

DISSERTATION

“STAYING TOGETHER”: PEOPLE-WILDLIFE RELATIONSHIPS IN A
PASTORAL SOCIETY IN TRANSITION, AMBOSELI ECOSYSTEM,
SOUTHERN KENYA

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Submitted by

Maria Joana Ferreira de Lima Roque de Pinho

Graduate Degree Program in Ecology

In partial fulfillment of the requirements
For the Degree of Doctor of Philosophy
Colorado State University
Fort Collins, Colorado
Summer 2009

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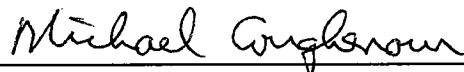
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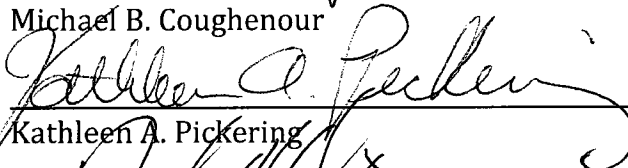
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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY MARIA JOANA FERREIRA DE LIMA ROQUE DE PINHO ENTITLED "STAYING TOGETHER": PEOPLE-WILDLIFE RELATIONSHIPS IN A PASTORAL SOCIETY IN TRANSITION, AMBOSELI ECOSYSTEM, SOUTHERN KENYA BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

“STAYING TOGETHER”: PEOPLE-WILDLIFE RELATIONSHIPS IN A PASTORAL SOCIETY IN TRANSITION, AMBOSELI ECOSYSTEM, SOUTHERN KENYA

This study looks at the multifaceted relationship of Maasai pastoralists and agropastoralists of the Amboseli Ecosystem (Kajiado District, Kenya) and wild animals under conditions of rapid political, economic and social change. I investigate three dimensions of the local human-wildlife relationships: attitudes towards wildlife; cultural models of human-wildlife relationships; aesthetic value of wildlife and how it relates to support for the conservation of wildlife species.

First, I investigate attitudes towards wildlife across three study areas that contrast in land tenure, land use and in terms of access to economic benefits from tourism/conservation. Attitudes are organizations of beliefs about an object or situation that predispose to respond favorably or unfavorably to these. They are seen as antecedents or determinants of behaviors and studies of attitudes towards wildlife have guided conservation policy-making. I characterize informants' (n=191) attitudes towards wildlife and compare the distribution of attitudes across study areas and groups defined by land tenure, land use, wealth, education, age, gender, and costs and benefits of wildlife. Most informants were positive towards wildlife (44.4%); 36% had negative attitudes towards wildlife; and 19.6% were

neutral/undecided. The number of informants in each category varied significantly across study area and with land tenure, formal education, religion and gender. Attitudes did not vary with land use, wealth, level of conflict with wildlife and receiving economic benefits from wildlife. Next, I used a regression analysis and identified religion, land tenure and gender as predictors of attitudes towards wildlife. Being a Christian is the strongest predictor of positive attitudes, followed by being a male and living on communal land. The fact that two forces of change, land privatization and religion, have the strongest influence on attitudes towards wildlife suggest that conservation strategies should be flexible to accommodate associated changing dynamics. Also, the lack of effect of economic costs and benefits of wildlife on attitudes suggests that conservation initiatives should look beyond wildlife's economic value as the main incentive for conservation.

Next, I qualitatively and quantitatively explore the cognitive elements underlying attitudes towards wildlife. What are people's understandings of how they relate with wild animals or of how these should relate to people? How shared are these understandings in the population? And how is variation in these understandings formed? I follow a cognitive anthropology approach to carry out a holistic and culturally-sensitive analysis of how Maasai relate to wildlife. Cognitive scientists have developed the concept of "cultural models" to study conceptual frameworks and interpretive processes that mediate human understanding of and acting in the world. These are schematized, implicit and shared cognitive representations of a conceptual domain. They are socially transmitted, differentially distributed and correlated with behavior. In this chapter, I investigated both the content and the

distribution of cultural models of Maasai relationships with wildlife. Also, the combined results of these two inquiries allow tracing the origins of variation in agreement with the models and to identify the social processes underlying understandings of human-wildlife relationships. Knowing this can illuminate sources of conflict across groups of land users and inform conservation strategies. With discourse analysis, I identified two contrasting models of human-wildlife relationships. In one, wild animals are conceptualized as being different from livestock in everything: they are useless and taken care of by God, not by people. However, they have the right to be on the land because they were created by God, who meant for humans, cows and wild animals to “stay together”. Also, “conservation” (“taking care of the land”) is about “taking care of people and cows”; it is *not* about “taking care of” wild animals. I qualified this set of understandings as the “traditional model” of Maasai-wildlife relationships. Contrasting with these understandings is a model according to which wild animals *are* metaphorical cows: useful and income-generating (through tourism) and “taken care of” by Maasai. Wildlife is now a commodity. Also, people are not willing anymore to “stay together” with wildlife, wishing for spatial separation. “Conservation” is about conserving trees and wildlife, and private land and sedentarization are seen as conditions to “taking care” of the land. I characterized this model as the “modern cultural model” of Maasai-wildlife relationships. A distinct sub-model of this model, influenced by Christianity, emerged that I characterized as the “Protestant cultural model”. Again, the differences between the models suggest the magnitude of current socio-economic changes in Amboseli. Next, I perform a cultural consensus analysis (CCA)

to quantitatively determine how agreement with each model is distributed in the population and which socio-economic factors underlie variation thereof. The CCA shows that there is one consensual cultural model: informants draw from one shared cultural model to answer questions about human-wildlife relationships. The answer key shows that this model is closer to the modern model of human-wildlife relationships. However, there is variation: not all informants agree with the consensus to the same extent (intracultural variation) and some groups hold specific cultural models (subcultural variation). I combine the CCA results with regression analyses to identify the socioeconomic processes underlying these distinct patterns of agreement. Older people, men and communal land residents were more likely to agree with the “modern” consensual model than younger people, women and private ranch residents. Residents of private and group ranches have their own models; and Catholic/Traditional Maasai have a model that differs from the Protestant model.

Together, the results of the discourse and cultural consensus analyses suggest a shift towards models of human-wildlife relationships that are informed by western culture, the market economy and global conservation discourse and practice. Interestingly, this consensual model contrasts with the vision that conservationists have for the ecosystem, which, by stressing mixed land use and animal spatial mobility, approximates the traditional “staying together” ethic. The predominant “modern” model emphasizes spatial separation with wildlife. This disconnect between understandings of human-wildlife relationships sets the stage for and illuminates the depth of conflicts between conservationist and pastoralists.

Investigating cultural models of different groups of land users and stakeholders should be a step towards addressing these conflicts – which start as conflicts of meanings. Also, this analysis shows that there is more to local human-wildlife relationships than the economic value of wildlife to people.

Lastly, I asked what role aesthetic appreciation plays in mediating human-wildlife relationships, a question never asked for Africa. I show that Maasai recognize beauty and ugliness in wild animals and make sophisticated judgments of the aesthetic value of individual species. This refutes the idea that mostly economic value characterizes relationships with wildlife in Africa, and that where this value does not exist (as among pastoralists), it must be promoted in order to conserve wildlife. I also investigated the criteria that people use in their aesthetic valuations. Although there is some conflation between moral goodness and visual beauty, people enjoy the *sight* of wild animals, independently of utilitarian motivations. Next, I determine that there is an association between how Maasai aesthetically value wild animals, their preferences for those species and their support for their conservation. For instance, people's preferences for lion and elephant, which are dangerous animals, are strongly associated with their perceived beauty. Aesthetic value is especially determinant in promoting support for the conservation of dangerous species.

The community-based conservation approach emphasizes the economic value of wildlife to local communities. Overall, this study suggests that these strategies would benefit from considering also non-economic dimensions of human-wildlife relationships. Commodification of wildlife create expectations of economic

benefits that are difficult to fulfill, while non-economic dimensions, such as aesthetic value and shared understandings that are based on traditional religion and cosmology, exist that are still strong. These non-economic dimensions could provide additional foundations for conservation strategies.

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CHAPTER 1

INTRODUCTION

Indigenous peoples have alternatively been characterized as environmental destroyers or as custodians of natural resources/conservationists. As Snodgrass and Tiedje (2008) have argued, such representations are deeply stereotypical. Nuanced analyses are needed of how alleged indigenous conservationists feel and think about, and act in their natural environments.

Broadly, in this study I attempt such a nuanced analysis. It looks at the multifaceted relationship that Maasai pastoralists and agropastoralists of the Amboseli Ecosystem (southern Kenya) have with the wild animals with which they share the range, under conditions of rapid political, economic and social change. Using a comparative approach, I investigate several dimensions of the local human-wildlife relationships. These dimensions include attitudes towards wildlife; cultural models (or understandings) of human-wildlife relationships; the aesthetic appreciation of wildlife and how aesthetic value relates to support for the conservation of wildlife species.

In this introductory chapter, I first briefly review the literature for recent and less recent descriptions of Maasai in their interactions with wildlife. Then I present

the socioeconomic factors currently at play in pastoralist systems globally and in the Amboseli Ecosystem in particular. I hypothesize that these changing dynamics are contributing to transformations in the relationships between Maasai and wildlife. I then state the questions that drive this research; and present the study area and the general methods that I adopted to answer the research questions.

Next, I introduce the field research team and describe the fieldwork design and conditions. Finally, I explain the organization of this dissertation and present a summary of each chapter.

Maasai pastoralists and wildlife in the literature

Traditionally, the Maasai are semi-nomadic pastoralists with a subsistence economy based on the products of their livestock (cattle, small stock, donkeys) (Western & Dunne 1979)¹. Among east African peoples, Maasai have been celebrated for their “harmonious” relationship with wildlife (e.g. Berger 1993; 1996; Deihl 1985; Grzimek & Grzimek 1960; Kipuri 1983; 1998; Lovatt Smith 1986; Péron 1994; 2003). Early travelers marveled at the sight of Maasailand’s vast herds of game (Thomson 1886: 178), which have been described as peacefully mingling with Maasai cattle (Meinertzhagen 1983 (1957): 179)². During the British colonial

¹ Maasai culture and society are extensively dealt with elsewhere (Jacobs 1965; Spear & Waller 1993; Spencer 1988). Changes in Maasai land tenure and use systems, as well as general social organization, have been well addressed by Bekure et al (1991), BurnSilver (2007), Coast (2001), Galaty (1980, 1981b, 1992, 1994), Hodgson (2001) and Worden (2007).

² Although this statement does not seem suspicious, it must be noted that Meinertzhagen has since been proven to have been a fraud. From the book jacket of Garfield’s (2007) book: “Meinertzhagen was a fraud. Many of the adventures recorded in his celebrated diaries were imaginary, including a meeting with Hitler while he had a loaded pistol in his pocket, an attempt to rescue the Russian royal family in 1918, and a shoot-out with Arabs in Haifa when he was seventy years old. While he truly was a key player in Middle Eastern events after World War I and represented Zionism’s interests in negotiations with Germany in the 1930, he also set up Nazi front organizations in England,

period, considered “natural men” (Knowles & Collett 1989), Maasai were perceived as harmless to the wild fauna (Eliot 1905, cited in Enghoff 1990: 97; Tidrick 1980).

More recently, Maasai have been touted as “*par excellence* conservationists” by Western conservationists themselves (Richard Leakey, quoted in Horgan 1989: 42)³. And both Kenyan wildlife conservation professionals⁴ and prominent Maasai individuals have given Maasai people credit for sustaining wildlife populations (pers. obs.⁵; Matampash 1993; Ole Dapash 2005; see also Goldman 2006).

There is, indeed, evidence that east African savanna ecosystems have been positively shaped by pastoral activities, such as settlement patterns, fire use, and grazing management and conservation, which have facilitated conditions favoring the existence of wild ungulate populations (Goldman 2007; Homewood & Rodgers 1991; Lamprey & Waller 1990; Little 1996; Reid & Ellis 1995). The archaeological record shows that east African pastoralists and wildlife species have coexisted for at least 2,500 years without any local extinction (Collett 1987). It is also notable that, in Kenya, most of the wildlife is found in rangelands outside of protected areas (Ottichilo et al 2000). In the Greater Amboseli Ecosystem, the focus of this study, Maasai and wildlife have been said to have intertwined and historically compatible ecologies (Western 1973; 1994), with wild animals described as “tamed” by long contact with the Maasai (Western 1971).

committed a half-century of major and costly scientific fraud, and may have murdered his wife to boot”.

³ Nevertheless, perceptions of pastoralists as inducers of “tragedy of the commons” (Hardin 1968) situations linger: e.g. Kabubo-Mariara (2005).

⁴ Interviews with Amboseli National Park Senior Warden (2002).

⁵ POLEYC Project meetings in Ngorongoro, Tanzania (Jan. 2002); Feedback meeting in Kalesirua, Imbirikani Group Ranch (July 2004).

Some authors (e.g. Brown 1969; Mol 1981; Simon 1962; Talbot 1972), however, see the Maasai as conservationists by accident rather than by intent, their contribution to wildlife conservation being an epiphenomenal consequence of extensive pastoralism and grazing conservation (see Hunn 1982; Ruttan & Borgerhoff Mulder 1999; Smith & Wishnie 2000) on epiphenomenal conservation).

For Mol (1981), the Maasai rather benign attitudes towards wildlife is doomed to change in the face of population pressure and changes in land tenure and use. And for Western (1994), Maasai tolerance and the cultural actors that may have favored coexistence with wildlife will not persist in the face of development and increasing conflicts over land.

Tourism is a major source of income for Kenya and the best known and most visited protected areas are located in Maasailand (Akama 1999; Berger 1996; Campbell 1999; Campbell et al 2000). So, as Collett (1987: 146) puts it, Maasai “make an enormous contribution to Kenya and its development simply by being Maasai and not sedentary ranchers”. In the Greater Amboseli Ecosystem and elsewhere in Maasailand, change in Maasai society and livelihoods is thus seen as potentially detrimental to their alleged harmonious relationship with wildlife.

