements through agreed access ways and so livestock theft will be reduced' (LWF, 2006: 6).

By presenting a simplified account of land use in Laikipia, centred on smallholder cultivation, the narrative to donors was clear, and a distinct smallholder territory was defined. A fence would create an elephant territory in eastern Laikipia, and ensure that elephants no longer strayed onto newly demarcated smallholder territory in western Laikipia. This narrative strengthened and simplified the LWF's conservation narrative on their objective of finding a permanent solution to HEC.

In July 2006 the LWF began an 'extensive process of stakeholder consultation' to 'ensure that the fence had buy-in and support from the stakeholders living by it' and to 'discuss the implications of the fence and what the costs were in terms of maintenance and lost opportunities' (Interview no. 25, October 2012). The LWF held a series of public meetings within each of the seven sub-locations through which the proposed fence would pass through, to which the chief of each sub-location invited hundreds of smallholders and resident pastoralists. Pastoralists were reported to have raised no concerns about the fence:

> 'They wanted in, they were in agreement' (Interview no. 25, October 2012).

In each sub-location chiefs and community leaders were almost wholly smallholders. Inevitably smallholder voices and concerns dominated the meetings. The LWF established four 'fence committees' at the meetings by voting for membership through a show of hands. The committees were comprised entirely of smallholders living next to the proposed fence. Each committee signed letters declaring their unanimous and ongoing support of the fence.

Despite this seemingly unanimous support, the LWF Director accepted in retrospect that the impacts of the fence on pastoralists were not properly addressed at this stage:

> 'There was a whole section of society we did not pick up on. That was the people who this fence was extremely inconvenient to and undesirable for, because it prevented them from accessing grazing. For some reason that was not apparent at the onset.' (Interview no. 22, September 2012)

The reason pastoralists did not object to the fence in the consultation meetings was primarily because the activity that the fence would inhibit – grazing on privately owned ranch and smallholder – was illegal:

> 'Of course they didn't want to speak out about it in public.' (Interview no. 25, October 2012)

Pastoralists have formal communal tenure in just seven per cent of Laikipia County, within 11 group ranches (LWF, 2012): none of this land in the central or well-watered southern parts of the plateau. Pastoral groups regularly grazed stock on land further south legally held but not occupied by smallholders. Unlike smallholders and ranch owners, most pastoralists did not have rights to land on Laikipia, despite the historical importance of the plateau for seasonal grazing. Since colonial times, pastoralist access to the land in Laikipia had been marked by exclusion, and their use of land almost everywhere was uncertain and extra-legal.

By 2000, de-facto informal use of land by pastoralists was widespread. Pastoralists habitually obtained illegal access to pasture within large-scale ranches, either using unguarded land, or by arriving and negotiating access when challenged. The LWF (2012) estimated that of Laikipia's 9800 km^2, pastoralists utilised 3500 km^2 informally or illegally and were granted access to a further 2000 km^2 on certain ranches under managed grazing regimes. Ranch owners vehemently resisted illegal grazing on their ranches. To them, an 'elephant fence' provided a valuable tool against illegal grazing. Land abandoned or unoccupied by smallholders left a vacuum in a mosaic of otherwise privately owned land, which allowed pastoralists from outside Laikipia (Samburu, Baringo and Turkana) to graze cattle and take up residence. After 2007 there was an influx of Samburu pastoralists settling south and west of the Laikipia Fence, due to inter-ethnic conflict with Pokot pastoralists over access to grazing further north 2007–2010, to lack of pasture due to the 2009 drought, and to the grazing opportunities that Laikipia presented (Evans, 2014). Some of these households had bought small plots of land from the local administration over this time, in order to legitimise their presence.

Pastoralist immigration into Laikipia is a process that has long been resisted by Kikuyu smallholder farmers. Thus, during fieldwork in 2012, smallholders along the length of the West Laikipia Fence complained about pastoralists either grazing on their farmed land or competing for pasture on nearby unoccupied land. One smallholder commented:

> 'Every day you wake up and another *manyatta* has popped up in front of your house... If one Samburu settles on a small plot, the next day many of their friends and family will then come there to graze their cows. A home of one family soon becomes the home of 25 people with all of their cattle. Soon there is no grass left for anyone else's livestock.' (Interview no. 6, November 2012)

Furthermore, pastoralists with origins outside of Laikipia were blamed for violent armed insecurity in the area:

> 'These people have guns and come here and steal our livestock' (Interview no. 60, November 2012).

