



A holistic approach to natural resource conflict: The case of Laikipia County, Kenya



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ABSTRACT

Keywords:

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This article contributes to the field of natural resource conflict management by investigating the holistic context of a conflict case and argues against a simple resource scarcity-conflict thesis. The article takes point of departure in a pragmatic world view of conflicts in Laikipia County, Kenya through a likert-type questionnaire survey ($N = 352$), semi-structured interviews, extensive field notes and participant observation. Using an adapted version of the Unifying Negotiation Framework (UNF) to conduct an in-depth context analysis, the article shows the multitude of ecological, social and institutional factors which impact on the conflict complex. The critical features of the conflict from the perspective of pastoralists and farmers in Laikipia were found to be related to trust, communication, security, governance, marginalisation and violence. By conducting a thorough conflict context analysis incorporating social, ecological and institutional elements, valuable insights can be gleaned, leading to a more holistic conflict management approach.

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1. Introduction

In its broadest sense, conflict refers to ‘an incompatibility involving issues, parties, processes and outcomes’ (Daniels and Walker, 2001) which is not necessarily a negative condition as peaceful conflict can drive processes of change (Barnett, 2000). During the 1990’s the discussion regarding the role of natural resources in conflict situations was dominated by a polemic debate over whether resource scarcity (Homer-Dixon, 1994) or abundance (Collier and Hoeffler, 2005) contributes to civil war. While this debate continues, many scholars within the political ecology literature criticise both these standpoints for neglecting the socially constructed nature of natural resources (Le Billon, 2001), whereby views of scarcity and abundance are subjective (Barnett and Adger, 2007). These studies argue for analysis that draws on a range of different spatial and temporal scales (Jewitt, 2008) and they challenge the oversimplification that resource scarcity, environmental degradation or population pressure will cause conflict (Peluso and Watts, 2001; Robbins, 2004) and the received wisdom of environmental degradation narratives (Benjaminsen, 2008; Leach and Mearns, 1996). Their analysis also conceptualises the role of humans in developing the capacity to adapt and manage such

conditions (Barnett et al., 2010; Gausset and Whyte, 2005). More recent research suggests that a multitude of contextual factors will impact on the likelihood of conflict (Barnett, 2000; Barnett and Adger, 2007; Brown et al., 2007; Buhaug et al., 2010; Detraz and Betsill, 2009; Eriksen and Lind, 2009; Salehyan, 2008), suggesting that a holistic view of conflict which integrates the broader social and institutional angles is required.

These complex natural resource situations (Daniels and Walker, 2001) need to be analysed in terms of the materiality of the resource base, the stakeholders or actors involved, their socio-political contexts (Hirsch et al., 1999) and with the evaluation of alternative conflict management strategies (Redpath et al., 2013). In contrast to conflicts where substantive resources are central, these situations are fundamentally conflicts around identity and social relationships (Banks, 2008) fuelled by economic factors such as poverty and inequality (Barron et al., 2009) and institutional failure (Bennett et al., 2001). Complex natural resource conflicts, including multiple stakeholders, can also be manipulated by perceptions of legitimacy (Gritten and Saastamoinen, 2010; Horowitz, 2009) and narratives of conservation (Benjaminsen and Bryceson, 2012; Fairhead et al., 2012). Additionally, within many local resource conflict contexts there is a ‘legal pluralism’ of governance structures including both customary law and national law for managing resources and subsequent conflicts (Clarke and Jupiter, 2010; Horowitz, 2009). Many states are constrained in their ability to act unilaterally allowing for public policy to exacerbate rather than

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resolve conflict (Tyler, 1999) with local residents often losing faith in government (Horowitz, 2009) and perceiving government as a main perpetrator (Banks, 2008).

While these conflicts are often fuelled by socio-political inequalities, these inequalities can be compounded by the lack of knowledge and participation in programs by these disadvantaged stakeholder groups (Majanen, 2007). Capacity building of both stakeholders and bodies tasked with managing conflicts may need to be incorporated into conflict management processes (Opiyo et al., 2012). Each natural resource conflict situation will need to be analysed in relation to its local context in order to gain greater insight into the 'wicked' situation allowing for a more targeted conflict management process to be undertaken, preferably one which allows for collaboration (Daniels and Walker, 2001), transparency, administrative coordination, interaction, procedural equity, and time-appropriateness (Tyler, 1999).

This essay examines the complex or wicked nature of natural resource conflict situations. It does so by considering the historical, social, ecological, and institutional dimensions of such situations as well as the perceptions of involved stakeholders. Drawing on empirical data generated from case study fieldwork in Laikipia County, Kenya and other secondary sources, the study illustrates that appropriate context analysis is required in complex conflict situations in order to challenge the 'received wisdom' and avoid the scarcity-conflict trap.

2. The adapted Unifying Negotiation Framework

Devised by Daniels et al. (2012), the Unifying Negotiation Framework (UNF) is an integrative model of policy negotiation with a focus on the design of deliberative decision making processes, primarily within the context of natural resource management. The UNF is 'an integrative conceptual framework for thinking about participatory public processes in order to provide a map and compass that help people maneuver in complex conflict-laden multi-party negotiation landscapes' (Daniels et al., 2012, p.4). The framework provides process designers and facilitators with a guide for understanding the context of the situation, which builds a foundation for the design of an appropriate process to address the situation. Further to this, the framework is also an analytical frame for investigating complex natural resource situations. This meta-narrative doesn't purport to exert predictive value in determining which factors will be more significant to each application, rather a frame for organizing and exploring relevant features (Daniels et al., 2012). Stemming from Fischer's (2003, cited in Daniels et al., 2012) work which stresses public policy as essentially a socially constructed negotiation between competing discourses, Daniels and colleagues (2012, p.8) then ask the question 'if policy is the result of discourse, could we improve the quality if we improved the discourse?'. This thinking then paves the way for designing

discourse to improve policy formation. The objective of the framework is to provide a consistent terminology and analytical lens for designing enriched discursive processes for such improved policy formation (Daniels et al., 2012).