Socioeconomic and cultural changes in pastoralist systems

If one word was to convey the underlying theme of this dissertation, that word would be “change”. In this study, current rapid cultural and socio-economic transformations among Maasai communities of the Greater Amboseli Ecosystem provide the context for and are the hypothesized drivers of transformations in the interactions of Maasai and wildlife. Of course, change is not foreign to a pastoral

society such as the Maasai who are used to dealing with extreme climatic variability and spatial variation in availability of resources. Ethnic and economic flexibility have also characterized East African pastoral societies (Spear & Waller 1993). However, Amboseli Maasai are now also dealing with socio-economic and cultural transformations on a perhaps unprecedented scale, which may affect how they are willing to share their land with wild animals.

The theme of “change” motivates almost all the questions I ask in this study; and each chapter asks how different dimensions of the human-wildlife relationship in Amboseli are affected by some of these transformations. Namely, I am interested in how these changes have influenced local attitudes towards wildlife in general, as well as cultural models (or local understandings) of human-wildlife relationships. To a lesser extent, I also examine the effect of these changes on how Maasai aesthetically value individual animal species and their aesthetic preferences.

Like other pastoralist systems worldwide (Reid et al 2008) in the last decades, east African pastoral areas have witnessed dramatic changes, which are profoundly restructuring pastoralist societies and cultures (Galaty 1981a).

These transformations include human population growth; land privatization in Kenya (Fratkin 2001; Galaty 1994; Lesorogol 2003; 2005) and villagization in Tanzania (Ndagala 1982; 1990); sedentarization (Coast 2002; Fratkin 2004; Fratkin & McCabe 1999); land use intensification and cultivation (McCabe 2003; Reid et al 2004a); market economy integration (Kituyi 1990), with commodification of land and livestock (Fratkin & Mearns 2003; Galaty 1981b; Hodgson 1999a; Péron 1994); economic diversification (Little et al 2001; McCabe 2003; Thompson & Homewood

2002); increased influence of the state (Galaty 1981a); loss of land to protected areas (Arhem 1985; Brockington 1999; Brockington 2001; Brockington & Homewood 1999); increasing wealth stratification (BurnSilver 2007; Fratkin 2001; Fratkin & Mearns 2003; Kituyi 1990); poverty (Anderson & Broch-Due 1999); marginalization (Abbink 1997; Kituyi 1990; Markakis 2004); and cultural change (Hodgson 1999a; 2000a; 1999b; 2000b; 2001).

Similar processes are underway in Kajiado District and the Greater Amboseli Ecosystem, a semi-arid savanna environment north of Mount Kilimanjaro in south eastern Kenya. Overlaid on the existing ecological heterogeneity, these political economic transformations have created a mosaic of contrasting land tenure and land use situations. A “closed district” under British colonialism (Rutten 1992) and inhabited by Maasai transhumant pastoralists, Kajiado District’s human population has grown rapidly (Campbell 1986; Zaal 1999), outpacing livestock population increase, which has led to declines in livestock-to-human ratios (Grandin 1991; Thornton et al 2006). Predominantly Maasai in their ethnic composition, both the district and the ecosystem have witnessed substantial non-Maasai immigration (Campbell 1986; Campbell et al 2000; Fratkin 2001; Zaal 1999).

Also, tenure systems have evolved from pre-Independence (1963) communal use of grazing within and across sections⁶, to ownership of large ranches by cooperatives of herders under the Group Ranches program in the 1980s. More recently, group ranches (hereafter, GR) have been subdivided into private ranches

⁶ Sections (*oloshos*, pl. *iloshon*) are Maasai political territorial units. Originally understood as “plateau”, *oloshos* also denotes the actual group of people inhabiting that particular territory (Mol 1978).

(Galaty 1992; 1994; Grandin 1986; Kimani & Pickard 1998; Mwangi 2007; Ntiati 2002; Rutten 1992).

In the Greater Amboseli Ecosystem, together with land use intensification (Reid et al 2004a), which is both driving and being driven by sedentarization (Worden 2007), cultivation and its expansion in key resource areas (e.g. swamps, highlands) (Campbell 1986; Campbell et al 2000) and other economic diversification strategies (BurnSilver 2007), these processes have resulted in landscape fragmentation (BurnSilver & Worden 2007; Reid et al 2004b), competition over resources (Campbell et al 2000), escalating people-wildlife conflicts (Campbell et al 2000; 2003; Okello 2005) and increasing vulnerability to drought (Western & Manzolillo Nightingale 2005). One symptom of these deep changes is an alteration of Maasai herding patterns as a result of water infrastructure development and sedentarization: they have deliberately been shifted from rainy season movements, which paralleled those of wildlife (Western 1973), to the current dry season movements (BurnSilver 2007; Worden 2007). Emigration for wage labor (Boone et al 2005; Campbell 1999; Western & Manzolillo Nightingale 2005), food insecurity and landlessness (Rutten 1992; 1998) are on the rise.

Importantly, there are also changes in the political economic and cultural environments, through the combined influences of an increasing integration in the national and international economies (Campbell 1999), formal education (pers. obs.; see next chapters), infrastructure and urban development (pers. obs.; see next chapters), Christianity (pers. obs.; see next chapters), and new power structures (GR

Committees members⁷, government appointed chiefs and sub-chiefs, local politicians) (Campbell 1999) that have been superimposed over the traditional gerontocratic hierarchy (Spencer 1988; 1993)⁸.

Finally, another development that has had tremendous ramifications for both the ecological (Western & Gichohi 1993) and the human components (Rutten 2002) of the ecosystem is wildlife conservation policy and tourism. The creation of Amboseli National Park in 1974 and of other smaller areas for conservation and tourism in the ecosystem has led to loss of access to grazing and water resources for pastoralists (Campbell 1986; Rutten 2002), a process that has been fraught with conflict between the local communities, the government and conservation authorities (reviewed in Lindsay 1987; Rutten 2002; Western 1994). This has occurred amidst mounting pressures to subdivide the group ranches, which conservationists see as threatening to wildlife migrations in the ecosystem. To assuage this conflict, compensate pastoralists and discourage GR subdivision, the Kenyan government (through the Kenya Wildlife Service, hereafter KWS) and local conservationists have made an effort to share economic revenue from wildlife with the Maasai communities living in the GRs surrounding ANP. This has taken the form of the KWS revenue-sharing program and the promotion and development of small-scale tourism on Maasai GRs (Kangwana 1993; Rutten 2002; Western 1994). The

⁷ Group Ranches are managed by elected GR Committees (GRC), which are composed of a Chairman, a Secretary, a Treasurer and seven GRC members.

⁸ Some elders have complained about the rise of "clan politics", with clan loyalties superseding age-set loyalties. For instance, the current Kajiado South Member of Parliament is said by Ilaiser clan members to have been elected thanks to the support of his more numerous Ilmolelian clan-mates. To avoid such tensions, an effort has been made for GR leadership positions and jobs in tourism and conservation to be distributed across the three clans (Ilaiserr, Ilmolelian, Ilaitayok).

idea is that providing economic benefits from wildlife will promote conservationist behaviors among the land users and thus contribute to the sustainability of the ecosystem, which depends on the seasonal movement of wildlife over large spatial scales across the ecosystem.

These changes in the relationships of people, their livestock and wildlife with the land, the ecosystem's natural resources and with each other provides the context for this research. Below, I present the questions that have driven this research.

The research questions

Broadly, in this study, I seek to characterize how Maasai of Amboseli relate to wildlife; to analyze how current socio-economic changes in Maasai society influence this relationship; and to discuss possible implications of this research's results for wildlife conservation. I chose to answer these broad questions from three perspectives that, taken together, and through the use of complementary data collection and analytical methods, I hope, offer a holistic picture of local human-wildlife relationships. Of course, as this study makes clear, local human-wildlife relationships are ambiguous, multi-faceted, complex and in flux.

Informally speaking, there are three broad questions that I seek to answer across the three data chapters of this dissertation: 1) do Maasai "like" wildlife (Chapter 2)? 2) Do Maasai *think* like conservationists? (And what does "conservation" mean to them?) (Chapter 3); and 3) do Maasai see beauty in wild animals? (And does this matter for local wildlife conservation?) (Chapter 4)

First, I am interested in characterizing Maasai attitudes towards wildlife in general and how these attitudes towards wildlife are influenced by demographic and socioeconomic variables (i.e., gender, age, religious affiliation, level of conflict with wildlife, economic benefits from wildlife, wealth, education, land tenure and land use type). Second, I take a cognitive, in-depth and holistic approach to local human-wildlife relationships to analyze Maasai current understandings (or “cultural models”) of this relationship. I then quantitatively assessed how different cultural models are distributed within and across the different study populations, in order to identify the social processes that drive change in these understandings. Finally, I focused on a specific aspect (and, to the best of my knowledge, so far unexplored in Africa and developing countries) of the local human-wildlife relationships: namely, I asked whether and how Maasai value individual wildlife species from an aesthetic point of view; and how this relates to attitudes towards these species and support for their conservation.

General methods

To answer the above questions, I adopted a comparative approach. Taking advantage of the existing mosaic of localized ecological conditions, land use types, land tenure systems and variable spatial proximity to tourism and conservation initiatives, I selected three contrasting study areas within the Greater Amboseli Ecosystem (GAE) (see description in the following chapters). The goal was to select study areas which spatially represented different combinations of the socioeconomic variables that I hypothesize as influencing local human-wildlife relationships. This gradient can also be interpreted as representing changes *in time*

(from extensive pastoralism to agropastoralism; from communal land tenure to private ranches; from no tourism to development of tourism). I conducted fieldwork within each of the study areas between February 2002 and July 2004.

Regarding data collection and analysis, this study's approach has been a "shamelessly eclectic" mixed methods one, as advocated by Rossman & Wilson (1994). Integrating qualitative ethnographic methods and statistical analyses presents several advantages: it allows for corroboration, where one method confirms the results of another; it allows also for elaboration, as it provides more richness and detail than if only one method is used, and data from one source illuminate and help interpret data from another method. For example, typically, and it is the case in this research, qualitative interview data is used to interpret and "enrich" quantitative data that are collected in a more structured form with a questionnaire. On the other hand, ethnographic research provides "rich, textured accounts of local lives" (Brosius 2006) and contexts. In this study, I attempt a balanced approach, where one type of data is not necessarily more important than the other. Typically, I present quantitative and qualitative data (in the form of quotes or narratives) together, in no particular order.

The study area

The three contrasting study areas that I selected within the GAE are hereafter denominated "Swamps", Emeshenani and Osilalei (see maps and tables in the following chapters). The "Swamps" study area is an irrigated horticultural area located in the south of Imbirikani GR. Emeshenani, inside Olgulului-Lolarrash GR, is a ridge north of ANP where most households practice extensive pastoralism. The

Osilalei study area, the northernmost one, is part of what was formerly a GR (Osilalei GR) and is now an area of small private ranches (about 120 acres each), where people combine livestock herding with rainfed cultivation.

The fieldwork set up

The broad general study area and the comparative approach required us (the research team) to be mobile (indeed, nomadic). We traveled extensively by vehicle across the three study areas. Typically, we would set up camp in the bush at some distance from settlements and “urbanized” areas. We would then remain in a study area for at least two weeks at a time⁹. During this time we would drive to settlements for interviews and we would also frequently receive visits from “neighbors in the bush” (e.g. *ilmurran* coming from temporary cattle camps; herding boys; residents of temporary or permanent *bomas*; people just passing through)¹⁰. Less frequently, we stayed with friends and relatives of my assistants at their bomas for a few days at a time.

The research team

The research team was composed of three locally recruited assistants, all of them members of Imbirikani GR and high-school graduates. Richard Solonka ole Supeet and Justus Lekimankusi ole Supeet are cousins and originally worked for Shauna BurnSilver (former PhD student, Colorado State University). Richard was an

⁹ After two weeks, food and gas would become scarce and my assistants would be anxious to get news from their families and livestock, and attend to their businesses. In my second year of field work, we managed to stay longer (sometimes a month at a time) as friends coming to visit from Nairobi would replenish us with gas and food supplies. But my assistants still needed to take a break after two weeks of fieldwork and go home to get “news”.

¹⁰ *Boma*: settlement.

interpreter, workshop facilitator and the person who established all the necessary contacts with GR leaders and household heads, even outside of his home area. Justus was our camp manager. He also carried out one survey (the non-Maasai household survey), as well as some key informant interviews (with school teachers, GR leaders and Maasai employees of lodges). Simayo ene Somoire was initially my interpreter when I interviewed women and other dependants of the household heads. But having witnessed how well she had grasped the goals of this research and how good a translator she was, after further training, I decided to rely on her for interviewing household head dependants. This was a good decision, as Simayo collected excellent data. She also carried out the survey of non-Maasai households in the Namelok irrigated area. In general, most fundamentally, Richard, Simayo and Justus contributed to this research by being my most important key informants, relentlessly teaching me about Maasai culture and history; rules of etiquette and respect (*enkanyit*), the elaborate greetings, and the local politics, among many other dimensions of local life and culture. And life in camp with them, while not exactly equivalent to staying for extended periods of time in Maasai settlements, was a form of participant observation.

In the second year of fieldwork, after about a year working for me, Simayo brought two people into the research team: her baby daughter Ivy Nailantei and her grandmother, Koko eSimayo ("Grand Mother of Simayo"). Simayo had asked to resume working for me shortly after her baby's birth. Because our work involved extensive periods of camping in the bush and many kilometers of driving daily on bad roads, I was initially reluctant. But Simayo convinced me that "Maasai are hardy,

so I can do it". And so it is that, barely three weeks old, Ivy Nailantei became part of our team, and as we joked, "the youngest field researcher in the world". Simayo's grand mother, a traditional Maasai woman in her 70's, came along with her as Ivy's babysitter, responsible for "holding" Ivy while her mother carried out her interviews (Figure 1).