The dominant idea of land rights recognised by smallholders on Laikipia (and favoured by the Government of Kenya) centered on individualised freehold ownership. This system contrasted with the traditional communal approach to land of pastoralists. Moreover, land rights were seen to underpin political representation. Sub-location chiefs in western Laikipia (all smallholders) recognised their communities through tenure. As one chief said:

> 'We don't involve the pastoralist people if they are not residents from this area.' (Interview no. 12, October 2012)

Land purchase changed the political status of pastoralists:

> if a Samburu or Maasai household bought land 'then they would be part of this community' (Interview no. 12, October 2012).

Some conservancies in Laikipia had a similar approach to managing their relationships with their pastoralist neighbours. One conservancy manager described how they only invested in communities holding land through title deeds:

> 'A lot of these people live on land that doesn't belong to them, so by dealing with them you are actually condoning their illegal use of land.' (Interview no. 38, November 2012)

The issue of pastoralists using and settling on unoccupied subdivided former ranch land was contentious. The LWF Director noted

that, in Laikipia, in the context of Kikuyu smallholders and Samburu pastoralists,

> 'We had one ethnic group owning all the land and another group occupying the land.' (Interview no. 22, September 2012)

In the lead up to the 2007/2008 post-election violence in Kenya (in which over one thousand people were killed), he noted that

> 'we had a country already split along ethnic lines politically, so people don't want to go near those politics and people are scared to go near it' (Evans, 2014).

Responses to inter-ethnic conflict therefore were 'all smoke and mirrors. We are professionally inadequate to deal with these situations where there are some very serious implications. I mean life or death – people get killed.' (Evans, 2014). Local chiefs feared to engage in the issue because of its ethnic implications. A 'political paralysis' (Evans, 2014) ensued over the issue. So the prospect of a fence that served the dual function of both protecting territory for smallholders against crop-raids and controlling the movement of pastoralists by restricting their mobility, was an attractive one to smallholders, their local leaders and to the MP representing them. But this repressive and overtly political function of the fence could never be publically referred to post 2007: public discussion of ethnicity was political taboo.

5.2. Alignment

The process of drawing the line of the West Laikipia Fence began in 2006 as a complex negotiation between the LWF and the mangers or owners of five ranches (numbered I–V from South to North, Table 1). These ranches varied in size, form of ownership, form of enterprise and attitude towards wildlife (Table 1). Initially the LWF proposed an alignment that would fence three ranches (I, IV and V Fig. 3). When the MP and the LWF presented the fence concept to these three ranch owners in early 2006, they were unequivocally supportive and keen to be involved. Two ranches between them (II and III) were initially on the cultivation side of the fence, since the fence would connect the western boundaries of Ranch I to Ranch IV, because both ranches were not engaged with wildlife conservation or the LWF, and both were 'intolerant' of elephants. However, the owner of Ranch II turned up unexpectedly in the LWF offices in Nanyuki in April 2006 and persuaded the LWF to include his property on the elephant side of the fence, stating his desire to turn the ranch into a conservancy. Ranch III soon followed suit, and also decided to be included on the elephant side of the fence.

Each rancher's motivation for being included in the West Laikipia Fence centered primarily on their desire to control access to their land rather than any desire to mitigate elephant crop-raiding. Thus, the owner of Ranch V said that the fence would help to physically demarcate their boundary to their neighbours:

> 'The fence showed our neighbours where we began and where their land finished...we wanted it to stop people who had recently moved into the area from walking onto the ranch and claiming they didn't know the land belonged to us.' (Interview no. 36, November 2012)

All five ranchers wanted the fence to demarcate their boundary, to exclude trespassers – particularly pastoralists grazing illegally – to increase the security and the productivity of their ranch, and secure grass stocks for their own cattle. With Laikipia's variable rainfall, grass was a precious resource. On Ranch I for example, the manager said that they:

> 'Wanted the fence to improve grazing pastures because there was a lot of illegal grazing. We were being raided all over the ranch, because people on all sides were assessing the pasture from outside and coming in to steal grass.' (Interview no. 30, September 2012)

Owners of large-scale land-holdings in Laikipia faced two threats to their tenure, relating to the economic future of large-scale ranching, and the legitimacy of land rights. The search for justice by African Kenyans over access to land, had driven a political movement in Kenya to distribute land more equitably. Indeed by 2010, Kenya's new constitution (GoK, 2010) had addressed issues of land reform and laid out new 'democratic' land–policies: one of which included a (as of yet indeterminate) maximum and minimum acreage of land under private ownership. Ranchers along the West Laikipia Fence were concerned about the implications that this policy could have for their tenure. At an emergency meeting of ranchers in Laikipia West (on Ranch V, December 2012), the MP for Laikipia West assured ranchers that to secure their properties they needed to be seen to be economically and socially productive for Kenya, (through tax, beef for the domestic market, and employment). However, since the 1990s commercial cattle ranching had faced reduced profitability following the privatisation (and collapse) of the Kenya Meat Commission, increased international standards (which prevented Kenya from being able to export its beef to European markets), and increased input costs.

The second threat to ranch tenure was the result of pastoralists' ancestral claims to land. In 2004 a series of 'walk-ons' (mass trespasses) onto ranches in Laikipia marked the hundredth anniversary of the first Anglo–Maasai Treaty, between the British Colonial government and Maasai elders (described above, Hughes, 2006). t. Maasai activists marked the anniversary with calls – directed at both the Kenyan and British governments – for compensation and the return of Laikipia to them, on the basis that a 99-year lease had expired (and confusing the 1904 and 1911 Treaties, the latter of which ushered in white occupation). Maasai activists rallied hundreds of Maasai people, from Laikipia and Narok County, to invade private ranches in Laikipia. In some walk-ons, property was burned down, and stock was stolen. Police shot and killed a Maasai elder (Hughes, 2007).

The walk-ons had created a 'Zimbabwe-fear' amongst ranchers. Many Samburu pastoralist interviewees claimed to share Laikipiak Maasai ancestry, as one man said:

> 'The Laikipiak people lived here and grazed their cattle in Laikipia before the whites came. They were the ancestors of us Samburu and Maasai. We need Laikipia to be returned to us—all of it. We need to be given it freely because it is ours.' (Interview no. 45, November 2012)

In the context of these threats, the West Laikipia Fence helped ranchers to legitimise their tenure, and to reinforce and communicate the boundaries of their properties. In the process, they could show themselves as interested in protecting the livelihoods of their smallholder neighbours by helping prevent elephant crop-raids.

An Environmental Impact Assessment (EIA) was the final stage in the process of drawing the line of the West Laikipia Fence. A private company completed the EIA in January 2007, proposing the same alignment as that put forward by the LWF, on the basis that it followed existing ranch boundaries and therefore would be easy to maintain. Unlike LWF's proposal, the EIA recognised that both agriculture and pastoralism co-existed along the proposed fence and described the presence of 'Samburu squatters' there (Thiane, 2007: 22). It was noted that 'unless arrangements are put in place to provide access routes for livestock in some areas, this fence could affect these pastoralists negatively' (Thiane, 2007: 35). The security benefits of the fence to ranchers and smallholders through reduced illegal grazing and stock theft were seen to outweigh the costs to pastoralist squatters. In this way, the EIA effectively prioritised the interests of landed stakeholders over those of pastoralists.

Table 1
Profile of ranches bordered by the West Laikipia Fence.