The three levels of the framework allow for focus on the individual (micro) level, the 'design space' or level at which the process will take place (meso) and the level above the meso where external structures and forces establish the design space context (macro) (Daniels et al., 2012). The UNF builds on the work of Li et al. (2007) who differentiate between 'context effects' and 'negotiator effects' in natural resource negotiation, whereby the contextual factors (e.g. macroeconomic policy) and individual factors (e.g. personality clashes and distrust of 'others') can be accounted for in the discourse process. Within the UNF there are six columns or 'pillars' being culture, institutions, agency, incentives cognition and actor oriented experience. These pillars are included in the framework as they are assumed to be important for determining the outcome of a discourse process with culture, institutions and agency more related to contextual factors while cognition, actor oriented experience and incentives are more closely related to individualistic factors (Daniels et al., 2012). Fig. 1 shows an adapted UNF where an ecological dimension has been explicitly incorporated into the framework, with the added pillars of natural resources and climate and seasonality. While the addition of these pillars arguably lend the UNF to an explicit natural resource management discourse process, the developers of the UNF clearly state that it should be used and adapted as appropriate (Daniels et al., 2012).

Fig. 1 also shows 'cross-cutting issues', an element unique to the adapted version of the UNF, to explicitly highlight important contextual and individual factors that might otherwise be lost in the main pillars of the framework. The historical context, trust, communication and gender are crucial for the analysis of complex natural resource issues. While it is perhaps more common to undertake analysis of natural resource issues at multiple temporal and spatial scales, the explicit inclusion of gender in such analyses is often overlooked (Pierce Colfer et al., 2013). The columns or 'pillars' in the framework are to be seen as fluid rather than rigid delimitations between the various constructs making up the context and in Fig. 1, no lines have been drawn to separate each pillar. For example, elements flowing out of culture can legitimately be seen as institutional factors linked to power relations and influencing incentives also.

3. Study location: Laikipia County, Kenya

Laikipia County is located in the semi-arid region of the Rift Valley, approximately 220 km North of Nairobi on the foothills of Mt. Kenya, and is a mixed zone of arid pastoralism in the low-lying drier areas and high potential farming in the higher, wetter areas (GoK, 2008). The Laikipia plateau is 9700km² (King et al., 2009), lies across the equator between latitudes 0° 17' S and 0° 45' N and

	The Ecological Context		The Social Context			The Institutional Context	
Level	Natural Resources	Climate & Seasonality	Culture	Agency & Cognition	Actor Oriented Experience	Institutions & Governance	Incentives
Macro							
Meso							
Micro							
Cross-cutting themes				← History →	← Communication →		
				← Trust →			
				← Gender →			

Fig. 1. The adapted Unifying Negotiation Framework (adapted from Daniels et al., 2012).

between 36° 15' E and 37° 20' E (Thenya, 2001) and borders the counties of Baringo, Samburu, Isiolo, Meru, Nyeri, Nakuru and Nyandarua. Prior to British colonization, the area of Laikipia was under pastoralism, primarily by the Maasai community and the closely related Samburu (Wiesmann et al., 2000). During the colonial period the area was known as part of the 'White Highlands', under pastoral production and later cropping in the higher-rainfall areas to the South-west of the county.

Population growth between 1962 and 1997 was considerable in Laikipia which saw an annual growth rate of 4.7% in contrast to the national average of 3.3% (Kiteme et al., 2008). With low and unreliable rainfall in terms of onset, timing and duration (Ulrich et al., 2012), many of the immigrants were not able to adapt to this different agricultural system in semi-arid conditions, which has resulted in increased use of water from mountain rivers since 1960 (Kiteme et al., 2008). Part of this use is due to the boom in the horticultural sector in Laikipia during the 1980s and between 1991 and 2003 24 horticultural firms covering an area of 1085ha were established. These combined changes to the agricultural system since independence (immigration, land use change, increased water withdrawal) have led to increased competition for water resources and critically impacted the downstream users in the low-lying areas of the county which include small-scale farmers, pastoralists and wildlife which the tourism industry depends on (Kiteme et al., 2008).

In the more recent past there has been a prevalence of conflict between farmers, pastoralists, large scale ranchers, and wildlife (GoK, 2008) which has reached violent levels, particularly in the Northern parts of Laikipia West. In relation to human-wildlife competition and co-existence, wildlife (particularly elephants and hyenas) has been seen as a major disruption to humans through crop raiding (Gakio, 2011a; Graham et al., 2012, 2010; Graham and Ochieng, 2008; GoK, 2008; King et al., 2009), predation of and competition with livestock (Georgiadis et al., 2007; Woodroffe et al., 2005; Young et al., 2005), destruction of infrastructure, and compromising physical safety (Gakio, 2011a; The Standard, 2012). Agro-pastoral conflicts where farmers and pastoralists compete for access to resources, namely water and pasture (Campbell et al., 2009), and livestock graze on farmers' crops are also common. Stock theft in the form of livestock rustling or raiding (where livestock are stolen on a large scale) and small-scale livestock theft (i.e. <10 head livestock) are also prevalent (Campbell et al., 2009).

Whilst these conflicts are manifested in perceived competition for, or scarcity of, natural resources, the social and institutional contexts in which these conflicts are embedded contribute to the prevalence, duration, intensity and management of these conflicts. In particular, Laikipia has a high prevalence of: HIV/AIDS; insecurity due to the proliferation of small arms; poverty; gender inequality; a high illiteracy rate (GoK, 2008); poor leadership and governance; politicization of ethnicity; high youth unemployment; and ineffective and unaccountable security provision (Campbell et al., 2009), all of which increase the complexity of natural resource conflict management.

4. Methods and procedures

This study took point of departure in a pragmatic world view of natural resource conflict in Laikipia. The study aimed to address the research question (within a broader study): what are the perceptions of natural resource users regarding resource conflict in Laikipia? In order to address the research question, a mixed-method approach was designed to generate both quantitative and qualitative data in order to fully understand the phenomenon of interest (Shah and Corley, 2006). The predominant method employed for generating the primary data on which this article is based was a closed-question, likert-scale questionnaire ($N = 352$) administered through face-to-face interviews in local languages (Kiswahili, Pokot, Maa, Kikuyu) between October and December 2011. In support of the interpretation of the questionnaire results, an additional 21 semi-structured interviews were also undertaken as well as field notes during the questionnaire interviews and field observation. In March 2012 16 group discussions were held with communities in Laikipia to share and verify results.