Figure 1.1. Ivy Nailantei and her baby-sitter, her great-grand-mother, Koko eSimayo.

Both Ivy and Koko contributed in subtle but crucial ways to this research project. Maasai love children and having a little one with us won many people's hearts, who would come to us to bless her (by gently spitting on her) and then invite us into their homes. On the other hand, Koko, as a lady to whom respect is due because of her age, would sometimes intervene when she thought that some of her grand-daughter's interviewees were not being respectful to her or to us. Her calm and wise presence also promoted peace and harmony in the research team.

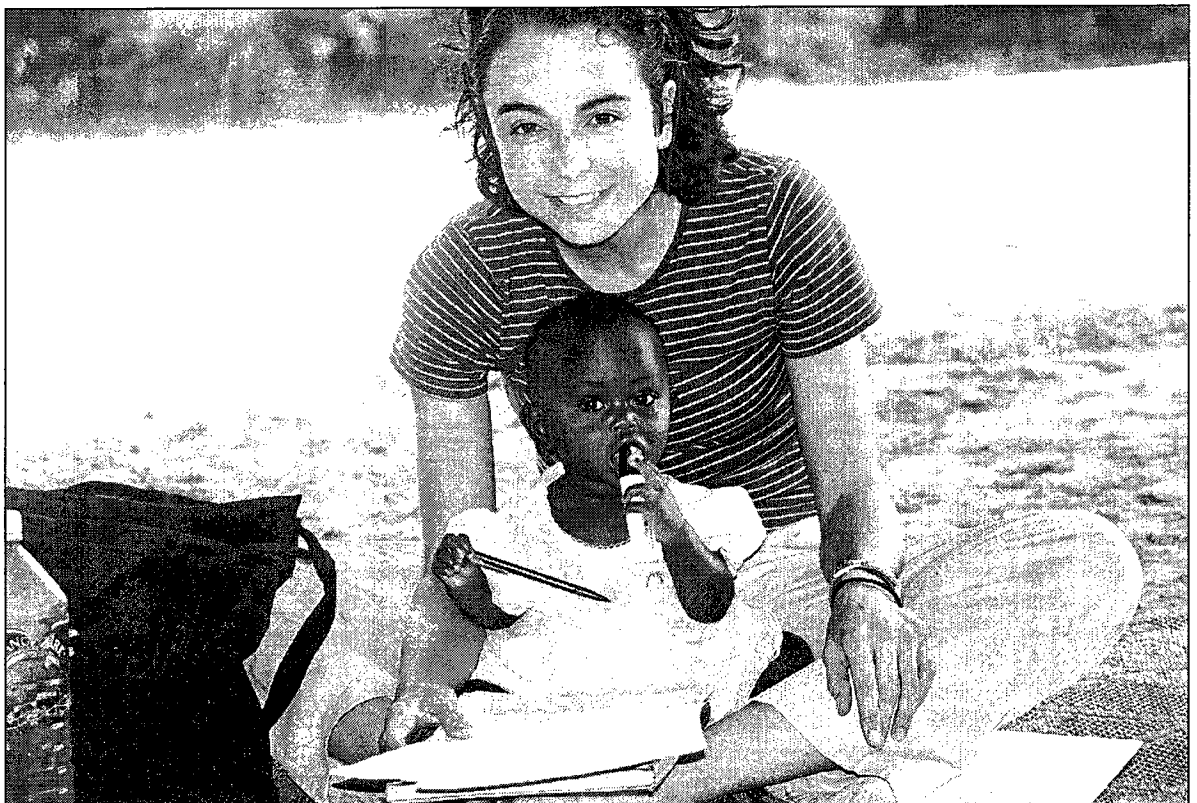


Figure 1.2. Ivy Nailantei one year later: “the youngest field researcher in the world” (Eselenkei River, Osilalei study area, Kajiado District)

In addition to these permanent research team members, I also hired a local assistant in each study area, who would work for us when we were in his home area.

The duties of these local assistants included recording “news” of instances of human-wildlife conflicts (see human-wildlife conflicts diaries, Appendix 2) and assist us in contacting the people we wanted to interview. These local research assistants included Noah Melita in the Namelok part of the Swamps; Napi Stanley ole Kitipai in Emeshenani; and Raphael Taraya in Osilalei, who was an impressive source of general knowledge about his home area.

Speaking the language

I had the privilege of attending a five-week intensive Maasai language (Maa) course at the Lenkisem Catholic Mission, situated on Olgului-Lolarrash GR. The course was taught by Father Frans Mol, a Mill Hill Missionary, from the Ngong Diocese. Attending this course among Kikuyu, European and Mexican priests, as well as Tanzanian nuns, was a deep immersion in Maasai culture (it included attending Sunday masses in Maa).

This course allowed me not only to grasp essential grammatical rudiments of the language (without which it is very difficult to “pick up” Maa), but it also introduced me to important Maasai cultural aspects that both Father Mol and another instructor, Hans Stocks, shared based on their long experiences of life and research in Maasailand. Father Mol is the author of two Maa dictionaries (Mol 1978; 1996) as well as of a grammar (Mol 1995). He also translated the Bible into Maa, built a library dedicated to Maasai culture in Kajiado town and is considered a “Maasai and a half” by the Maasai who know him. I was fortunate and am grateful to have learned from these two extraordinary (albeit linguistically conservative) teachers.

I have never become entirely fluent in Maa and I was never able to carry out a full interview on my own. Obviously, my accent was awful (despite nice reassurance to the contrary from Maasai friends). Towards the end of the fieldwork, however, I was able to carry out long conversations, going as far as discussing subtleties such as the Maasai sub-clan I was made a member of (Ilaiser clan; Ilodokishu subclan). Speaking Maa undoubtedly facilitated my establishing rapport within the different communities. “Being Maasai” is about respect (*enkanyit*) (which includes knowing how to address people of different gender and age categories), knowing and practicing the Maasai culture (which includes speaking the language) and having the proper behavior that Maasai expect from fellow Maasai¹¹. By learning the language and learning how to behave properly, my becoming locally accepted was greatly facilitated (a “school-going child” was the identity that eventually people bestowed me).

Speaking (somewhat) the language also critically improved the quality of the data we collected, as it enabled me to understand when my assistants did not translate verbatim. However, it is obvious that a lot of information, which was relevant for qualitative analysis, got lost in translation. Given the unstructured aspect of the interviews, a technique like “back-translation” could not really be applied to the informants’ answers. I did my best, however, to triangulate and double-check the wording of my questions and the translated answers in order to

¹¹ Thanks to this attitude, Maasai are very tolerant to people who “act Maasai”. Here are two examples. One day, I properly greeted an old woman by “giving” her my head and uttering the proper greetings. In response she exclaimed: “*Shie!* This child is a Maasai who got lost!” In another occasion, as I entered a boma and greeted in Maa a group of “mothers”, my assistant asked them “Isn’t she a real Maasai?” They matter-of-factly answered: “yes, it is just that her skin color is not like ours.”

minimize misunderstandings and biases. Another aspect of the translation issue is the fact that, not only did I not speak perfect Maa, but neither did my assistants speak perfect English. It was interesting to note the differences between Simayo's and Richard's spoken English. Richard produced excellent verbatim translations (most of the time), in simple and clear English. Simayo, being more urban and highly formally educated, used sophisticated and "modern" English. It is important to keep in mind that this does not reflect only characteristics of the informants' speech but also educational characteristics of my interpreters. In order to minimize these biases, every evening and morning, I would go through both interviews with my assistants to clarify any concept that was unclear and asking for the relevant Maa words, which I would then check with a dictionary (Mol 1996).

Other linguistic considerations

Maasai nouns are gendered. The *ol-* (pl., *il-*) prefix denotes masculinity (and big size). The *en-* prefix (pl., *in-*) denotes femininity and small size (for instance, *oldoinyo* is a mountain; *endoinyo* is a hill). Some Maasai names have anglicized versions. This is the case, for example, of "morans" that stand for *ilmurran* (which means "the circumcised ones", even if they have commonly been described as "warriors"). Rather than stick to one or another version, in this dissertation I often switch back and forth between the two versions. I do this because formally educated, English speaking Maasai more frequently use the anglicized versions of these words when they are speaking English.

Organization of the dissertation and summary of the chapters

This dissertation is composed of three data chapters, an introduction and a conclusion. Each of the data chapters is written as a “stand alone” chapter and covers a separate dimension of the multi-faceted Maasai-wildlife relationship. In each data chapter, I introduce the background and research questions, describe the study area and methods and discuss the results. However, since these chapters are part of one dissertation, there are concepts and aspects of Maasai culture and society (e.g. age-sets, moranhood, *olamayio* etc.) that I describe and define only in the first data chapter (Chapter 2).

In Chapter 2, I analyze Maasai attitudes towards wildlife. I first determine and compare economic costs and benefits of wildlife across the study areas; I then characterize local attitudes towards wildlife; finally, I examine how perceived costs and benefits of wildlife and other socioeconomic and demographics factors (i.e. land use, gender, wealth, education, religious affiliation and land tenure) relate to and predict attitudes towards wildlife. I will show that gender, religious affiliation and land tenure are predictors of attitudes. Male, Christian, residents of GRs are more likely to hold positive attitudes towards wildlife than are female, traditional residents of the private ranches in Osilalei.

In Chapter 3, I follow a cognitive anthropology approach to explore cultural models (i.e., shared and socially transmitted understandings) of human-wildlife relationships and analyze how these hypothetically reflect changes undergone by Amboseli Maasai society. Through discourse analysis, I describe two contrasting cultural models. One emphasizes that wild animals are different in every way from

cows; that people were created together with cattle and wild animals by *Enkai* (God) and that they should thus “stay together”; and that “conservation” (“taking care of the land”) is about people and cows; it is not about wildlife. The other model contrasts with this one in that wild animals are conceptualized as “cows”: they are useful, income-generating and “taken care of” by people. Furthermore, it emphasizes spatial separation between people and wildlife; and “conservation” is about *not* killing wild animals and not cutting trees down. The first model is the “traditional” model of human-wildlife relationships; the second model is the “modern model” of these relationships. Next, I quantitatively assess the distribution of agreement with these models within and across the study populations. I show that elements of the “modern” model are more prevalent. The existing consensual model more closely approximates the modern model, namely as it emphasizes spatial separation between people and wildlife. I then discuss implications of these findings for wildlife conservation in the ecosystem.

In Chapter 4, I narrow my focus to explore the aesthetic value of individual wild species to Maasai and how aesthetic value relates to support for the conservation of individual species. I will show that Maasai appreciate wildlife for its beauty and make sophisticated judgments based on precise aesthetic standards. I will also show that local notions of beauty and ugliness are inclusive, with visual, moral, utilitarian and cultural dimensions. Finally, I will show that, depending on the species, there is a clear association between aesthetic judgment of a species, attitudes towards it and support for its conservation. This link is particularly strong for the more harmful and dangerous species. This is the case of lion and elephant,

which have high conservation and tourism value. I then discuss implications of these results for wildlife conservation. Finally, in Chapter 5, the conclusion chapter, I synthesize this study's insights and discuss policy implications for conservation in the GAE.

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CHAPTER 2

ATTITUDES TOWARDS WILDLIFE IN A PASTORAL SYSTEM IN TRANSITION, SOUTHERN MAASAILAND, KENYA

No people on earth have so ably coexisted with wildlife and have lost out quite so tragically as a result. (Western 1997: IX)

[The government] has opened our eyes that wild animals can be protected and taken care of and sold just like our cows. (Ilkishimu elder, Swamps)

I like [no wild animal] and I hate none because I am not close to any. (Woman, Osilalei)

[Wildlife conservation is] just dictatorship because they say "Don't kill wild animals because they are also our [the government's] cows. But is it normal for a cow to eat another cow? Their cows are eating our cows! (Ilanyankusi elder, Swamps)

INTRODUCTION

The delimitation of Amboseli National Park (hereafter, ANP) in the Greater Amboseli Ecosystem (GAE) (Kajiado District, southern Kenya) in 1974 has had far reaching implications for the ecosystems' ecological (Western & Gichohi 1993) and human components. The creation of this park around swamps that have been seasonal key resource areas for wildlife and livestock and of other smaller areas for conservation and tourism has constrained pastoralists' access to water and grazing resources and created economic hardship (Campbell 1986; Rutten 2002). This process has created disagreement and conflict between the local communities, the

government and conservation authorities (reviewed in Lindsay 1987; Rutten 2002; Western 1994). This conflict has manifested itself in Maasai protest killings of wildlife (Lovatt Smith 1986; Western & Sindiyo 1972) at a time of rising pressure to privatize communally owned Maasai GRs. As a result, the GAE has been the stage of early efforts, implemented before and after the creation of ANP, to make “wildlife pay its way” outside of the park as a means to elicit support for it among the local Maasai¹² (Kangwana 1993; Rutten 2002; Western 1994). The rationale is that offsetting economic costs of wildlife with economic benefits promotes conservationist attitudes and behaviors on Maasai owned land and, thus, helps keep wildlife migration corridors between ANP, the Tsavo Ecosystem and other grazing areas in the ecosystem.

In doing so, Amboseli NP has pioneered a trend within conservation biology practice (Western 1994) that is more human-needs oriented than previous preservationist, “fortress conservation”, approaches¹³. Combining environmental conservation with economic development, and broadly subsumed under the banner of Community-Based Conservation (hereafter, CBC), these approaches, which have been both acclaimed and decried (reviewed in Adams & Hulme 2001), have become part of mainstream conservation practice in the past two decades. An example of the

¹² In Kenya, wildlife are property of the state and not of the landowner.

¹³ See Brockington’s (2004) argument that local support is *not* a prerequisite for wildlife conservation. Similarly, some authors (e.g. Neumann 1997; Rutten 2002) have argued that community-based conservation schemes have actually entailed disempowerment of local communities.

associated rhetoric is displayed on the website of a private tourism operation¹⁴ located on Eselenkei GR, in the GAE:

As a result of the establishment of the Conservation Area, the local community has already seen some benefits arising [...]. This has caused a change in attitude on the part of the community towards the concept of wildlife conservation. There is no longer any snaring or spearing of wild animals on the Group Ranch land and the communities are enthusiastic about encouraging wildlife to move into their Conservation Area.