Ranch	Size (acres)	Length of fence (km)	Ownership	History
I	63,530	31.7	Government	Bought by government parastatal in 1975 from British settler (former-soldier in WW1)
II	7841	11.5	Private	Inherited through two generations from British settlers first owning ranch in 1940
III	5797	15.2	Private	Inherited through one generation from Kikuyu business man who bought the Ranch in 1980
IV	37,682	17.2	Private	Bought by French family in 1980 from British settler (former-soldier in WW1)
V	34,100	35.3	Private	Inherited through one generation of white Kenyan family who bought ranch off British settler (former-soldier in WW1) in 1970

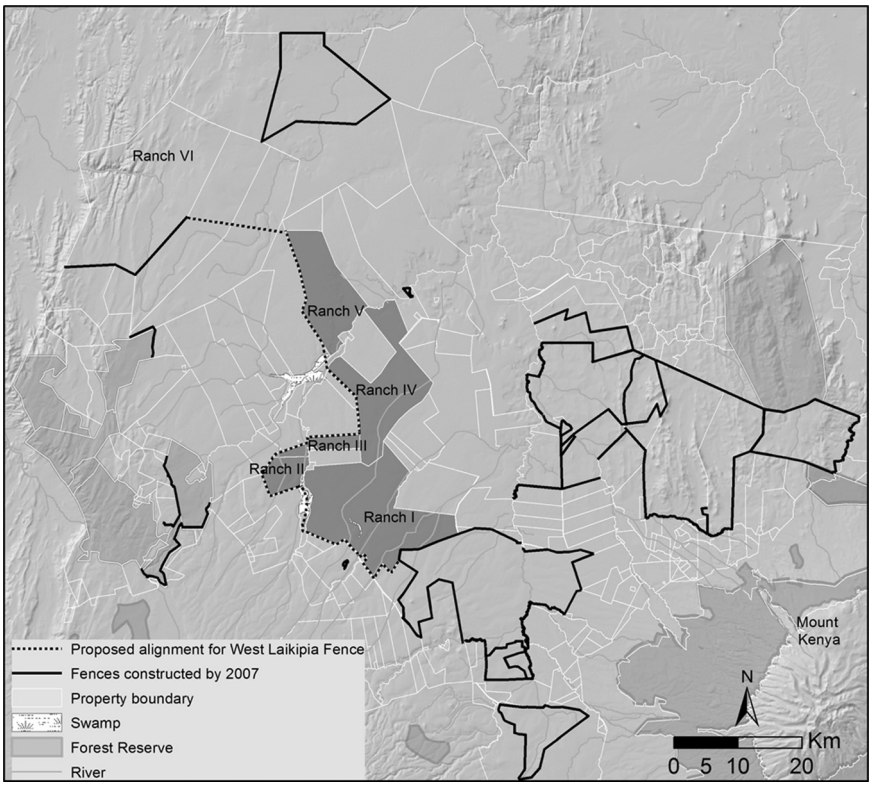

Fig. 3. Proposed alignment of the West Laikipia Fence and location in the Laikipia-wide fence.

The final proposed alignment of the West Laikipia Fence traced the hard boundary separating the five ranches from land used for smallholder cultivation and for subsistence livestock production and stretched up across a sub-divided former settler ranch (where the majority of plots had not been allocated or settled) to join the fenced boundary of Ranch VI (Fig. 3). To follow Newman (2006: 148), the demarcation of boundaries comprises a process 'through which borders are constructed and the categories of difference or separation created', rather than simply 'the drawing of a line on a map or the construction of a fence in the physical landscape'. Newman's observation that the alignment of borders is typically determined by political and social élites, also holds true for the West Laikipia Fence. The interests of two stakeholder groups with power and purchase over land came together in drawing the line of the West Laikipia Fence. In creating the case for a fence, the concerns of the numerous smallholders were identified, voiced, and supported by the MP. In selecting the line of the fence, the interests of the small number of large-scale land owners was decisive, as they owned the land on which the fence was to be built. Driven by divergent motivations, these actors were able to order not only relationships between elephants and farmers but also relationships within society: among pastoralists, smallholders and ranchers.

Interestingly, although the rhetoric used by the LWF and the MP describing the West Laikipia Fence focused on its technical, developmental and environmental impacts, the Kenyan media picked up on the polarised politics that underpinned it. An article published in the weekly newspaper *The East African*, was entitled 'The haves and have nots' (Mbaria, 2006). In it, Mbaria described how plans to complete the final trans-Laikipia fence were 'being seen as a ploy to separate white ranchers from peasants' and how the fence will end up 'splitting the country into two unequal parts' as it makes way for a 'huge conservation site' (Mbaria, 2006: 6).