The statements for the questionnaire were generated from nine key informant interviews, discussions at two public meetings, and five focus group discussions undertaken between August and October 2011. The questionnaire was divided into two sections, the first related to socio-demographic factors such as age, education, livelihood and gender, and the second contained a list of statements generated from the population regarding both conflict dynamics and conflict management. The statements were measured against likert-scales where 1 = strongly disagree and 5 = strongly agree. Sampling for the questionnaire was done randomly based on availability where enumerators (four people local to Laikipia) visited houses/homesteads through the target area in lieu of available population lists. The quantitative questionnaire data were analysed using SPSS 20.1. The researcher was present for approximately 33% of the questionnaire interviews and was able to make notes regarding the reasoning behind respondents' scores of each statement on the likert scale and to ask the respondent additional questions. These notes, in addition to the responses to the 21 semi-structured interviews and 16 follow up group discussions were analysed using Nvivo 8, coded using a conventional content analysis (Hsieh and Shannon, 2005) and then compared with the quantitative data to aid interpretation of the results. The results are presented in section 5 and then discussed in terms of how the conceptualizations of the resource users are part of the larger agricultural and rural system, of ecological (natural resources, climate and seasonality), social (culture, cognition, actor oriented experience and agency) and institutional elements (institutions, governance and, incentives) in Section six.

5. Results

The 154 (44%) male and 198 (56%) female respondents from the questionnaire had a mean age of 38 years (median 35) and Table 1

Table 1
Characteristics of survey participants.

		Frequency	%
Gender	Male	154	43.8
	Female	198	56.2
Education	None	236	67
	Primary	83	23.6
	Secondary	27	7.7
	Post-secondary	4	1.1
	University	1	0.3
Livelihood	None	5	1.4
	Pastoralist	232	65.9
	Farmer	89	25.3
	Agro-pastoralist	26	7.4
Ethnicity	Kikuyu	31	8.8
	Maasai	98	27.8
	Pokot	86	24.4
	Samburu	53	15.1
	Turkana	69	19.6
	Other ^a	15	4.3
District	North	114	32.4
	West	208	59.1
	East	30	8.5

^a Other includes Tugen, Meru, Kisii and Somali respondents.

Table 2
Respondents' perceptions of conflict in Laikipia County Kenya – questionnaire data (%).

Statement	Strongly disagree				Strongly agree
	1	2	3	4	5
<i>Human-wildlife coexistence</i>					
14 When an elephant is killed the government runs like a horse but when a human is killed nothing is done	0	5.4	4.8	22.2	67.6
71 The wildlife problem is difficult because the communities don't have anyone to negotiate with	0.3	4.5	1.7	56.5	36.6
<i>Agro-pastoral conflict</i>					
23 The conflict between the farmers and the pastoralists will be managed if the farmers fence their <i>shambas</i> [crops]	2.0	6.5	0.9	51.1	38.9
34 The Ministry of Agriculture tries to address the conflict of pastoralists grazing on farmers' crops by mediating to prevent the case from going to court.	13.9	34.4	23.6	19.0	8.5
41 Pastoralists come to farmers' <i>shambas</i> pretending to be grazing but are only spying for livestock	18.8	35.8	6.5	19.3	18.2
47 Pastoralists purposely allow children to graze the cattle which then wander onto farmers' land, because they know children can't be charged	13.6	44.0	4.3	17.0	20.5
<i>Livestock theft</i>					
17 Cattle stealing is mainly when political campaigning is happening and at the time of voting because thieves know that the government are busy	9.4	37.5	8.2	25	19.6
46 The government doesn't do anything about cattle raiding, they view it as an economic activity between the communities	14.2	35.2	1.7	23.9	24.4
60 Women play an important role in cattle raiding. They want their husbands and sons to be warriors ^a	43.8	33.8	10.2	8.0	3.1
61 Cattle raiding is criminal	0.9	1.7	0	26.4	69.9
86 The Government has tried with cattle rustling, engaging with NGOs and other and running peace meetings	2.6	6.8	3.4	67.3	19.3
<i>Resource availability, seasonality and change</i>					
16 Elephants used to only invade crops sometimes, but with climate change they are raiding day and night	3.4	15.1	5.1	51.1	25
18 People upstream divert water for irrigation and it effects the farmers and pastoralists downstream	1.1	15.1	12.5	32.1	39.2
19 In relation to conflict, water is the major problem	2.3	16.8	1.1	25.3	54.5
28 Climate change is changing the patterns of seasonal rain and drought where the duration of drought is prolonged as compared to before	0.3	4.0	1.7	21.3	72.2
33 Laikipia is a conflict hotspot as other pastoralists come in from outside Laikipia during droughts	0.3	2.8	9.1	43.8	43.8
45 Conflicts are also caused by idle land which attracts the pastoralists who graze forcefully	6.8	18.8	2.6	43.5	27.8
65 The environment needs to be restored as you can see signs of overgrazing	0.0	1.1	2.8	25.6	69.6
<i>Security and governance</i>					
40 The elders successfully manage which outside pastoralists are allowed to come into Laikipia for grass during the drought	5.7	28.4	3.7	40.3	20.7
48 Some of the homeguards misuse their guns for poaching and cattle raiding	17.3	28.4	36.1	9.9	8.0
55 In all the pastoral communities there is a very serious lack of accountable leadership	1.7	6.8	5.7	35.8	49.4
63 Laikipia is a safe county ^b	3.1	24.4	2.3	40.3	29.0
75 Communities prefer to manage conflicts themselves rather than engaging outsiders such as NGOs and government	13.4	13.9	2.6	41.5	28.1
80 Robbers also come through policemen and they share the robbery, so the police cover up thieves ^c	6.5	18.3	32.4	22.7	21.9
85 Elders are highly valued by the communities and their decisions are respected.	0.0	1.1	0.6	26.7	71.3
88 Women should be represented more in leadership and decision-making roles ^d	5.1	6.8	0.9	28.1	58.5

^a Females ($M = 2.1061$, $SD = 1.146$) males ($M = 1.6667$ $SD = 0.901$); $t(352) = 3.986$ $p = 0.00$, mean difference = 0.96 eta squared = 0.046, small effect.