There are several untested assumptions in the above statement: 1) that people have received economic benefits (Rutten (2002) shows that this has not happened); 2) that there has been a change in attitude as a consequence of those benefits; and 3) that this change in attitude has translated into behavioral change. The link between economic benefits from wildlife and attitudes towards wildlife is one of the concerns of this study.

Lindsay (1987) argues that efforts at linking conservation and development among Amboseli Maasai have failed because conservation has been grafted onto a changing society without addressing the nature of change itself and without considering Maasai attitudes and aspirations. Indeed, the profound ecological, political economic and cultural changes that have been taking place in the GAE (see chapters 1 and 3) , some of them desired by the ecosystem's inhabitants, others unwanted, have altered the context for people-wildlife interactions in the past four decades. In this study, I hypothesize that such transformations affect people's relationship with their environment. These changes form the backdrop against which I investigate Maasai attitudes towards wildlife.

¹⁴ Selenkay Conservation Area, Porini Ecotourism. <http://www.Porini.com/ecotourism/current2.html>. Accessed 11-19-07.

Assuming, for the sake of argument, that Maasai had, at some point, been “living in harmony with wildlife”, is it still possible to broadly speak of “Maasai attitudes towards wildlife” in the face of this tremendous diversification of livelihoods and aspirations, as well as landscape changes? How are these transformations affecting people’s relationship with wildlife? How are attitudes towards wildlife being shaped by factors that simultaneously are making co-existence uncomfortable (competition for space and resources translating into human-wildlife conflict) and others that, in theory at least (e.g. wildlife-based economic activities), have the potential to improve attitudes?

This study aims at starting to answer these broad questions by characterizing attitudes towards wildlife in the Greater Amboseli Ecosystem and identifying predictors of attitudes. Although this study is a “snapshot” of attitudes, the mosaic created by areas within the ecosystem that are at different stages of a shift in land tenure, land use and development of tourism and conservation, offers the opportunity to evaluate how attitudes may have evolved, in time, concomitantly to these changes. To do so, I will first examine perceived economic benefits of wildlife and perceived costs of human-wildlife conflict across and within selected study areas. Then, I will investigate the distribution of attitudes towards wildlife across different groups of land users, and examine conflicts with and attitudes towards Amboseli NP. Finally, I will determine demographic and socio-economic predictors of attitudes.

Conceptual framework and research questions/hypotheses

Broadly, this study is situated within the scholarship tradition that has examined and questioned human-environment relationships in non-western contexts, local perceptions of the environment and how these perceptions play themselves out under shifting political economic and cultural circumstances (e.g. Croll & Parkin 1992). Products of ever-changing historical contexts and cultural specificities (Descola & Palsson 1996a), non-Western conceptualizations of “nature” are seen as affected by western models of nature and economy (Escobar 1999). Specific influences include market economy penetration and land tenure changes (e.g. Ellen 1993), Christianity (e.g. Pickering & Jewell 2008; Robbins 1995), colonial and nation-states’ policies (e.g. Alexander & McGregor 2000; Pickering & Jewell 2008) and Western conservation rhetoric and practice (e.g. Goldman 2006; Kottak & Costa 1993; Pfeffer et al 2001).

More specifically, studies of human-wildlife interactions, where attitudes towards wildlife and conservation are viewed as a barometer of the success or failure of CBC interventions, have flourished during the two decades following the adoption of these community-based approaches. Because behaviors and behavioral changes are difficult to assess, these studies have interpreted attitudes changes as the reflection of behavioral changes (Infield & Namara 2001). Social psychology has conceptualized this link as follows: an attitude is a relatively enduring organization of beliefs about an object or a situation predisposing one to respond favorably or unfavorably to a commodity, person, institution or event. Hence, attitude is an antecedent or determinant of behavior (Ajzen & Peterson 1988: 66; Rokeach 1966:

530). In cognitive anthropology, too, cognition (perceptions; cultural models: see chapter 3) is also seen as antecedent action (D'Andrade 1995b; Medin et al 2006) (Atran & Medin 2008) (see chapter 3).

These studies, in both developed and developing countries, have characterized attitudes towards wildlife in general (e.g. Parry & Campbell 1992); towards individual wildlife species (e.g. Bjerke et al 1998; Casey et al 2005; Hill 1998; Kaltenborn et al 2006; 1998; Kellert 1985b; 1993; King & Lee 1987; Lindsey et al 2005; Naughton-Treves et al 2003; Reading & Kellert 1993; Románach et al 2007); towards protected areas and wildlife management (e.g. Bauer 2003; Boonzaier 1996; De Boer & Baquete 1998; Infield 1988; Ite 1996; Lepp & Holland 2006; Picard 2003; Weladji et al 2003); towards conservation and development projects (e.g. Abbott & Thomas 2001); and towards tourism around protected areas (e.g. Udaya Sekhar 2003; Walpole & Goodwin 2001). Knowledge of attitudes and of the variables that affect attitudes (and, theoretically, behaviors) are seen as crucial to guiding conservation planning and management and designing more socially acceptable, participatory and equitable conservation strategies, that are assumed to benefit both people and wildlife and/or natural resources.

A variety of factors have been identified as influencing attitudes towards wildlife and/or conservation. Acting in some geographical settings, they do not in others. Thus, there is a wide variation in which factors affect attitudes.

Demographic factors that have been shown to influence attitudes towards wildlife and/or conservation include gender (e.g. Hill 1998; Mehta & Heinen 2001), age (e.g. Arjunan et al 2006; Bjerke et al 1998; Wang et al 2006) and population

density (e.g. Newmark et al 1994); Socio-economic and cultural factors include ethnicity (e.g. Heinen 1993; Hill 1998; Mehta & Heinen 2001), wealth (e.g. Infield 1988; Kideghesho et al 2007; Parry & Campbell 1992), education (e.g. Fiallo & Jacobson 1995; Heinen 1993; Mehta & Heinen 2001; Wang et al 2006), religion (e.g. Noss & Cuellar 2001; Raval 1994; Stycos & Duarte 1995) and land use (e.g. Infield 2001; Kohler 2005; Romañach et al 2007). Other factors with demonstrated effects on attitudes include human wildlife conflicts, such as crop damage (e.g. De Boer & Baquete 1998; Gillingham & Lee 2003; Hill 1997; 2000; Naughton-Treves 1997) and predation (e.g. Mehta & Heinen 2001; Mishra 1997; Romañach et al 2007); economic benefits from tourism and/or conservation (e.g. Lewis et al 1990; Mehta & Heinen 2001; Udaya Sekhar 1998; 2003; Walpole & Goodwin 2001); protected area outreach and conservation and development interventions (e.g. Abbott & Thomas 2001; Arjunan et al 2006; Holmes 2003; Infield & Namara 2001); and relations with protected areas and their management (e.g. Fiallo & Jacobson 1995; Newmark et al 1993).

Attitudes towards wildlife, conservation and/or specific wildlife species have also been investigated in Maasailand. In Kenya, Akama (1995) examined attitudes of pastoralists and farmers towards Nairobi and Tsavo National Parks and found that both education and off-farm activities improved attitudes towards these protected areas. In Kitengela, next to Nairobi NP, Mwangi and Warinda (1999) found education and age to influence attitudes towards conservation. In the same area, Ole Nkedianye (2003) showed that positive attitudes towards wildlife were related to the presence of a Wildlife Conservation Lease Program. In Kajiado District, Ali

(2006) examined attitudes of primary and secondary school students towards protected areas and wildlife and found them to be mainly driven by the notion of parks as sources of economic benefits. In the Amboseli Ecosystem, Kangwana (1993) portrayed interactions between Maasai and elephants as relatively harmonious. Attitudes towards elephants were markedly positive, despite conflicts with wildlife in general and with the national park, while attitudes towards the park were less positive. The factors influencing attitudes towards wildlife included gender, age, knowledge of benefits from wildlife, and land use (with farmers being more positive than pastoralists). In the same region Okello (2005), however, found farmers to be more negative towards wildlife than pastoralists, a finding that is echoed by Gadd's (2005) study of attitudes towards wildlife and elephants in Laikipia (northern Kenya).

A series of studies have specifically focused on Maasai attitudes towards large carnivores. In Amboseli Hazzah (2006) investigated the factors affecting Maasai propensity to kill lions and found those to be a proportion of livestock lost to predators, membership in a local church and dependence on livestock sales for income. In the same area Rodriguez (2007) critically examined local perceptions of a Predator Compensation Program and the program's impact on pastoralists' tolerance of predators. Also exploring Maasai-predator coexistence, in northern Tanzania, Maddox (2003) described large carnivores as successfully surviving outside protected areas among Maasai pastoralists and their livestock, despite attitudes that were mostly negative towards them (while positive towards other wildlife). According to Lichtenfeld (2005), Tarangire Maasai (N. Tanzania) hold

complex attitudes towards lions, which arise from cultural, political and economic forces and are based on values of lions that are simultaneously symbolic, dominionistic and negativistic (cf. Kellert 1996).

In this study I adopt the social-psychological methodology that has characterized studies of attitudes towards natural resources within conservation biology. I complement it with an ethnographic approach, which is more sensitive to political economic and cultural contexts, and linguistic issues, especially in non-Western settings (Stone & Campbell 1984). Very few studies of attitudes towards wildlife, natural resources and protected areas have relied on mostly qualitative methods (e.g. Kohler 2005; Kuriyan 2002; Picard 2003; Pratt et al 2004). More generally, however, human-animal interactions have been the focus of extensive anthropological research (e.g. Cormier 2003; Knight 2000; 2003; Morris 1998; also reviewed in Mullin 1999; Shanklin 1985). In fact, anthropology is increasingly acknowledged as a necessary component of conservation biology practice (Brosius 2006; West & Brockington 2006). Knowledge of how the natural environment is constructed, represented, claimed and contested is seen as vital for sound conservation planning (Brosius 2006), while a critical perspective alert to matters of culture, power and history can lead to biodiversity conservation practices that are more effective and just (Brosius et al 2005). Indeed, there has been a tendency in CBC practice to rely on ideas of homogeneous, timeless and essentialized “local communities” (Brosius et al 1998; Neumann 1997). This downplays the fact that these are heterogeneous, culturally in flux entities, whose members’ use and

perceptions of natural resources (and attendant behaviors) reflect this diversity. This diversity needs to be taken into account in conservation design and planning.

Maasai society is far from being homogeneous. Stratified along the lines of age, through the age-grade/age-set system (Kirk & Burton 1977; Spencer 1988; 1993) and increasingly along those of gender (Hodgson 1999a; 2000a; 2000b; 2001) and wealth (Anderson & Broch-Due 1999; BurnSilver 2007), as well as territorially divided into sections with their own cultural specificities, Maasai society is thus not easily depicted by all-encompassing generalizations about “the Maasai”. For Campbell (2000), contemporary processes of change in Amboseli emphasize that local communities are, indeed, not homogeneous. What makes them heterogeneous (in social and economic status disparities; age; gender) is embedded in current land use structures and patterns of access to resources – which are increasingly diverse. These, according to Western (1994), are contributing to diversifying Maasai interests and voices, while increasing division inside the community. I hypothesize that, together, these diversifying interests generate dissimilar patterns of attitudes towards wildlife across and within different communities in the ecosystem. I would argue that these attitudes need to be questioned and examined in light of current processes of change before “Maasai attitudes” can be used as guidelines for wildlife conservation policy in Maasailand at large. For instance, Maasai women’s perceptions and attitudes have not been considered in previous studies dedicated to Maasai relationship with natural

resources, wildlife and conservation¹⁵. Together with younger people, these groups are also agents of change and show diversification of interests, as women are increasingly involved in the market economy and education of children is increasingly aspired to and promoted (pers. obs.). Here, I specifically consider perceptions of and attitudes towards wildlife by members of these two groups, in addition to those of men (who have been the focus of most previous research).

Taking into account the different trajectories in land tenure and use change across communities and the intrinsic heterogeneity related to age and gender within communities, I tested whether land use (presence/absence of cultivation), occurrence of conflicts with wildlife and resulting economic costs, receipt of economic benefits from tourism/community-based conservation, land tenure, gender, age, wealth, education level and religion are predictors of attitudes towards wildlife. The following hypotheses guided my research: agropastoralists, Christians, women and young people would be more negative towards wildlife. People with fewer losses caused by wildlife, people from households benefited by wildlife, people living on communal land (GRs) and with a higher level of education would be more positive towards wildlife.

METHODS

The results presented in this chapter emanate from a comparative study of attitudes towards wildlife in areas that contrast in terms of combinations of land use types, land tenure arrangements and presence of protected areas and conservation

¹⁵An exception is found in Kangwana (1993) whose study of attitudes towards elephants around Amboseli NP included women in the sample of respondents.

initiatives. This study provides a “snapshot” of attitudes towards wildlife. However, a possible variation of attitudes over time is inferred from 1) comparing attitudes in areas of the ecosystem that are at different stages along a gradient of land tenure and use evolution and 2) interviewing people belonging to different age categories.

Study area

The field research took place between February 2002 and July 2004, in the Greater Amboseli Ecosystem in south eastern Kajiado District, southern Kenya. Kajiado District, one of the two ethnically “Maasai districts” (Narok is the other), is situated at the southern tip of Rift Valley province, and is predominantly covered by arid and semi-arid areas (De Leeuw et al 1991). Its general topography is characterized by gently undulating plains and occasional volcanic hills and valleys (Ole Katampoi et al 1990).

The Greater Amboseli Ecosystem

The Greater Amboseli Ecosystem (GAE), described in depth by Western (1973), is a semi-arid savanna environment situated within the closed basin of a former Pleistocene lakebed between the Oldoinyo Orok hills, the Ilaingarrunyi hills to the west, the slopes of Mt Kilimanjaro to the south and the Chyulu hills to the east (Ole Katampoi et al 1990).