6. Constructing the fence

The West Laikipia Fence Committee agreed in July 2007 on a uniform design for the entire West Laikipia Fence, using standard solar-powered technology. Individual ranchers could then modify the fence as they wished. Seventy kilometers of fence were built during 'phase one' of construction by an independent contractor along the western boundaries of ranches I, II; the northern bound-

ary of Ranch III; and 12 km of Ranch IV's western boundary, and all were completed by 2008. The remaining forty kilometers of fence of 'phase two' were built along Ranch IV's northern boundary and Ranch V's western boundary by the ranches themselves, to reduce costs (Fig. 3). The northern-most stretch of fence, extending from Ranch V to join Ranch VI's boundary fence, was never built, since the unoccupied land there was effectively an open access grazing area. In 2008, Samburu and Pokot pastoralists engaged in a two-year, bloody conflict over access to grazing. The LWF Director decided that this length of fence was unfeasible because of insecurity from the violence and because the social and financial capital did not exist there to maintain the fence.

Construction of phases one and two progressed slowly. When the owner of Ranch IV returned to Europe with illness, the ranch manager was left unable to authorise and commit the labour required to build his length of fence, and reported equipment going missing from the ranch store. Completion of Ranch V's length of the fence that adjoined Ranch IV's fence was stalled until Ranch IV's fence was completed. Construction of phase two was completed by the end of 2011.

The final alignment chosen for the fence left two pockets of smallholder cultivation on the wrong side, Matigari and Mathira (Fig. 4). Once phase one had been completed, these areas began to experience intense crop-raiding from elephants. The LWF therefore agreed to train and resource the community of smallholders at Matigari to build their own 2 km long electrified ring-fence to encircle the area of cultivation. The community worked efficiently and cohesively and the ring-fence was completed by June 2009. Having heard about the Matigari ring-fence, Mathira residents voiced similar grievances to LWF and the KWS, saying that Mathira had become 'a highway for elephants' (Interview no. 4, January 2012). LWF decided that the community would also be resourced by LWF with equipment, training and a technician to build an 8 km ring-fence around Mathira, which was completed in early 2011.

The final West Laikipia Fence was therefore 121 km long and ran just within the ranch boundaries of five different large-scale ranches and around two areas of irrigated smallholder cultivation (Fig. 4). It had four live wires and one earth wire held up by seven-foot posts spaced 10 metres apart. Energiser houses containing the solar panels each powered approximately 5 km length of fence. The fence was built to achieve a voltage of 7 kV.

7. Maintaining the fence

The effectiveness of electrified elephant fences depends on their delivering a short high-voltage, low current, electric shock when touched and the circuit between the wires, the earth and the body touching the fence is completed. Power is generated by solar panels, and stored in lead acid accumulators. Fences are easily broken if the posts are weak, the wires poorly attached to the post, or if voltage falls. The most frequent cause for low voltage is shorting from vegetation, for example long grass, or from badly connected wires because of poor repair. Fences therefore need to be well built, and well-maintained, with regular clearance of growing vegetation and timely and efficient repair.

Elephants began to break the West Laikipia Fence even while it was being constructed. Voltage began to vary along the fence as investment in and capacity for maintenance varied between properties (Evans, 2014). The MP lost his campaign and failed to be re-elected. Furthermore, the complex political reality of the social landscape in which the West Laikipia Fence was situated became clear as the fence was constructed. Once built, the West Laikipia Fence line began to be pushed and pulled by the political interests of different stakeholders. Previously silent stakeholders began to forge a stake in it. The final form of the fence was therefore the result of fine scale negotiations.

The process of building the fence accentuated and concentrated conflicts between stakeholders. During the construction of the fence, pastoralists – who had been silent during the planning of the fence – became noticeable as stakeholders. As discussed above, their interests in relation to access to land and resources stood in stark contrast with those of other land users. Their presence led to adaptations of the original fence layout in various ways. Three examples show how the resulting interactions shaped the physical state of the fence.