^b Females ($M = 3.55$, $SD = 1.185$) males ($M = 3.828$, $SD = 1.04$); $t(351) = 2.317$, $p = 0.000$, mean difference = 0.278, eta squared = 0.0152, small effect.

^c Females ($M = 3.274$, $SD = 1.181$) males ($M = 3.53$, $SD = 1.168$); $t(348)$, $p = 0.045$, mean difference = 0.256, eta squared = 0.012, small effect.

^d Females ($M = 4.427$, $SD = 1.050$) males ($M = 4.11$, $SD = 1.184$); $t(348) = 2.634$, $p = 0.009$, mean difference = 0.317, eta squared = 0.19, small effect.

provides an overview of the respondents in terms of gender, education, livelihood, ethnicity and district.

Fewer respondents from Laikipia East were sought due to the area being primarily agricultural rather than pastoral or agro-pastoral, and its relatively low-level conflict history as compared to Laikipia West and North. Inferential analyses were performed on the data and very few differences were found between ethnic group, livelihood group, district or gender and the more interesting result is the distribution of agreement along the likert scale for each of the statements for the entire group of respondents. Table 2 shows the descriptive information of several of the questionnaire statements.

5.1. Human-wildlife coexistence

The major 'problem wildlife' reported by respondents were elephants, hyenas and lions while to a lesser extent, leopards, wild dogs, jackals, squirrels, zebra and hippopotamus also came into competition with humans. During the fieldwork period a woman in Laikipia West was killed by a lion while entering a neighbouring ranch searching for firewood and a man was killed, also in Laikipia West, by an elephant while in his crop (The Standard, 2012).

Elephants were seen to be a nuisance in terms of crop-raiding, destroying infrastructure (including grain stores, water points, houses and trees), and impinging on human safety. Hyenas were reported to enter *bomas* (livestock holding areas) and kill goats, while lions were reported to attack bigger livestock such as cows. Respondents generally viewed wildlife in a negative light although many respondents saw their value or potential economic value through tourism. Many of these respondents spoke of wildlife as a means of community development through the generation of income from tourism, which is redistributed to the community via education bursaries and employment opportunities.

Many pastoralists stated that they would like to move into agriculture more seriously, to diversify their livelihood options, but have not done so due to the problem of elephants, lack of water resources or not enough support from the Ministry of Agriculture for doing this. One farmer stated that in order to minimise the loss of her maize crop to elephants she planted less, although she did admit that this has negatively impacted her household's food security.

Since 3 years ago we've only been planting small portions to try to minimise the losses from the elephants. This doesn't stop the elephants from coming, they still come even though the

portions are small. We are trying to avoid major losses and we're afraid of doing large scale planting.

5.2. Agro-pastoral conflict

Generally, respondents disagreed that pastoralists spy on farmers' *shambas* (crops) or purposely allow children to graze the animals on farmers' crops as a means of avoiding punishment. Many respondents stated that children do the grazing because that is their role within pastoral societies and if the livestock get into a farmer's crop it is not done purposively, rather that's what happens when children do the grazing. The majority of respondents to the questionnaire agreed that much of the conflict between agriculturalists and pastoralists would be managed if farmers were to fence their crops, thereby stopping the roaming cattle from wandering in. However, the qualitative data suggested that fencing is a superficial remedy to the conflict. Farmers spoke of being afraid of pastoralists as they are armed and when a pastoralist's cows enter the crop they feel unable to pursue their case of compensation with that pastoralist, for fear that they will be attacked physically. As one farmer in Laikipia West stated:

Fences are useless because pastoralists remove the fences and let their animals in. When you ask them what they're doing they ask you if you eat the grass because grass is for cows. If you argue with him he just stays silent. These people are armed so you can't quarrel with them.

Another respondent claimed 'the conflict between the pastoralists and the farmers is not because of animals because in town people don't have animals but there's still fighting', suggesting that conflicts regarding resources are the manifestations of underlying socio-political struggles. These struggles manifest themselves in Laikipia in conflict regarding access to resources such as dams and boreholes and the burning of fires, which are also discussed in the broader agro-pastoral conflict literature (Brockington, 2001; Gausset, 2005).

5.3. Livestock theft

Historically, cattle raiding was a means of redistributing wealth within pastoral societies (Hendrickson et al., 1996) and had a strong cultural underpinning, however many respondents stated that the more recent form of cattle raiding in Laikipia has taken on a commercial nature and is less of an issue in Laikipia now than it was approximately five years ago, when violent clashes were more common. Instead small-scale stock theft had become a major security issue to all livelihood groups in all surveyed districts of Laikipia. 97% of respondents agreed that cattle raiding is criminal and respondents also stressed that the cattle rustlers were often non-pastoralists and the stock were sometimes transferred by lorry to markets or butchers directly. 'Cattle raiding is no longer cultural because the raiders load the animals onto trucks and they're not just pastoralists, they're other people too'. Females were more inclined than males to say that women had a role in encouraging cattle raiding, although both sexes were more in disagreement with the statement. With a greater prevalence in the past, young girls would sing and ululate for the warriors to go raiding. Although not common today, many women state that they are working with the elders to stop young girls from doing this.

While many respondents suggested that cattle stealing is a constant problem, others stated that it is more pronounced during political campaigning and others still claimed the month of December to be particularly troublesome, not only in terms of cattle stealing,

but stealing and 'crazy' behaviour in general. Many respondents claimed that the politicians were behind much of the insecurity in the region by inciting animosity between the tribes and regions.

5.4. Resource availability, seasonality and change

In general the major resource focus of respondents was on water. While many people differentiated between the amount of rainfall and the accessibility of water (either through dams, boreholes or water harvesting techniques), the majority of respondents viewed water as a scarce resource. Those who disagreed with statement 19, that water is the major problem, often claimed that in terms of conflict, general theft and banditry were the major issues. While many respondents agreed that water is being extracted upstream to the detriment of downstream users, those who disagreed with this statement often didn't live near a river, found it difficult to conceptualise the greater hydrological system and were unaware of other land uses in the region, such as horticulture. Security has an impact on the psyche of resource users and their willingness to harvest water. Although many respondents live in small mud-huts with thatched roofs, even those with iron roofs were reluctant to invest in water harvesting technologies. As one respondent stated:

We don't have a way of harvesting water because this is a temporary home. We would like to stay here but with more security. We're not prepared to build a permanent home because we might be killed or have to leave.