Covering about 8,500 square km of south eastern Kajiado District (BurnSilver & Worden 2007) and characterized by specific soil and vegetation types and rainfall regime, a distinct drainage system and the occurrence of large resident and migrant wild herbivore populations (Croze et al 2006), its boundaries are

operationally defined by the range covered by wildlife dispersing out of the Amboseli basin and swamps in the rainy season (Western 1973; 1975). The ecosystem presents a bimodal rainfall pattern, with strong temporal and spatial variation. Rain is concentrated between November and January and March and May (Altmann et al 2002) and shows a gradient ranging from 500-600 mm/year in the north, Kilimanjaro slopes and Chyulu hills to 250-300 mm/year further south (Ole Katampoi et al 1990). Described as the life-blood of the ecosystem (Croze et al 2006), a system of east-west oriented swamps and springs have acted as key dry season resource areas for people, livestock and wildlife, and as stepping stones for wildlife moving between the Amboseli and Tsavo ecosystems (Reid et al 2004a). Some of these swamps (Kimana, Namelok, Esampu) are currently settled for irrigated horticulture.

At the core of the ecosystem lies world famed Amboseli National Park, a 392km² unfenced protected area that is centered around the Enkongu Narok and Lonkinye swamps. Wild ungulates disperse out of these swamps onto Maasai-owned land in the rainy season. One of Kenya's three most visited parks, it receives from 80,000 to 100,000 visitors a year (Croze et al 2006), and earns about US\$ 3.3 million (park fees, rent) annually, thus helping to administer other national parks in the country (Mynott 2005), and contributing to the nation's economy and biodiversity conservation. In addition, the ecosystem has seen the development of smaller scale conservation initiatives and wildlife-based enterprises, some of which are described in this chapter's results section.

The ecosystem presents eight habitat types and twenty five vegetation zones, which are in ecological transition (i.e., loss of woody habitat, expansion of grasslands, scrublands and swamps and a general declining habitat diversity) (Western 2006). The habitats include grasslands (both dry and seasonally flooded), dense and open woodlands, as well as dense and open bushlands (all dominated by *Acacia spp.* and *Commiphora spp.*), swamp edges (*Solanum incanum*, *Cynodon dactylon*), permanent swamps (*Cyperus spp.*) and scrubland (*Salvadora persica*, *Azima tetracantha*, *Sporobolus consimilis*) (Western 2006).

Amboseli wildlife populations have, in general, remained relatively healthy (Croze et al 2006; Reid et al 2004a), with upward trends for some species and downward trends for others (e.g., water dependent species affected by the excision of the swamps for horticulture) (Reid et al 2004a). In the Amboseli basin, there are between 40,000 and 50,000 wild ungulates (D. Western, cited in Mizutani et al 2005) and wildlife biomass is estimated at 11kg/ha (unpublished air census data by Bonham, cited in Mizutani et al 2005)¹⁶.

The Amboseli Maasai

Southern Kenya Maasailand has been home to pastoralists as early as 500 AD (Galaty 1993). Maasai and their specialized form of pastoralism expanded from the north in the 17th or 18th centuries and, in the 19th c., displaced earlier Maa-speaking pastoralists, the Iloogolala¹⁷, from the Amboseli region (interview data; Jacobs 1965; Galaty 1993). The Maasai are traditionally transhumant pastoralists with a

¹⁶ R. Bonham, Oldoinyo Wuas Lodge, Imbirikani GR, and Maasailand Preservation Trust.

¹⁷ "The ones of the hard teeth".

subsistence economy mostly based on the products of their livestock (cattle, small stock, donkeys) (Western & Dunne 1979). Settlements (*enkang*, pl. *inkangitie*)¹⁸ are the traditional unit of cooperation in herding and consist of several independent polygynous families who decide to live together (Bekure et al 1991; Jacobs 1975). As mentioned above, Maasai culture and society have been extensively dealt with elsewhere (e.g. Jacobs 1965; Spear & Waller 1993; Spencer 1988) and changes in Maasai land tenure and use systems, as well as general social organization, have been well addressed by Bekure et al (1991), BurnSilver (2007), Coast (2001), Galaty (1980, 1981b, 1992, 1994), Hodgson (2001) and Worden (2007).

Culturally, the GAE spans portions of three Maasai sections (*olosh*, pl. *iloshon*), which are politically autonomous territorial units that have their own celebration of ceremonies, as well as architecture, dress, beadwork and linguistic peculiarities (Mol 1978). The Kisonko Maasai¹⁹ inhabit the area surrounding ANP; Matapato Maasai occupy the area north and west of the Kisonko section, and Kaputei²⁰ section lies on the northern portion of the ecosystem (BurnSilver & Worden 2007). Maasailand is thus a federation of sections whose inhabitants are linked across *space* through their membership in clans that are all present in the

¹⁸ Or “boma” (Swahili for cattle pen) as erroneously known.

¹⁹ The Kisonko Maasai are present across the border in Tanzania. In the Amboseli area, they are also called *Iloitokitoki* Maasai. Since “Kisonko” is the designation adopted by the majority of my informants, it is the one I adopt here.

²⁰ More correctly: Ilkisonko, Ilmatapato and Ilkaputei. Here, I chose to drop the masculine plural prefix *il* for simplicity and to reflect English-speaking Maasai use of these terms.

different sections²¹, and in *time* through the synchronization of ceremonies and sharing of the age-grade/age-set system across sections²² (Spencer 1993).

The study areas

In order to capture some of the temporal variation in attitudes towards wildlife that hypothetically result from the changes in land tenure, land use and livelihoods that have occurred since the 1960s, I selected three study areas along a gradient of land use, from extensive pastoralism to intensive agropastoralism. In addition, these study areas present varying combinations of characteristics in terms of land tenure, access to tourism and conservation benefits and infrastructure development (Table 2.1). Two study areas, hereafter referred to as “Swamps”, in Imbirikani GR, and “Emeshenani”, in Olgulului-Lolarrash GR, are in close proximity to ANP. Imbirikani GR (122,893 ha) and Olgulului-Lolarrash GR (147, 050 ha) (Ntiati 2002) are considered vital wildlife dispersal areas and, as such, together with Eselenkei GR and Kimana GR, are included in the Amboseli Biosphere Reserve buffer zone (Croze et al 2006).

Table 2.1. Study areas' characteristics.

<i>Study area</i>	<i>Swamps</i>	<i>Emeshenani</i>	<i>Osilalei</i>
Section	Kisonko	Kisonko	Matapato
Administrative Division	Loitokitok	Loitokitok	Mashuru
Land tenure	Communal	Communal	Private
Group Ranch	Imbirikani	Olgulului-Lolarrash	Osilalei
Predominant land use	Sedentary pastoralism + irrigated cultivation	Extensive pastoralism	Sedentary pastoralism + rainfed cultivation
Infrastructure access*	High	Low	High
Tourism & conservation initiatives	Yes	Yes	No

* BurnSilver (2007)

²¹ In the study area, the three major clans (*olgilata*, pl. *ilgilat*) are the Ilaiser, Ilmolelian and Ilaitayok, each including a series of sub-clans.

²² “*Age-grades* are the successive statuses to which individuals are ascribed in the course of their lives. An *age-set* comprises all those within a broad range of ages who are formed into groups of peers with their own separate identity” (Spencer 1993: 140).

At the time of fieldwork, Imbirikani GR had 4,600 registered members and Olgulului-Lolarrash, 6,418. “Osilalei” study area lies within a 38,629 ha GR (Rutten 1992) that was subdivided in 1990 (BurnSilver 2007; Worden 2007). It, however, retains a GR Committee and 900 registered members. Since subdivision, single families or households have owned and used private ranches (of 100 to 250 acres). At the time of fieldwork, title deeds had not yet been distributed.

In the SE of the GAE, in the south of Imbirikani GR, the Swamps study area covers two settlement areas, Kalesirua and Namelok, which lie in the vicinity of two swamps (Kimana, Namelok) (Figure 2.1.). Both swamps have been settled, starting in the 1970’s, by non-Maasai farmers, as well as by Maasai practicing a mix of irrigated horticulture and relatively sedentary livestock keeping. This general area is located

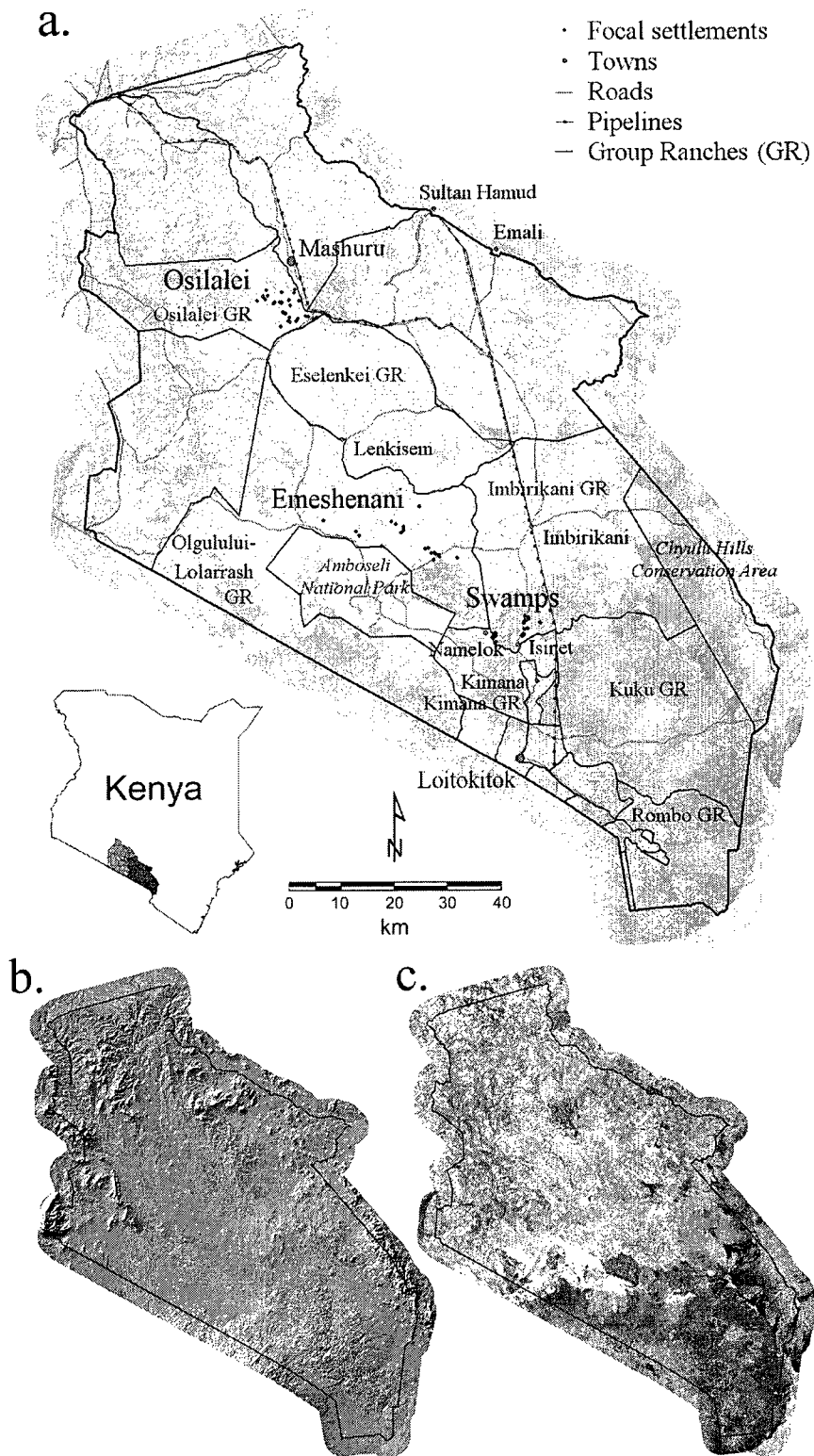


Figure 2.1. **a.** The Greater Amboseli Ecosystem and study areas (dots represent the surveyed settlements). **b.** Topography. **c.** Landsat image: land cover (green: vegetation; red/orange: grassland/shrubs; purple: soils).

nearby a main road linking the Nairobi-Mombasa road to Loitokitok and the Tanzanian border, as well as to roads going to ANP. It presents significant infrastructure and urban development, the latter in the form of burgeoning trading centers. These “shopping centers” cater to an increasingly ethnically diverse population, offering livestock markets (Emali, Kimana), consumer goods, churches, mosques, health services and schools. In Kalesirua, the cultivated area has a common, unfenced, boundary with a protected area, the Kimana Wildlife Sanctuary, and is adjacent to Isinet town. In contrast, Namelok irrigated plots are enclosed within an anti-elephant electric fence installed by Kenya Wildlife Service (hereafter KWS) in 1997. During field work, both areas were in the process of subdivision. GR members²³ cultivating in Namelok obtained title deeds to their *shambas* (Swahili: cultivated plots) in the course of the fieldwork, while *shambas* in Kalesirua were still informally subdivided²⁴.

Emeshenani study area, within Olgulului-Lolarrash GR, lies on a ridge along the northern boundary of ANP. In this semi-arid area, with no permanent natural water sources, semi-nomadic, extensive livestock herding is the main land use, with a few families owning agricultural plots in the arable parts of the GR (Namelok swamp; Loitokitok highlands). Infrastructure development is low, limited to water tanks and boreholes. Access to health and education is, likewise, low²⁵.

²³ GR ownership is determined by registration as a GR member. Theoretically restricted to males, many informants candidly admitted that their wives were also registered as GR members (in theory, only widows may be so). In the hope of securing land in the event of Olgulului-Lolarrash GR subdivision, one had even registered a not-yet-conceived son. Being able to do so requires good connections with the GR Committees' members.

²⁴ Kalesirua irrigated area has been formally subdivided since I left the field.