The first example comprises ranchers who began to adapt the fence to suit their own interests in relation to land. A year after Ranch II's length of fence had been built, and despite the owner's initial conservation-centric sentiment, he drove all elephants from his property and enclosed the whole ranch with an electrified fence. He added two more energisers to give an average voltage of 11 Kv. He added outriggers in places where elephants had previously broken into the ranch. Elephants, he explained, damaged ranch infrastructure:

> 'I had to change all the tanks, all the pipes, you couldn't walk anywhere when elephants were here. I remember one elephant following me for 5 km. Without elephants we can get on with business.' (Interview no. 32, November 2012)

It is no accident that this strategy was also effective against incursions by pastoralists, who at various points began to undermine the West Laikipia Fence: by crossing beneath or through its wires or by breaking it. The owner of Ranch II adapted his fence management to be as impenetrable as possible to trespassers: 'no fence is people proof, it's how you manage it that makes it people proof' (Evans, 2014). He slept with a radio by his ear. If there were reports of people crossing the fence he would go in his Land Cruiser and drive off offenders, impounding pastoralist cattle and imposing a hefty fine. As he told me, 'I work flat out to make this place work. This grass is for my cows and no one else' (Evans, 2014). For the same purpose, Ranch III added vertical strands to the main fence, connecting the live wires, so that pastoralists could not enter the property.

The second example is along a section of the West Laikipia Fence that borders the Pesi swamp next to Ranch I (Fig. 4). Many smallholders had bought land next to the Pesi swamp, southwest of the proposed alignment of the Ranch I's length of the West Laikipia Fence and were cultivating there by pumping water from the swamp. These smallholders wanted the fence to be northeast of the swamp to allow them access to water to irrigate their crops. However the Kenya Wildlife Service, having surveyed the planned fence line, argued that the fence must be southwest of the swamp, and outside Ranch I, to ensure that elephants had access to water in the swamp, otherwise they would break the fence to reach the swamp. Ranch I supported the Kenya Wildlife Service's argument saying that they wanted to develop a conservancy on the land and therefore wanted to maximise elephant habitat. The real motivation of Ranch I's management, however, was to prevent pastoralists crossing into the ranch to access water in the swamp and grass in the ranch. The ranch manager said:

> 'The water belongs to the ranch. It is for our cows and the elephants. We don't want people taking their cows to the water then walking onto the ranch and stealing all the grass. The fence keeps them on their side.' (Interview no. 30, November 2012)

As fence construction began along the Pesi swamp, pastoralists began to cross, break and undermine the fence. As one pastoralist neighbour at Pesi told us:

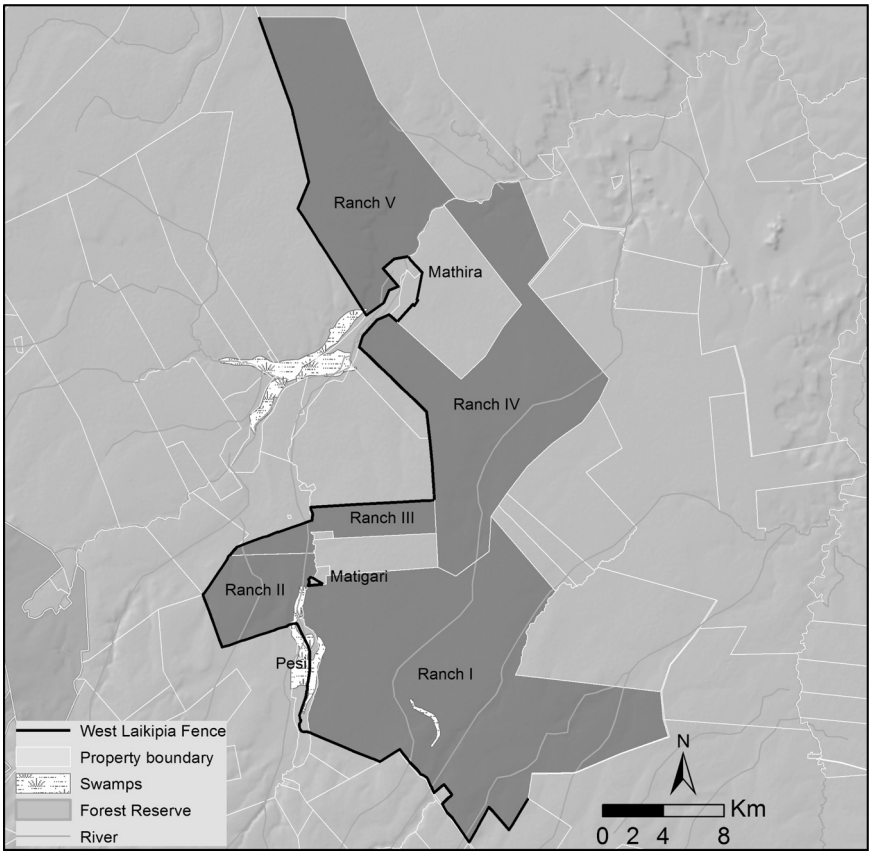

Fig. 4. Final alignment of the West Laikipia Fence.

> 'No one asked us about where we thought the fence should go. [Ranch I] built that fence to deny our cows access to water. So we will just pass through it and take our cows there to drink when we want.' (Interview no. 42, September 2012)

Another said:

> 'I'm not going to let my cows starve, when I look across the fence and see all of that grass.' (Interview no. 51, December 2012).

The LWF mediated the conflicting interests and compromised with a design that zig-zagged across the swamp so that pastoralists, smallholders and elephants could all access water. However the LWF fencing strategy had specifically warned that there were 'serious technical difficulties' in a configuration that crossed water because of the difficulty of accessing the wires if they needed repairing (Thouless et al., 2002: 4). Indeed, the fence at Pesi never functioned effectively as a barrier. It consistently had low voltage and its wires lay dangling in the water. The LWF Director described the demarcation of the West Laikipia Fence:

> 'It went through all sorts of bizarre incarnations. It was a bloody disaster. Different interests were pulling it everywhere, along with a lack of experience. We were trying to maximise space for elephants as good greenies and of course the solution would have been. . .to avoid Pesi swamp completely.' (Interview no. 22, September 2012)

The third example is amongst stakeholders in the Mathira ring-fence. The people living within the Mathira ring-fence were all smallholder farmers. They wanted a ring-fence to follow the same design as the rest of the West Laikipia Fence. However they were surrounded by pastoralists, who had moved into the area to settle. LWF worked with smallholders to construct a five-strand fence with five live wires evenly spaced from ground to seven foot high: consistent with the rest of the West Laikipia Fence. However this design also prevented the movement of other animals, including livestock. Pastoralists resident in the area protested, demanding a design with three raised strands that left space to allow their cattle access to water in the Mathira swamp (Fig. 4) and pasture within the fence, while still deterring elephants. Smallholder residents within the proposed fence disputed this design. They said that only a five-strand fence would deter elephants. However elephants were not their only concern. Smallholders were also seeking a fence that would exclude pastoralists and reinforce their territory. As one (smallholder) village leader at Mathira told us:

> 'It just isn't true that Mathira farmers only wanted the fence to keep elephants away from their farms. They also wanted to keep pastoralists out of their land. . .pastoralists come onto their farms with their cattle at night, their cows eat their crops.' (Interview no. 52, January 2012)

Pastoralists threatened to sabotage a five-strand fence if it was built. LWF attempted to mediate these different interests and compromised by selecting the three raised-strand design, through which livestock could pass.