Nomadic pastoralism is based on the notion of seasonal migration to find pasture for grazing, implying that seasonality and climate variability are central to pastoral livelihoods. The majority of respondents, both farmers and pastoralists, claimed that the patterns of rainfall had changed over the last three to ten years, where it had become difficult to predict the onset, intensity and duration of the rainy seasons. Many respondents acknowledged that elephant disturbance was generally a seasonal issue, yet stated that climate change was contributing to the increased frequency of disturbance. It is interesting to note here that respondents to the questionnaire, more than the semi-structured interview, remarked on climate change once they had been asked about it directly (through a questionnaire item), than those respondents who were asked more open and broad questions. 88% of respondents agreed that Laikipia is a hotspot where pastoralists from other counties came to graze and claimed that this was a major factor of conflicts in Laikipia, particularly coupled with the inability of the elders to manage this in-migration.

5.5. Security and governance

Although 70% of respondents agreed that Laikipia is a safe county, often in comparison to previous times, many respondents also feel somewhat insecure as the proliferation of small arms and fierce cattle raiding in the recent past have led to a general state of insecurity in the area, particularly regarding road banditry. Many respondents spoke of the violence during the period 2006–2009 when many people died in Laikipia, including 32 people in one incident in Laikipia West. Respondents spoke of how the security issue was more than simply stock theft, as even household items including pots, pans, tin roofs, bicycles, mobile phones and money were being stolen, often associated with violence. However respondents also spoke of how Laikipia is safer at present than in the 2006–2009 period. Females were slightly less likely than males to agree that Laikipia is safe but also less likely to agree that the police are involved in illegal activity. Many respondents did state that they prefer homeguards to regular police as homeguards have the

community's interests in mind and are more responsive than regular police who often ask for payment or petrol before responding to an incident. Only 18% of respondents agreed that homeguards may misuse their weapons and this reflects the general acceptance of homeguards in communities, with many respondents claiming that they don't have homeguards in their community but would like them. A pastoralist in Laikipia West stated 'there are no homeguards in this area but it's better if they're there. Government can't always reach but they can'. Similarly, a farmer from Laikipia West stated that '[we] want homeguards because in case of anything they're always there and ready to help. They're honest because they're people from around here so they can work together.'

Females were more likely than males to agree that women should have more leadership roles, although generally the majority of respondents did agree with the statement. Those who disagreed were often men, however some women also disagreed with one woman stating 'women are like children' as a reason for her disagreement. 98% of respondents agreed that elders are highly respected in the community, suggesting that they are critical for conflict management.

In regard to competition with wildlife, respondents suggested that management is difficult because they don't have anyone to negotiate with. If one community comes into conflict with another community, a common management strategy is for the elders to come together to negotiate peace, yet the non-human nature of the other actors in the human-wildlife context leaves the traditional conflict management strategies at a loss. Within the field area there was a very serious derogatory opinion of the Kenya Wildlife Service (KWS) and their ability to manage the competition between

humans and wildlife, particularly in relation to administering compensation payments. One respondent claimed 'there was a time when we reported to KWS and they came and counted the crops but nothing was done, nothing else happened. We don't report it anymore'.

6. Discussion

The adapted UNF provides a multi-faceted lens through which to interpret the results. Fig. 2 presents the main themes or 'critical features' of the natural resource conflicts in Laikipia from the perspectives of farmers and pastoralists in relation to the ecological, social and institutional contexts. These themes illustrate the broad scope of issues relating to natural resource conflict in Laikipia beyond the simplified arguments of resource scarcity and abundance.

Fig. 2 allows for the various features of the conflict complex to be viewed both as belonging to a specific context but also as an interconnected web. Although the questionnaire elicited the individual perceptions of the natural resource users in Laikipia, links can be made between these micro level perceptions and macro level institutional and social elements. Often the portrayal of problems in northern Kenya, including Laikipia, is that of population growth, environmental degradation, lack of food security, tribalism and ethnic strife, dualism in development, and the breakdown of law and order (Loefer, 2006). However other authors suggest that there are many factors leading to violent conflict and these factors can become mutually reinforcing (Mkutu, 2001), recognising that sustainable peace will only be achieved by addressing poverty, education, gender-based violence, small arms

	The Ecological Context		The Social context			The Institutional context	
Level	Natural Resources	Climate & Seasonality	Culture	Agency & Cognition	Actor Oriented Experience	Institutions & Governance	Incentives
Macro	<ul style="list-style-type: none">Laikipia is a semi-arid area prone to droughtThe traditional migratory corridors of wildlife have been disruptedRespondents suffer from crop-raiding by elephants and stock predation mostly by hyenas, lions and wild dogs		<ul style="list-style-type: none">Cattle rustling is grounded in many pastoral cultures yet its current form is more of a commercial activityMany natural resource users live in fear of being involved in violent conflictLaikipia is an ethnically diverse county where many citizens don't speak the same language.			<ul style="list-style-type: none">Weak governance has contributed to insecurity in the region, particularly theft, banditry and the proliferation of small arms.Many respondents want homeguards in their areaMany respondents believe that KWS, and by extension government in general, care more for wildlife than the average Kenyan citizen.Marginalisation of pastoralists through lack of access to basic services and facilities such as health care and education.Perceived disconnect between development and conservation goals.	
Meso	<ul style="list-style-type: none">Water is extracted upstream by horticultural enterprises and small-scale farmers for irrigation.Absentee landlordism is prevalent in Laikipia and allows for squatters to move in from other areas		<ul style="list-style-type: none">Resources are used as a means of social exclusion.There is a high level of illiteracy within Laikipia.Compensation scheme for wildlife damage promotes socio-political inequality				
Micro	<ul style="list-style-type: none">Land grabbing is a major source of conflict.Respondents perceived the seasonal rain patterns to be changing.						
Cross-cutting themes	<ul style="list-style-type: none">Laikipia was traditionally Maasai land before colonization and then part of the 'White highlands'.Land grievances extend to the colonial period involving both colonial and post-independence governments.There is distrust between the various ethnic groups in Laikipia, between conservancies and their outside communities and between communities and government.Communication between stakeholder groups is inhibited by language and socio-political inequality.Gender inequality in Laikipia is high, particularly among the pastoral tribes.						