²⁵ Local strategies to circumvent these limitations include sending school-going children to “school *bomas*”, which are settlements close to urbanized areas where students stay together with a family

In the north, Osilalei study area lies in the eastern part of Osilalei GR. It is characterized by private ranch ownership, combined livestock keeping and rain fed cultivation, low wildlife populations (J. Worden, pers. com.)²⁶ and the absence of tourism and conservation initiatives. The closest town is Mashuru, which offers a weekly livestock market and daily transportation to Kajiado, the District headquarters. Additional infrastructure is spatially centered around two Churches (Lutheran Church at Emashini and Spirit of Jesus at Oloiborsoit), which provide primary education and access to water.

Data collection

In this study I follow a mixed-methods approach to study attitudes towards wildlife. Conservation biology studies have used survey instruments that elicit attitudinal data through pre-determined lists of close-ended questions or statements, with which the respondents are required to agree or disagree. This method allows for the construction of attitudinal scales and the quantification of attitudes (Bernard 2002). However, as highlighted by Stone and Campbell (1984), it also presents strong non-sampling error limitations, especially in non-western settings. These include wording problems (which are not ruled out by back-translation), cultural reinterpretation by the informants and contextual bias (interviewing once in a particular context). For Boonzaier (1996), attitudinal

member, and by developing a local “public transportation” system: cars belonging to some entrepreneurial elders transport people and livestock to the area’s weekly markets.

²⁶ J. Worden (African Conservation Center, Nairobi, Kenya). According to local Maasai perceptions, “dangerous animals have moved away” (e.g. buffaloes, lions, elephants) after the subdivision of the GR, because permanent settlements have spread over the totality of the landscape and, thus, “there is no more bush”. Currently, wildlife-caused problems include predation by leopards and crop damage and competition for grazing by herbivores (eland, zebra, and wildebeest) (See Osilalei Human-Wildlife Conflict Diary, Appendix 2).

surveys are imperfect tools for gaining insight into very complex and nuanced values and beliefs. More specifically, a glimpse at the body of research carried out on attitudes towards wildlife worldwide shows that the surveys from which measures of attitudes are devised are limited in their capacity to extract information on the “why?” part of feelings, attitudes and behaviors. Other studies show evidence of Western bias in the lists of statements that are used to elicit attitudes.

To minimize these limitations, I adopted an ethnographic approach that combined long-term permanence in the field, participant observation and interviews (formal and informal). This allowed for the acquisition of knowledge of local cultural dimensions and this allowed devising less culturally biased questions. Formal interviews had a great proportion of open-ended questions, whose answers were coded post-hoc. This interview format offered ample time and space for probing and “digressing”, as opposed to relying on questions with pre-coded answers that limit the range of information that can be collected.

Another way to address some of these concerns has been to learn the local language (Maa)²⁷ and to pay close attention to linguistic issues. I could not, however, address the “contextual bias” (Stone & Campbell 1984) problem by re-interviewing informants in different contexts due to lack of time and resources to cover an extensive study area. By integrating qualitative ethnographic methods and the rigorous statistical analyses which have characterized attitudinal studies, I followed a “shamelessly eclectic” methodological approach, as advocated by Rossman and

²⁷ I started developing a working knowledge of Maa after a five-week Maasai language intensive course offered by the Kajiado Diocese at the Lenkitem Catholic Mission (Olgulului-Lolarrash GR) and taught by Father F. Mol and H. Stocks (Feb. – Mar. 2002).

Wilson (1994). This allowed for quantification of attitudes and hypothesis testing, while providing essential contextual information that clarifies statistical results and assists overall data interpretation.

The mainstay of the data comes from unstructured and semi-structured interviews with focus groups and with key and randomly selected informants. We conducted one focus-group interview with elders, two with adult women and one with herding boys. Key informants included local Maasai leaders, GR Committees' members, school teachers, non-Maasai conservationists and tour operators, KWS wardens and rangers, as well as Maasai individuals who were perceived as knowledgeable about particular topics. At the beginning of field work, data collected during focus-group and key informant interviews facilitated the preliminary determination of local economic benefits from tourism and conservation, human-wildlife conflicts, economic and cultural uses of wild animals, cultural beliefs and norms concerning wildlife and the natural environment, and culturally defined concepts of "modernity"/"tradition", wealth and gender/age categories. This information provided a basis for sampling and interview guide design. Information on human-wildlife conflicts collected during the interviews was complemented with data gathered by one enumerator in each study area (see Human-Wildlife Conflict Diaries, Appendix 2) and through the consultation of KWS Occurrence Books record human-wildlife conflict incidences. Because not all of the books could be accessed²⁸, these data were merely used to provide context and to allow for some triangulation of interview data. In addition, I kept a field diary where I recorded informal

²⁸ The Occurrence Book at Amboseli NP's headquarters was declared "classified information" by the Amboseli NP Community Warden. In contrast, the OB at Eselenkei KWS outpost was freely open to us.

conversations, observations (ceremonies, community meetings), and daily episodes of camp life and fieldwork. Household wealth was determined using the wealth ranking technique (Grandin 1988), which relies on intra-community definitions of wealth.

At the beginning of fieldwork, I sought permission to conduct research from the three GR Committees, which was granted. At the end of the fieldwork, together with my three research assistants, we conducted one feedback meeting in each area, in which I presented preliminary results and received enlightening feedback from the participants.

Sampling

The sampling strategy focused on study area (selecting them along a land use gradient) and age. The goal was to obtain a representative cross-section of the population that would reflect both spatial and temporal variation in land tenure, land use and possible concomitant changes in attitudes towards wildlife. The sampling unit for the interviews of randomly selected informants was the household²⁹, which is usually headed by an elder. Besides the nucleus formed by a husband, his wife(ves) and their children, a household includes the people, relatives or not, who are “taken care of” by the household head. In total, 96 household heads were randomly selected from an updated sampling frame developed by BurnSilver

²⁹ *Olmarei*, pl. *ilmareta* (family; see Mol 1996: 245) has been conventionally used as the term for household (e.g. Grandin 1991; Coast 2002; BurnSilver 2007). It has been acknowledged that there is no single word in Maa that corresponds to household (and I concur) but that the context makes it clear that it is the household that is meant (Grandin 1991; pers. obs.). Goldman (2006) defines *olmarei* as a polygamous family unit associated with a usually male head. This definition, however, does not consider that, at least in Amboseli, it might include dependants who may not be close relatives.

(2007) and Worden (2007). This sample was stratified by study area, with 32 randomly selected households in each, and then by age of the household head.

Stratifying by age-set was impossible because of time and resource limitations and the small proportion of younger and older age-sets representatives. Using the Maasai distinction between Junior and Senior elders was also not feasible because of differences in the dates of graduation to elderhood between the Kisonko and Matapato sections. Based on key informant perceptions of similarities across the age sets, the strategy was thus to group the members of the six current age-sets into two categories and then sample within these categories. Members of the Ilkiponi, Ilkimunyak and Ilkishimu age-sets, respectively in their twenties, thirties and forties-fifties, were classified into one group, hereafter referred to as “Young Elders”. These elders are locally perceived as tending to be formally educated, Christians, and involved in *maendeleo* (Swahili: development, progress). The other group included members of the Iseuri (in their sixties-seventies), Ilnyankusi (seventies-eighties) and Ilterito (nineties) age-sets. These “Old Elders” are perceived as being “traditional” Maasai: uneducated, following the Maasai traditional religion and adhering to the pastoral mode of production and culture³⁰. In each study area, 16 members of each of these two groups were randomly selected for interviewing, together with one dependant (e.g. wife, child, sibling, parent; see Appendix 3: Table 2.1). There was an attempt to interview equal numbers of dependants of different age/sex groups. In practice, however, despite efforts to the contrary, the sample was

³⁰ Interestingly, this perception of differences between these two categories of elders was statistically confirmed by the data on education and religion, but not by the economic data: economic diversification was equally sought by both “Young” and “Old Elders”.

biased towards people who spend more time at home (women) as opposed to people who tend to be away during the day (herders; school-going children). In total, after leaving out two inconsistent interviews, 191 interviews were analyzed.

Age has been shown to influence attitudes towards wildlife (e.g. Arjunan et al 2006; Bjerke et al 1998; Wang et al 2006). However, many informants did not know their age or their dependants' age³¹. In Maasai culture, where identity, economic responsibilities and societal expectations are defined by belonging to specific age and gender categories (Kirk & Burton 1977; Spencer 1988; 1993), age is as much as a social matter as a biological one. One way to estimate age is, thus, to verify which age category an individual is culturally ascribed to. For both genders, adulthood is attained at circumcision. The age of adult men can be approximated by knowing the age-set to which they belong, which reflects the period during which they were circumcised and became *ilmurran*³². Age of adult women is more difficult to infer as, upon marriage, women are said to "be of" the age-set of their husbands (Talle 1994; 2007). Given the common discrepancy in age between a husband and a wife in the Maasai polygynic system, a woman's age-set thus does not reveal her biological age. The way to estimate it was to ask adult female informants which *ilmurran* of which age-set they associated with as "girl-friends" before marriage by asking "Which age-set did you sing for?"

³¹ Some senior elders would happily declare that they were "at least one hundred years old" or "more than a million years old".

³² *Olmurrani*, pl. *Ilmurran*: "the circumcised ones", from *emurata* (pl. *imurat*: circumcision). *Ilmurran* are popularly, but erroneously, known as "warriors". "Morans", the anglicized version, is used by English-speaking Maasai themselves. Sometimes described as "our security force" and "our policemen", *ilmurran*'s duties go beyond cross-sectional warfare, cattle-raiding (both now non-existent in Kenya) and hunting lions, for which they are famous. Locally, *ilmurran*'s current responsibilities include moving herds, defending and finding lost livestock and performing any task that elders require them to do.

For statistical purposes (regression analyses), all members of the “Old Elders” group together with their dependants in the same age-range, were classified as “Old”. All the members of the “Young Elders” group, their dependants in the same age-range, as well as children and teenagers, were classified as “Young”.

There is a sizeable population of non-Maasai farmers in the Swamps study area. In November 2002, I thus had two local enumerators conduct a census of all the non-Maasai households settled in the Kimana swamp in the Kalesirua/Isinet area and Namelok swamps. This was followed, in Jan. 2003, by a survey of 70 randomly selected household heads. The survey was carried out by two Maasai research assistants, who are fluent in Swahili and English, and focused on the households’ demographic and socioeconomic information and the households’ economic costs and benefits of wildlife within the past year.

Interviewing/Conversing

In order to collect comparable qualitative and quantitative data (Bernard 2002), I developed a semi-structured interview guide, which was used in all the interviews with household heads and dependants. The interview guide relied on both open- and close-ended questions. The latter were followed by open-ended questions asking informants to explain their answers. Both household heads and dependants were asked the same questions and an effort was made to do that by following the same order when asking them. However, this rule was flexible, and whenever it was deemed more appropriate or in order not to spoil the interview’s “flow”, the order was not followed. In other cases, some questions were not asked, and/or ad-hoc questions were added. This approach allowed for unexpected

information to emerge, whose collection would have been stifled by the rigid structure of a survey questionnaire.

Besides the households' socio-economic and demographic background information and data on occurrences of human-wildlife conflict, which were collected from household heads only, the questions covered the following topics, which are relevant to this chapter: economic benefits from wildlife, perceived "good" and "bad things" of wildlife, and perceptions of tourism and protected areas.

All interviews were carried out in Maa, recorded by hand and transcribed. Richard ole Supeet, my research assistant, and I carried out the interviews with the household heads. Simayo ene Somoire, another research assistant, whom I trained in the collection of qualitative data and instructed in the themes to be deeply explored, conducted the interviews with the dependants (children and teenagers of both genders; adult women)³³. Together, Simayo and I reviewed these interviews daily, to ensure comparability of our interview data.

In addition, and just as importantly, major breakthroughs in my understanding came from informal occasions: while cooking with friends in their settlements and with my research assistants in camp, giving car rides, shopping at markets, casually walking in the bush with friends and assistants, and during impromptu visits to our campsite by herding children, *ilmurran*, elders and women. Information originating from these conversations was also recorded, transcribed, coded and analyzed.

³³ My research assistants are Richard Solonka ole Supeet, a member of Imbirikani GR and a resident of Kalesirua. Simayo ene Daniel Somoire is also a member of Imbirikani GR and a resident of Loitokitok. Both are high-school graduates.

Because this study relies greatly on qualitative data, translation was a critical issue. The interview guide was pre-tested for accuracy of translation and comprehension by the informant, first with the research team, then in ten pilot interviews across the three study areas. Both research assistants were instructed on the necessity of verbatim translation. The downside of the qualitative emphasis and flexible interview format is that it does not allow for back translation (Bernard 2002). However, knowing Maa (although not fluently enough to conduct full interviews, especially at the beginning of field work)³⁴, and constantly cross-checking the translation from Maa to English and from English to Maa helped minimize this limitation. An example of the linguistic subtleties involved in this study is the concept of “wildlife” itself. In Maa, “wild animals” are commonly referred to as *inguesi*. There is, however, a second term, *ilchangit*, which tends to designate a different set of species. Generically, *inguesi* are harmful or aggressive (*eerisho*) animals, while *ilchangit* are “polite” (*ebor*; harmless, peaceful). However, there is a significant variation within and across communities in their use of this term, as well as other names and categories in addition to these two. To ensure that interviewer and interviewee were “talking of the same thing”, time was spent devising the informant’s personal taxonomy of wild animals before asking any question mentioning “wild animals”. Subsequently, these questions simultaneously included the terms that expressed the different categories of wild animals for the

³⁴ When I left the field, I could understand the largest part of most conversations, reply and even discuss at length such intricate topics as sub-clan membership. All this, of course, with a disastrous accent.

informant, in order to guarantee that he or she was not biased towards expressing attitudes towards only one type of animals.