These examples show the complex interactions among smallholders, ranchers and pastoralists over the fence. These centred on its alignment, and it management (with some stakeholders deliberately undermining its effectiveness, or breaking it). For ranchers, the fence helped consolidate their moral and legal claim to their land. For smallholders the fence had symbolic and material significance in terms of land rights, controlling access to water, and access to their land by pastoralists. For pastoralists the West Laikipia Fence symbolically embodied ideas about their historical loss of land rights, and directly affected their everyday de facto access to land and water. Pastoralists began to assert their views through the threat of subversive action even during the process of construction,

and continued such action after completion, with significant effects on the fence's effectiveness: breaking the fence and creating gaps through which elephants passed. Both pastoralists and elephants resisted the spatial ordering that was being imposed on them by the fence, and its smallholder and rancher supporters, seeking to secure their territory through physically breaking through fences. Their ability to do so was dependent on the actions of ranchers and this varied between properties: some ranchers fortified and enforced their fences, whilst others failed to repair broken fences and wires sagged and lost voltage. The divergent politics of different actors were therefore materially relevant to the fence's central purpose: in determining its effectiveness as a barrier to elephant movement (Evans, 2014).

8. Conclusions

In this paper we have shown that while the construction of an 'elephant fence' built to reduce HEC was presented as a technical solution to HEC, it was in fact an inherently political process. In theory, the West Laikipia Fence provided a spatial solution to the conflict that results when people and elephants share space. However, the territory it created on the ground was captured by the different political interests of various stakeholders. By attempting to create separate spaces for elephants (on ranches) and for smallholder cultivation, the fence seemed to offer a simple, high-profile solution to the complex problem of HEC that appealed to much of the LWF's diverse membership, to the Kenya Wildlife Service with its stretched resources for mitigating HEC, and to the Dutch Government in terms of their development and conservation objectives for bilateral aid in Kenya.

The fence, however, had other effects. It was not just a technical intervention, but also a highly political one (c.f. Ferguson 1990). Through its physical structure and technical function, its different political and social meanings and impacts were hidden. It bolstered the political campaign of an aspiring MP by securing territory for his smallholder constituents. It helped smallholders to secure their land from intrusion from not only crop-raiding elephants, but also from pastoralists competing for grazing. It enabled ranchers to physically demarcate their properties and to exclude trespassers, and in one case, elephants. The fence allowed ranchers to show themselves to be helping their neighbours, whilst simultaneously legitimising their boundaries and maintaining their separate territories. The conflicting political motivations of stakeholders were manifested once the fence turned into a physical reality. Previously silent stakeholders began to assert their stake in the fence. Pastoralists contested the alignment, design and construction of the fence, demanding that it accommodated their needs and not just those of smallholders. Meanwhile ranch owners continued to reinforce their interest in relation to land by building stronger, more impenetrable fences.

We conclude that the resulting physical form of an 'elephant fence' reflected the power dynamics and politics of different stakeholders. The power dynamics between stakeholders involved in the boundary making of the West Laikipia Fence resonate with Laikipia's history of exclusion and inclusion. There were two waves of inclusion in Laikipia: the colonial government setting aside Laikipia as 'the White Highlands' and the purchase and settlement of sub-divided former ranches by Kikuyu smallholders. This article has shown that through the demarcation of the West Laikipia Fence, large-scale landowners and Kikuyu politicians continue to hold power in the landscape and are able define how it is spatially ordered. Maasai pastoralist early occupants of Laikipia were physically and forcibly excluded from Laikipia by the colonial government, having moved into Laikipia after being promised it as a Maasai Reserve. The fence physically excluded pastoralists' access to land. A fence, therefore, cannot be separated from the political landscape in which it is embedded and which it defines, and whose divisions it exacerbates. Furthermore the politics between human actors were not just significant in themselves but were also important in the extent to which the fence functions as a barrier to elephants.

Fences are increasingly being built throughout elephant range, in Asia and Africa, to order the relationship between people and elephants. This seemingly simple technical solution to a conservation problem can reinforce and restructure the social and political landscape in which it exists. We recommend that the social and political contexts of electrified fences built to mitigate HEC are assessed and considered in the planning and construction as thoroughly as the ecological context in which they are situated and which they control.

Acknowledgements

We would like to thank Professor Nigel Leader-Williams and Dr. Max Graham for their advice and support throughout this research. We are grateful to Space for Giants for institutional and logistical support and to Amon Lekea and Sundry Lekticharan for their assistance with interviews. This research was funded by the Royal Geographical Society and the North England Zoological Society. We thank George Aike for producing the figures for this article.

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