Fig. 2. The 'critical features' of the Laikipia conflict context.

and environmental sustainability (Openda, 2006). The data from this study also suggest that the contributing factors of conflict are social and institutional in addition to, rather than solely, ecological. Sections 6.1–6.3 discuss the critical features of this case in relation to the ecological, social and institutional contexts as a way of illustrating the importance of a holistic approach to conflict and context analysis, in order to avoid the trap of oversimplifying resource conflict into a problem of scarcity.

6.1. The ecological context

6.1.1. Natural resources

During the colonial period, Laikipia was part of the region known as the 'White Highlands' where land was exclusively for European settlement. Prior to the colonial period Laikipia was part of the land of the Maasai, although two agreements with the British between 1904 and 1913 resulted in the relocation of the Maasai to the area now known as the Maasai Mara (Hughes, 2006). This relocation was undertaken in order to make way for white settlement, leading to the name 'White Highlands' (Hughes, 2006). Throughout Kenya during the colonial period, native African rights to land were secondary to those of Europeans and although the Kenya Land Commission of 1934 was set up to investigate, it was said to have done less than expected (Oucho, 2002) in balancing land rights between Africans and Europeans. At independence much of the land use changed from ranching to small-scale mixed farming as many of the large-scale properties were sold and subdivided, which brought with it an influx of immigrants predominantly from the high potential areas of Central Kenya (Kiteme et al., 2008). However, many of these titles were not taken up and absentee landlordism, particularly in Laikipia West, is contributing to conflict in the region by allowing others to take over that idle land. Since independence large tracts of government land have been grabbed by government officials and other elites where now approximately 40% of Laikipia land is controlled by under 50 individuals (Letai, 2011). There is reportedly a land rush in Laikipia by foreigners (Letai, 2011) contributing to a foreignisation of space (Zoomers, 2010).

It has been claimed that conflicts over land in Kenya originate in competing demands for water, either between individuals with the same purpose (e.g. farmers and irrigation water) or various users with different interests (e.g. rural land users and hydropower projects, farmers and pastoralists) (Nyaoro, 1999). This study has also found that access to water is perceived to be a contributing factor to conflict, both through struggles to exclude others from public dams as well as through the extraction for commercial horticultural enterprises, despite the use of advanced technologies for water use efficiency (Wiesmann et al., 2000). This capacity of certain user groups to extract water reflects institutional weakness in the management of the resource, rather than a scarcity of the resource per se. Population growth is often cited as a contributing factor to water scarcity in Laikipia (Wiesmann et al., 2000), but while population can be a contributing factor to conflict frequency or intensity, it doesn't account for the existence of conflict (Gausset, 2005). While some respondents in this study stated that population pressure was a major problem and led to environmental degradation, others either considered land availability to be adequate or that scarcity was induced by conflict as 'we are crowded here because of insecurity'. This suggests a socio-political dimension to environmental scarcity, which in itself is essentially a subjective measure (Barnett and Adger, 2007; Gausset, 2005).

6.1.2. Seasonality and climate

Through nomadic pastoralism there is a lot of movement of people and livestock into, and out of, Laikipia following seasonal

rainfall and pasture availability. During a drought period in 2000 several hundred pastoralists forced themselves onto private ranches in order to graze their livestock, which one rancher described as a 'walk on'. The pastoralists were ordered to leave the ranch and claim to have been beaten by security personnel and suffered losses of approximately 13,000 head of stock in the process, which ended in legal action (Kariuki, 2001). The pastoralists were allowed to move their stock to Mt. Kenya but suffered stock losses as a result of the move (Mkutu, 2004). Kenyan land laws allow for pastoral migration onto communal and trust lands, which is sufficient during the wet seasons, but there are no provisions for movement outside of these areas during dry seasons (Lengoiboni et al., 2010). Respondents spoke about the lack of grass available for their stock in times of drought and how this then led them to migrate in search of adequate water and pasture, sometimes onto private ranches. Is this an example of land and resource scarcity? In the case of Laikipia, the perceived scarcity of land can be viewed alternatively as a local shortage (Ribot, 1999) in times of drought, highlighting how the contemporary division of land is rooted in historical patterns of tenure and illustrates the continuation of laws which undermine pastoral production systems. Furthermore, it could be argued that the historical grievances regarding land distribution and access in Laikipia fuel the narrative of scarcity as a tool for debating land rights and access.

A useful discussion here is that provided by Roe (1995), regarding crisis narratives and their counter-narratives. Table 2 shows that 95% of respondents to the questionnaire agreed with the statement that environmental degradation is occurring in Laikipia. Yet, on closer investigation many of these pronouncements of degradation were attributed to a certain group (other ethnic group, government, etc.) which was inhibiting the respondents' own access to the resource. Comments such as 'it's the arrogance of Samburus, they are destructive and cut the trees which this community has been conserving and managing', or 'there's destruction of the forest, now that it's government's everyone has access and there's no management', suggest that much of the motive behind the argument for environmental degradation is tied to resource accessibility. This article is not arguing that environmental degradation isn't occurring in Laikipia, but rather there is evidence to suggest that the narrative of environmental degradation is being used to legitimize the exclusion of certain groups from accessing resources. This is similar to the argument that institutions and development experts use crisis narratives to make themselves 'stakeholders', and involve themselves in the management and decision making of resources which they don't own (Roe, 1995).

6.2. The social context

6.2.1. Culture and actor oriented experience

Generally, particularly in more traditional agrarian regions of Kenya, certain tribes tend to align with specific livelihoods. Although many farmers try to keep a few livestock and many pastoralists have small *shambas*, livelihood strategies in Laikipia tend to flow along tribal lines. This adds an extra dimension to conflicts whereby often the actors involved in a conflict come from a different tribe, have a different mother tongue and may not speak the same language or have the same cultural practices and beliefs. This has obvious implications for communication but also allows for animosity rather than cooperation, openness and transparency to dominate relations (Bond, 2013).