The informants were informed of the confidentiality of the data, and assured that the research team was in no way associated with the government or KWS. In time, my identity as a “school-going child” (*enkerai esukul*) became established. This, together with the fact that my research assistants were respected individuals in their communities, facilitated rapport with prospective informants.

Data analysis

Quantitative data were entered in ACCESS and exported to SPSS (Statistical Package for the Social Sciences), version 16.0, for statistical analysis. I coded and analyzed the qualitative data with QSR NVivo 2.0 software. Demographic and socio-economic data, and perceived economic costs and benefits of wildlife were analyzed using descriptive statistics and bivariate tests.

To assess the distribution of wildlife-based economic benefits, I classified informants as coming from households economically benefited by wildlife if at least one of four types of benefits was reported in the household by the informant (see below). If no benefit was reported, the informant was categorized as coming from a non-benefited household.

Household conflict with wild animals was estimated from data elicited from household heads only, who were asked whether the following events had occurred within the year before the interview: livestock killed/injured by wildlife; crop damage; and disease transmission from wildlife to livestock. In addition, all informants were asked whether they had *ever* had any family member injured

and/or killed by wildlife. Intensity of conflict in each household was measured by assigning it a score of +1 for each type of conflict that had occurred. The scores were summed and households were classified as having a LOW conflict level (scores 0- 2) or HIGH conflict level (scores 3-5). Households with no experience of human-wildlife conflict (score 0) were assigned a LOW conflict level in order to obtain enough counts for statistical analysis.

The analysis of attitudes and associated variables was carried out in three stages. In the first stage, each informant was classified into one of three categories of attitudes towards wildlife. Because of the qualitative character of the interviews, there was no attempt to devise an attitudinal scale based on a list of statements reflecting attitudes, with which informants would be asked to agree or disagree. One first method to analyze people's attitudes towards wildlife was to subjectively classify each informant as negative, neutral/undecided or positive towards wildlife, based on the knowledge of each interview's content, which was gained from transcribing and coding each one. Another method was to build a post-hoc Likert-type attitudinal scale (Vaske In Press). Five questions (items) whose answers reflected attitudes towards wildlife were selected from the questionnaire, and combined into a 5-item scale. A subset of 113 informants who complied with the condition of having answered these five questions was selected for classification of attitudes based on the 5-item scale. Each informant's responses were coded and assigned a score of 0, +1 and +2, depending on the answer being negative, neutral/undecided or positive, respectively. For each informant, these scores were summed to obtain the informant's total score on the attitude scale (Vaske In Press).

Informants with scores from 0 to 2 were classified as “negative”; informants with scores from 3 to 7 (with a majority of “don’t know” type of answer), were labelled “neutral/undecided”; informants with scores from 8 to 10 were classified as “positive”. A reliability analysis was performed and the internal consistency of the items was determined by using Cronbach’s alpha, a measure of how well answers correlate with each other. Cronbach’s alpha values range from 0 to 1, with values close to 1 indicating greater reliability. An alpha of 0.65 to 0.70 is adequate (Mehta & Kellert 1998). In order to corroborate the subjective classification of the same 113 informants, and thus also corroborate the subjective classification of the larger sample of 191 informants, I then conducted a Pearson’s correlation between the classification of informants based on the attitudinal scale scores and the subjective classification (into positive, neutral/undecided and negative attitudes).

In a second stage, the association between attitudes and hypothesized demographic and socioeconomic factors was tested with Pearson’s Chi-square tests. Variables were considered to be independent of one another if the significance value (p) was more than 0.05. When $p < 0.05$, Cramer’s V was used to determine the strength of the association between the variables, with values ranging from 0 (no association) and 1 (complete association) (Mehta & Kellert 1998).

Lastly, multinomial logistic regression was used to identify predictors of attitudes towards wildlife. This method, an extension of the binary logistic regression, allows for multiple categories of the outcome categorical variable to be considered together in a single analysis (Roessler et al 2007). This analysis employed eight independent variables to predict one variable (attitude towards

wildlife) with three categories: negative, neutral/undecided and positive. The categorical independent variables were coded as follows: age (Young=1/Old=2), gender (Male=1/Female=2), religion (Christian=1/Traditional Maasai=2), education (Uneducated=1/Educated=2), land use (Livestock only=1/Livestock & Cultivation=2), economic benefit(s) from wildlife in the household (Yes=1/No=2), wealth (Poor=1/Medium=2/Rich=3) and level of human-wildlife conflict in the household (Low=1/High=2). The analysis followed a backward elimination procedure, where the non-significant independent variables were sequentially removed from the explanatory model until only significant variables were retained. In the multinomial logistic regression, probabilities for response categories were computed relative to the probabilities of a reference group, here set as “negative attitudes”.

RESULTS

Informants’ demographic and socio-economic characteristics

A total of 191 interviews, conducted in 32 households in the Swamps (20.6% of all the local households), 33 households in Emeshenani (33.3% of all the households) and 31 in Osilalei (31.3% of all the households) were analyzed. Among the “Young Elders”, one of the two age categories used to stratify the sample of household heads, 30.2% were of the Ilkimunyak age-set³⁵; 17.7% were Ilkishimu; Ilkiponi household heads (already graduated to junior elderhood in Matapato) were only 2.1% (Table 2.2.). Among the “Old Elders”, 29.2% of the household heads were

³⁵ See Appendix 1 (age-sets and age-categories of informants).

Iseuri, 18.8% were Ilnyankusi. Only two were IIterito (2.1%). With a total of 109 men (57.1%) and 82 women (42.9%), the sample was relatively gender-balanced. Six household heads were women and widows (two in the Swamps; four in Osilalei)³⁶.

Table 2.2. Household heads' "age-groups" and age-sets. Number in parentheses are percentages.

<i>Study area</i>	<i>Swamps (n=32)</i>	<i>Emeshenani (n=33)</i>	<i>Osilalei (n=31)</i>
<i>Age</i>			
"Young Elders" (n=48)	16 (50.0)	17 (51.5)	15 (48.4)
Ilkishimu (n=17)	6 (18.8)	3 (9.1)	8 (25.8)
Ilkimunyak (n=29)	10 (31.3)	14 (42.4)	5 (16.1)
Ilkiponi (n=2)	0 (0.0)	0 (0.0)	2 (6.5)
"Old Elders" (n=48)	16 (50.0)	16 (48.5)	16 (51.6)
IIterito (n=2)	0 (0.0)	1 (3.0)	1 (3.2)
Ilnyankusi (n=18)	4 (12.5)	7 (21.2)	7 (22.6)
Iseuri (n=28)	12 (37.5)	8 (24.2)	8 (25.8)

The subsequent characterization of the informants and their households highlights the socio-economic contrasts that exist across the study areas. For example, settlements presented strong differences in their layout, structure, and in number and type of houses. Settlements are locally perceived as being "modern" when they either have a double fence or a single fence only for livestock³⁷, as well as "durable" houses (with varying combinations of iron roofs and wood/iron/cement walls). In Osilalei and in the Swamps, 93.5% and 90.6% of the settlements in which interviews took place were respectively classified as "modern". In contrast, in

³⁶ In Osilalei, these widows owned their private ranch. Being a widow is the only way in which a woman can own land in Osilalei.

³⁷ Instead of the traditional single fence that encloses both cattle and houses in the center of the settlement at night.

Emeshenani, 54.5% of the settlements were “traditional” ($\chi^2=39.067$, $p<0.001$, $V=0.451$), which confirms local perceptions of Emeshenani as a “traditional” area.

With private land tenure and sedentary households, Osilalei is also considered a “modern” area. Signs of sedentarization include the tall fences made of live *osilalei* (*Commiphora schimperi*³⁸) in the majority of the settlements, together with taller and larger houses. There were, however, many fewer houses made of “durable” materials (zinc sheets, cinder blocks, wood planks), probably because of limited transportation and access to businesses that sell those materials.

The study areas also differed significantly in terms of the number of households per settlement ($F=13.925$; $df\ 2, 93$; $p<0.001$). Osilalei had the lowest mean number of households per settlement (2.45), while the average was 2.84 in the Swamps and 4.70 in Emeshenani. There were also differences in terms of number of people per household: at 12.88 people per household on average, Emeshenani is the area where household heads supported the highest number of dependants. This contrasts with the situation in the Swamps and Osilalei (6.69 and 7.13, respectively) ($F=12.661$; $df\ 2,93$; $p<0.001$)³⁹.

The study areas displayed significant differences in terms of the types of land use the households engaged in (Table 2.3). In total, only 27.1% of the households depended exclusively on livestock production for both food and income. The majority (72.9%) combined livestock and agricultural production, for domestic consumption (mainly maize and beans) and/or for the market (onions, tomatoes).

³⁸ J. Worden, Colorado State University, pers. com.

³⁹ See also Appendix 3 (table 2) for additional household demographic information (number of wives and number of children per household, in each study area).

Agropastoralism was more prevalent in the Swamps (87.5%; irrigated horticulture) and Osilalei (87.1%: rain fed cultivation). In Emeshenani, 45.5% of the households were cultivating plots in Namelok and the Loitokitok highlands, which are taken care of by share croppers or family members. The differences across areas are significant ($\chi^2=19.205$, $p<0.001$, $V=0.447$).

Table 2.3. Distribution of households according to land use, economic activities and wealth ranking. Numbers in parentheses are percentages.

<i>Study area</i>	<i>Swamps (n=32)</i>	<i>Emeshenani (n=33)</i>	<i>Osilalei (n=31)</i>
<i>Land use</i>			
Livestock only (n=26)	4 (12.5)	18 (54.5)	4 (12.9)
Livestock + cultivation (n=70)	28 (87.5)	15 (45.5)	27 (87.1)
<i>Economic activities</i>			
Livestock only (n=13)	1 (3.1)	10 (30.3)	2 (6.5)
Livestock + cultivation (n=13)	0 (0.0)	3 (9.1)	10 (32.3)
Livestock + other (n=13)	3 (9.4)	8 (24.2)	2 (6.5)
Livestock + cultivation + other (n=57)	28 (87.5)	12 (36.4)	17 (54.8)
<i>Wealth ranking</i>			
Poor (n= 46)	20 (62.5)	7 (21.2)	19 (61.3)
Medium (n=23)	8 (25.0)	7 (21.2)	8 (25.8)
Rich (n=27)	4 (12.5)	19 (57.6)	4 (12.9)

Households can further be differentiated by the fact that some complemented their livestock and agricultural income with off-farm economic activities. Households, for whom selling livestock “when a problem arises” was the sole source of income, were only 13.5% of the households. Other households, while not cultivating, combined livestock keeping with businesses and/or wage labor (13.5%). Local business types included livestock trading, petty trade, and renting ox ploughs. Some members of these households were also employed as day laborers, teachers and in tourism jobs. Included here are also households who owned

shambas and rented them out for income. Households which engaged in livestock and agricultural production were 13.5%. The majority, however, practiced a combination of livestock production, cultivation and off-farm activities (59.4%).

The most economically diversified households were found in the Swamps (87.5%) and Osilalei (54.8%). Only one Swamps household, among those in which we interviewed, relied exclusively on livestock. In Emeshenani, households were almost evenly distributed across the four categories, with 30.3% depending on pastoralism only and 36.4% diversified into horticulture and off-farm activities. In order to have categories with enough counts to enable subsequent statistical tests, land use (Livestock Only vs. Livestock + Cultivation) rather than economic activity was used as an independent variable.

Households were classified into three categories of wealth (Poor/Medium/Rich) using the wealth ranking technique (Grandin 1988). While being the most economically diversified areas, both the Swamps and Osilalei had the highest proportion of poor households (62.5% and 61.3%, respectively). In contrast, in Emeshenani, 57.6% of the households were rich by local standards and 21.2% were considered poor. The differences across study areas are significant ($\chi^2=23.160$, $p<0.001$, $V=0.347$).

The general level of formal education is low (Table 2.4): 85.3% of the informants had no schooling and the mean number of years of education was 0.82. Most Emeshenani informants were uneducated (95.4%), while 21.9% in the Swamps and 17.7% in Osilalei had received some education ($\chi^2=8.376$, $df=2$, $p<0.05$, $V=0.209$). Comparing education across age categories shows the increasing

influence of education: children were the only group with more educated (58.3%) than uneducated members (41.7%). Among people in the “Young” category, 18.2% were educated. This drops to a mere 1.6% among “Old Elders” and their dependants in the same age range. Fewer, although not significantly, women (9.8%) than men (18.3%) were educated ($\chi^2=2.762$, $df=1$, $p>0.05$).

Table 2.4. Education levels and religion affiliation. Numbers in parentheses are percentages.

<i>Study area</i>	<i>Swamps (n=64)</i>	<i>Emeshenani (n=65)</i>	<i>Osilalei (n=63)</i>
<i>Education level</i>			
Uneducated (n=163)	50 (78.1)	62 (95.4)	51 (82.3)
Educated (n=28)	14 (21.9)	3 (4.6)	11 (17.7)
<i>Religion</i>			
Christian (n=116)	51 (79.7)	31 (47.7)	34 (54.8)
Traditional (n=75)	13 (20.3)	34 (52.3)	28 (45.2)

Christianity is firmly implanted locally: 60.7% of the informants identified themselves as Christians. Among these, 16.85% were Catholic and 44.0% were from Protestant churches of various denominations. Religious affiliation varied geographically ($\chi^2=81.357$, $p<0.001$, $V=0.461$): Protestants predominated in the Swamps⁴⁰ (75.0%) and in Osilalei⁴¹ (51.6%). In Emeshenani⁴², the majority among Christians was Catholic (41.5%), while people who followed the Maasai traditional religion predominated (52.3%)⁴³. These were 45.2% in Osilalei and 20.3% in the swamps. Most “Young Elders” were Christian (64.6%) while most “Old Elders” were “traditional” (68.8%) ($\chi^2=10.685$, $p=0.001$, $V=0.334$). There were also differences in

⁴⁰ Local churches attended locally include the Kenya Assemblies of God; the Presbyterian Church of East Africa; the Fountain of Life; the Immanuel church.