6.2.2. Cognition and agency

During fieldwork in March 2012, burning of pasture land was highlighted as a major point of dispute between farmers and pastoralists, where farmers would burn the pasture surrounding their

field under the pretext of preparing for the coming season. In the same period, an arson attack on a conservancy in Laikipia West destroyed 5000 ha (Munyeki, 2012). Each of these arson attacks can be seen as resistances by the marginalized (Bryant, 1998; Scott, 1987) whereby farmers burnt pasture land to inhibit the grazing of pastoralists who are squatters on absentee lands and are reported to graze their cattle on farmers' crops. Similarly, communities burnt areas of the conservancy as a form of resistance to the control the conservancy is perceived to have over resources such as land, wildlife and tourism revenues.

In 2006, conflict between the Samburu and Pokot communities was widespread among the districts of Samburu, Baringo and Laikipia. In Laikipia, herdsboys, female children and adults alike fell victim to armed bandits as they raided villages and drove away large numbers of stock in Rumuruti, Olmorani and Mukogodo divisions, with raiders suspected to have come from Baringo and Samburu districts (The Standard, 2006a; Weru et al., 2006a,b). People living in these areas were known to flee their homes (Standard, 2006b). Since the Kanamptu incident of 2009 there have been several peace initiatives undertaken in the area, most notably the 'Peace Caravan' and the intensity of cattle raiding has subsided, although there have since been several incidents of rustling, mostly small-scale. However, this small-scale theft is also violent in nature, where victims are often shot dead for as little as four cows (Gachino, 2011), non-fatally shot for one cow (Gakio, 2012), or the victims are children (Gakio, 2011b). Although cattle rustling is often discussed in relation to resource scarcity, respondents stated that in many of the incidents of violence in Laikipia no cattle theft took place, suggesting the violence went beyond the resource capture argument, which other authors have also suggested (Witsenburg and Adano, 2009), despite the general rhetoric of conflict over resources in the media (Kendo, 2006). In relation to cattle raiding, Witsenburg and Adano (2009) suggest that more deaths from raids tend to occur in periods of high rainfall. The authors also discuss the general dialogue within the literature of raids taking place in the rainy season due to the need for animals to be healthier, there is more vegetation for long treks, the rain washes the tracks away and there is an availability of labour to assist the raids. They describe raiding in the rainy season as opportunistic behaviour (Witsenburg and Adano, 2009). A key informant in this study also suggested that the onset of rain would bring about cattle raiding as it is the 'restocking period', as pastoralists move back to their lands they will take more cattle than they came with, or at least replenish their lost stock. However there are several motivations behind cattle raiding beyond ecological factors, such as retaliation for previous raids, circumcision rituals and redistribution of wealth, which render a simple scarcity-conflict argument misleading. In relation to conflict more generally, Theisen (2012) found that there was no direct link between drought and armed conflict in Kenya and rather his models suggest that there is a higher risk of conflict in the years after wetter rather than drier years. The models also propose that population density increases conflict risk and elections are seen to have the ability to increase conflict through political manoeuvring (Theisen, 2012). This article does not attempt to engage in a debate over the role of rainfall in cattle raiding. Instead, the data suggests that although resource availability can put pressure on groups, this pressure is essentially derived from social and institutional manipulation.

The majority of respondents had no formal education, implying that their capacity to undertake tasks requiring literacy would be limited. Many respondents, particularly pastoralists, felt that they have traditionally (and currently) been marginalised, where access to basic services such as education and healthcare are not provided by the state and instead civil society groups are left to fill the gap. Power distances between elites and the common person, in

addition to corruption, make this perceived or actual marginalisation more pervasive throughout society in general. Many scholars have commented on the marginalisation of pastoral areas (Homewood, 2008) and the perpetuation of received wisdoms regarding pastoralists being 'backwards' (Bishop, 2007; Cleaver, 2001; Davis, 2005). This marginalisation is further exacerbated by feelings of inferiority. 89% of questionnaire respondents agreed that the government has a higher regard for wildlife than for the well-being of humans in Laikipia, based on the perceived neglect of humans facing crop loss, stock loss and physical injury or death and the slow bureaucratic compensation programme. Alternatively, respondents reported much fanfare when an animal was killed. This compounds the existing economic and socio-political marginalisation of communities in the area, denying them dignity.

6.3. The institutional context

6.3.1. Institutions and governance

There are many institutions involved in conflict management and security in Laikipia, forming a sort of patchwork or bricolage. The traditional governance institutions are the council of elders who negotiate with outside groups as well as mediating and providing sanctions within their communities. As noted earlier, the Ministry of Agriculture is present and undertakes a role of negotiation in order to reduce the need for litigation, although this practice is not seen as legitimate or effective by all respondents.

In terms of security, homeguards and police operate in the area although the respondents had varying levels of trust towards these groups. Generally homeguards and scouts were seen as more effective than regular police or conventional security personnel because they come from the community and are seen to have the communities' interests in mind. Police were often seen to be ineffective, either due to a lack of resources or corruption, and even sometimes perceived to be part of the insecurity and law-breaking problem. Often Police officers would request payment or petrol before responding to incidents and although some respondents acknowledged that scouts and homeguards can also use their weapons and power for wrong-doing, they were seen as far less likely to do this. From the perspective of respondents, there are gaps in governance which have resulted in the marginalisation of pastoralists and semi-arid/arid areas which then in turn fuels insecurity. Most respondents disagreed with the statement that homeguards use their weapons for wrong-doing and during the interviews many people stated that they prefer homeguards over regular police because they are more trustworthy and reliable. In fact, only 25% of questionnaire respondents disagreed with the statement that Police are involved in theft which further highlights the lack of trust among communities towards police, although this is a common perception in Kenya (Heald, 2007). Much of this distrust stems from the extra-judicial use of force on behalf of police and the military. In late 2011, Administration Police burnt the homesteads of a group of Pokot pastoralists in the Magadi area of Laikipia West, which respondents claimed was because a member of that community was involved in road banditry. Similarly, previous disarmament operations undertaken by the military in Northern Kenya received much criticism (Kendo, 2006), with reports of herders in Northern Kenya fleeing to Uganda to escape the process (Obare, 2006). Respondents in Laikipia spoke of the brutality in which security forces undertook their disarmament duties, even towards children and many see these disarmament operations as the further marginalisation of pastoral populations (Weru, 2006).

While 70% of respondents thought that Laikipia was a safe county, often in comparison to previous years when the Pokot–Samburu conflict was on-going, 93% of respondents viewed arms

and road banditry as a serious threat to such safety. This highlights the great risk to stability in the area, particularly given the previous instances of violence. Mkutu (2008) states that the build-up of arms in Laikipia stems from the state arming homeguards, the purchase of arms by pastoralists from Isiolo, Samburu and Pokot and the arms owned by ranches. These issues of insecurity are not purely challenges to law and order but also present difficulties in achieving development goals. Many respondents stated their interest in diversifying their livelihoods from pastoralism into other activities such as agriculture. However, the previous violent conflicts and general banditry in the area prevented them from establishing projects that require long-term investments such as cropping or technological improvements to housing. This highlights the links between environment, security and development (Barnett et al., 2010).

Several areas of opportunity for promoting conflict management processes were elicited through the research. While many authors have written on the decline of traditional governance systems (Mkutu, 2001), this study found that 98% of respondents agreed that elders were important and respected. 87% of respondents agreed that women should have more involvement in leadership roles. Both these perceptions suggest that the strengthening of existing governance institutions and the empowerment of women would be well received by communities as appropriate routes to strengthening cooperative relations. One challenge also highlighted by these results, however, is that several of the respondents who disagreed that women should be given leadership roles were actually females. This highlights the existing cultural barriers to empowerment in some areas of Laikipia. There was a common theme among respondents for the diversification of livelihoods and while many pastoral respondents are already doing some cultivating and farmers keep some livestock, respondents seemed open to opportunities for agricultural development. When combined with the fact that 94% of respondents think that climate change is a serious issue based on the apparent unpredictability of rainfall patterns, this poses an opportunity for collaborative learning approaches (Daniels and Walker, 2001) to conflict management and climate mitigation and/or adaptation. Other studies in the region have also noted the importance of capacity building for the promotion of alternative livelihood options (Mwangi, 2011).

6.3.2. Incentives

Respondents talked about how the incentive for conflict, or a trajectory of interactions leading to conflict, was based on a perceived entitlement or injustice. Many pastoralists claimed that as pastoralists they are entitled to grass, regardless of whose land the grass is on. Respondent farmers confirmed this stating that pastoralists enter their fields with their cattle and claim that if the farmer himself is not going to eat the grass then it's only right that the pastoralist's cows should. This is similar to other studies which have found that pastoralists in the Samburu–Isiolo–Meru region follow seasonal migrations regardless of whether this brings them onto non-pastoral lands (Lengoiboni et al., 2010). Similarly, many farmers believed they could exclude pastoralists from public access dams. Their claim was based on the argument that they perceived the livestock to dirty the water, which then allowed for them to be excluded. Yet on further probing it became apparent that this argument was used to exclude a specific tribe, suggesting a social rather than ecological motivation for exclusion.

7. The adapted UNF and conflict analysis

The discussion highlights several themes which emerge and cut across each of the pillars in the UNF and warrant explicit attention. Firstly, the historical context of Laikipia is crucial to understanding

the contemporary. While consideration of both spatial and temporal dimensions of context is common in political ecology studies (Jewitt, 2008), it is easily overlooked in studies stemming from other paradigms. The ability of stakeholders to communicate with each other through a common language is crucial not only for negotiating competing discourses but also for building trust, which is found to be lacking in the Laikipia case. By examining culture more thoroughly, the issue of language emerges from the analysis as a critical feature of the context. Similarly, the gender dimensions of a discourse context, both structural and individual, are critical for understanding the basis for competing discourses and the relative dominance of specific discourses within a context. Gender inequality is high in Laikipia, particularly within pastoral communities (GoK, 2008), illustrated in this case by a women stating that 'women are like children'. Gender inequality is closely aligned with both culture and power distance and emerges as a critical feature through the investigation of both agency and culture.

As mentioned in Section 2, the lines between each of the pillars in Fig. 2 have been specifically blanked out to allow for the conceptual flow of one pillar and level to the next. In the Laikipia case, for example, a critical feature is cattle rustling among pastoral tribes which while being cultural is also closely related with natural resources and transcends the micro through to macro levels. The case study provided here illustrates the interconnected web of conflict dimensions and the need for a holistic frame for viewing these connections. The strength of the UNF lies in this inherent encompassing organization through which to view natural resource complexity. While not to be used as a checklist or structure to box-in preconceived notions, the UNF allows for the inclusion of multiple levels and disciplines in the analysis and design of discourse based approaches to public policy and conflict management.

8. Conclusion

Using a likert-scale questionnaire and semi-structured interviews, this study was able to gain insights into the attitudes of resource users in Laikipia regarding conflict and security through the lens of an adapted Unifying Negotiation Framework. This study has presented the perceptions of natural resource users regarding situations of conflict and shown how the ecological, social and institutional contexts of conflicts are intertwined. Several themes such as trust between communities and between communities and the government, marginalisation of pastoralists and general insecurity in the region are common to each of the conflict types. The article shows that the simple scarcity-conflict thesis is insufficient in analysing the complex conflict context which involves historical and macro-level influences. By taking a holistic view of conflict context analysis, both the cross-cutting themes and intricacies of the various conflicts can be captured. This allows for a more encompassing and targeted conflict management processes to be developed rather than falling into the trap of focussing on the simplistic scarcity-conflict argument. The inclusion of communication, historical context and natural resources into the adapted UNF were key to providing this holistic frame. As this study showed, often the scarcity or environmental degradation arguments conceal a variety of perceptions regarding other stakeholders and interactions within the natural resource management context which users find themselves in.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.jrurstud.2014.01.008>.

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