⁴¹ In Emeshenani, the churches attended locally are Spirit of Jesus; Lutheran Church; Baptist Church; Gospel Tabernacle.

⁴² Churches attended locally: Roman Catholic Church; Free Pentecostal Fellowship of Kenya.

⁴³ See chapter 3 for a description of some characteristics of Maasai religion.

terms of gender ($\chi^2=15.611$, $p < 0.001$, $V=0.286$): as many as 76.8% of the women identified themselves as Christian, while 51.4% of the male informants were “traditional”⁴⁴.

The census of non-Maasai households showed the presence of 282 households in the Kalesirua/Isinet area (41.1%) and Namelok (58.9%) swamps. Few households (6.8%) were headed by women; 65.1% of the household heads were Kenyan citizens, and 34.9% were Tanzanian. The most numerous ethnic groups were Kamba, from Kenya (36.6%), followed by Tanzanian Chagga (23.3%) and Kikuyu, from Kenya (16.1%). Other ethnic groups (e.g. Luo, Msambaa, WaMeru, Warusha, WaPare, Luhya and Mbulu) were also represented, albeit in smaller proportions. Within the surveyed sample of household heads ($n=70$), 7.14% of the respondents were female. Tanzanian citizens were 74.28%; 25.71% were Kenyans. The most represented ethnic groups were Kamba (32.85%), Chagga (28.57%) and Kikuyu (12.85%). All the respondents were crop farmers; only 7.5% possessed livestock (poultry). As many as 75% of the informants had some primary education.

Economic benefits from wildlife

Economic benefits at the Group Ranch level

The study areas presented contrasting situations regarding opportunities for people to benefit economically from wildlife. Only the Swamps and Emeshenani had such opportunities, thanks to their proximity to ANP and to CBC initiatives on their land. Osilalei, on the other hand, being subdivided and located far from protected

⁴⁴ See Hodgson (2005) for an analysis of gender differences in the adoption of Christianity in Tanzanian Maasailand.

areas, is exempt from any tourism and conservation-related economic benefit⁴⁵. The different sources and types of economic benefits derived from wildlife-based enterprises and conservation initiatives in the Swamps and Emeshenani are shown in Table 2.5. Three main sources include:

- 1) The KWS revenue-sharing program, which provides school bursaries to children of GR members around ANP;
- 2) Lease of GR land for tourism operations by non-GR members. This has provided employment, revenues from lease of land and bed night fees; and such offshoots as health care, school bursaries, building of schools and reservoirs, and wildlife damage compensation programs.
- 3) GR-owned or managed wildlife-based enterprises, such as game cropping, bird shooting, camping sites, and sales of natural resources (e.g. sand, firewood, gravel) to tour operators on GR land and lodges inside ANP (Roque de Pinho 2004).

These last two types of activities provide income to the GRs, which is managed and invested by the GR Committees. For instance, according to information volunteered by GR officials⁴⁶, the Imbirikani GR Committee has used these earnings to develop and maintain services and facilities for community use, such as schools, classrooms, reservoirs, boreholes, cattle crushes, roads and a maternity ward (cost: Ksh

⁴⁵ The use and sale of wild meat, which is locally *not* perceived as an economic benefit of wildlife, was not considered in this analysis. This will be the subject of future analysis and publication.

⁴⁶ J. Likampa, Treasurer, and J. Kitisia, Secretary, Imbirikani GR.

1,580,000.00; US\$ 24,159.00⁴⁷). Money has also been allocated to support community events, teachers' salaries, and GR Committee members' daily work activities. Finally, needy families were helped with health and food expenses.

In Olgulului-Lolarrash GR⁴⁸, these revenues have funded the survey and subdivision of the GRs arable portions, borehole rehabilitation, the building of two schools, and assistance to poor families. In addition, KWS has provided capacity building for the development of GR wildlife-based enterprises, as well as four boreholes^{49, 50}.

⁴⁷ Exchange rate on 11-19-07: 0.01529.

⁴⁸ L. Partimo, Treasurer, and J. Melompuki, Public Camp Site director, Olgulului-Lolarrash GR.

⁴⁹ S. M. Musyoki, Sr. Deputy Warden, Amboseli NP

⁵⁰ In addition to revenue-sharing through school bursaries, KWS has set up a Conflict Resolution Committee to address human-wildlife conflict around ANP, which is composed of volunteer GR members of Olgulului-Lolarrash, Eselenkei and Kimana GRs.

Table 2.5. Sources of and returns from wildlife-based economic activities in the study areas (2000-04).

<i>Study area</i>	<i>Sources of wildlife-based economic benefits</i>	<i>GR level benefits and/or returns from wildlife-based tourism and conservation initiatives</i>
Osilalei (Former Osilalei GR)	None	None
Swamps (Imbirikani GR)	KWS revenue-sharing program	School bursaries (Ksh 850,000.00/year; US\$ 12,792.00*)
	Lodges in ANP	Employment of GR members Returns from sales of natural resources, managed by the GR Committee
	Amboseli-Tsavo Game Scout Association	Employment of GR members (12 in 2002; Salaries: Ksh 5,000.00-7,000.00/month; US\$ 75.00 - 105.00*)
	Concession Area/Private tour operation and Maasailand Preservation Trust	School bursaries (30 secondary students in 2002) Employment of GR members Reforestation Project (provision of tree seedlings) Predator Compensation Program (cattle killed by lion paid Ksh 13,500.00 or USD 211.5*; shoats: Ksh 2,000.00 or USD 31.3*; donkeys: Ksh 6,000.00 or USD 94.00*) Returns managed by the GRC (2001: Ksh 1,978,037.00; US\$ 29,767.00*)
	Camping on GR land	Returns managed by the GR Committee (2002: Ksh 200,000.00; US\$3,058)
Game cropping[§]	Bird shooting	Employment of one GR member (guide) Returns managed by the GR Committee (2001: Ksh 615,726.00; 2002: Ksh 300,000.00; Resp. US\$ 9,266.00 & US\$ 4,515.00*)
		Returns managed by the GR Committee (2000: Ksh 800,000.00; 2001: Ksh 240,000.00; Resp. US\$ 12,039.00 & US\$ 3,612.00*)

*Exchange rate on 10-15-07: 0.01505.

§ Performed by an external company. An annual quota of zebra and wildebeest is shot, the meat and skin processed locally and the GR paid.

Table 2.5 (cont.). Sources of and returns from wildlife-based economic activities in the study areas (2000-04).

<i>Study area</i>	<i>Sources of wildlife-based economic benefits</i>	<i>GR level benefits and/or returns from wildlife-based tourism and conservation initiatives</i>
Emeshenani (Olgulului-Lolarrash GR)	KWS Revenue-sharing Program	Secondary school bursaries (Ksh 1,200,000.00/year in, 2002, 2003 and 2004; US\$ 18,060.00*)
	Lodges in ANP	Employment of GR members Returns from sales of natural resources, managed by GR Committee (2002: Ksh 30,000.00; US\$ 451.00*);
	Amboseli-Tsavo Game Scout Association	Employment of GR members (11 in 2002)
	Community-owned and managed camp site (Public Camp Site)	Employment of GR members Returns managed by GR Committee (2002, 2003: approx. Ksh 1,000,000.00; US\$ 15,050.00*; no data for 2004 yet)
	Wildlife Research Permission fees	Returns managed by GR Committee (2002: Ksh 60,000.00; US\$ 903.00*)
	"Cultural bomas"\$ initiated by KWS	Returns managed by local families
	Leasing of concession area to safari tour operators	Returns managed by GR Committee (Ksh 1,500,000.00/year; US\$ 22,573.00*)
	Lodge on private land within the GR	Employment of GR members Bed night fees to GR Committee Funding of community projects (schools, teachers' salaries, school material)
	Amboseli Trust for Elephants	Owners of livestock killed by elephants are paid a "consolation fee" (Ksh 15,000.00/cow; Ksh 5,000.00/shoat; Resp. USD 235.00 & 78.00*)

* Exchange rate on 10-15-07: 0.01505; \$ "Cultural bomas" are settlements open to visits by tourists, who pay an entrance fee and can buy crafts. Interestingly, there are no cultural bomas on Imbirikani GR. Because of "immoralities" allegedly taking place in them, opposition by local Christians prevented the development of a planned cultural boma in Isinet: "The Christians prayed hard. Instead of a cultural boma, they got a church" (Ilkishimu elder, Swamps).

Direct Benefits at the household level in the Swamps and Emeshenani

In addition to GR-wide benefits, such as schools and health facilities, which are available to all GR residents (including non-members), GR members' households also received direct benefits, which are shown in Table 2.6. These included: employment in wildlife-related activities (waiters and security guards at tourist lodges; research assistants), school bursaries (which avoid people selling cows to pay for school fees), selling produce or crafts to tourists and lodges, and financial help from their GR Committees (health bills payment; cash hand-outs).

Table 2.6. Wildlife-based economic benefits in Swamps and Emeshenani households. Numbers in parentheses are percentages. The Osilalei study area is not represented here because no economic benefit from wildlife is available locally.

<i>Wildlife-based economic benefits reported in the households</i>	<i>Study areas</i>			<i>Test statistics*</i>		
	<i>Total</i>	<i>Swamps</i>	<i>Emeshenani</i>	<i>χ^2</i>	<i>p</i>	<i>Cramer's V</i>
Informants who reported at least one benefit (n=129)	39 (30.2)	27 (42.2)	12 (18.5)	8.606	0.003	0.258
<i>Type of benefit reported</i>						
Employment (n=129) [§]	10 (7.8)	6 (9.4)	4 (6.2)	0.468	0.494	
Sales [¶] (n=127)	22 (17.3)	11 (17.2)	11 (16.9)	0.002	0.968	
School bursaries (n=127)	15 (11.8)	14 (21.9)	1 (1.6)	12.545	<0.001	0.314
Financial help (n=127)	13 (10.2)	10 (15.9)	3 (4.7)	4.323	0.038	0.184

[§]At least one household member employed

[¶] Sales of crafts, agricultural produce or natural products as a business or occasionally, to tourist or lodges.

*df = 1.

In total, 30.2% of the informants reported at least one of these benefits in their household. Mentioned by 17.3% of the informants, sales of crafts, produce or natural products was the most frequent economic benefit. This was followed by

receipt of school bursaries, (11.8% of the informants), and financial help (10.2%). Only 7.8% mentioned that at least one household member had a wildlife-related job.

Despite presenting comparable opportunities to benefit from wildlife, the study areas significantly differed in the numbers of people reporting benefits in their households. In Emeshenani, only 18.5% of the informants did so, as opposed to 42.2% in the Swamps. The same pattern emerges regarding school bursaries and financial assistance to GR members: In Emeshenani, with only 1.6% and 4.32 % of the informants reported these respective benefits, in contrast with the swamps (respectively 21.9% and 15.9%). On the other hand, both areas are not significantly different regarding employment and sales to tourists or lodges. Interestingly, these are the benefits whose reception is not mediated by the GR Committees. This suggests elite capture of wildlife-related funds in Olgulului-Lolarrash GR, an accusation that was repeatedly brought up in key and focus group interviews in both GRs. This possibility was investigated by asking informants whether they thought that GR members were equitably benefited by wildlife. Although the differences are not significant ($\chi^2=7.146$, $df=3$, $p>0.05$), fewer informants in Emeshenani (3.1%) than in the swamps (15.9%) considered that benefits were equitably distributed.

In the course of the interviews, a discrepancy between information provided by household heads and their dependants was noticed, with some informants failing to report benefits that were mentioned by the other informant in the same household. Indeed, although the differences are not significant ($\chi^2=2.042$, $df=1$, $p>0.05$), more household heads than dependents mentioned benefits (27.7% vs.

17.2%). This suggests that the results in Table 2.6 should be interpreted as awareness of benefits (or lack thereof) received in the household. It seems to show that household dependants are less aware than household heads of economic benefits from wildlife in their household. Qualitative data also reveal lack of knowledge regarding the origin of community-wide benefits provided through wildlife-related activities. For example, a mobile clinic, which was funded and implemented through a trust based at a tourist lodge on Imbirikani GR⁵¹, was variously associated with “AIDS only”, “politics”, and the particular American donor who was perceived as “owning” it, and not to wildlife and conservation. Recognition of the linkage between wildlife tourism and conservation and the provision of these services was not widespread among informants.

Imbirikani GR non-Maasai residents were entitled to community-wide services provided through wildlife, such as health facilities and schools, but were excluded from the household level benefits (school bursaries; financial help).

Human-wildlife conflicts and economic costs of wildlife

In total, 89.6% of the household heads reported having experienced at least one type of human-wildlife conflict. This happened in all the households in the swamps, in 81.8% of Emeshenani households and in 87.1% of Osilalei households, with a significant difference between the communities (Table 2.7).

⁵¹ Maasailand Preservation Trust, Oldoinyo Wuas Lodge, Imbirikani GR.

Table 2.7. Reports of occurrences of human-wildlife conflict by household heads and conflict levels across study areas. Numbers in parentheses are percentages.

<i>Human-wildlife conflicts in households (n=96)</i>	<i>Affected households</i>	<i>Study areas</i>			<i>Test statistics*</i>		
		<i>Swamps (n=32)</i>	<i>Emeshenani (n=33)</i>	<i>Osilalei (n=31)</i>	<i>χ^2</i>	<i>p</i>	<i>Cramer's V</i>
Reports of human-wildlife conflict	86 (89.6)	32 (100)	27 (81.8)	27 (87.1)	6.059	0.048	0.251
<i>Level of human-wildlife conflict</i>							
Low	24 (77.4)	23 (71.9)	24 (72.7)	24 (77.4)	0.291	0.865	
High	7 (22.6)	9 (28.1)	9 (27.3)	7 (22.6)			

*df =2.

Intensities of conflict across study areas were compared by assigning households a +1 score for each type of conflict reported. Households with scores from 0 to 2 were classified as low conflict level; households with scores from 3 to 5 were labeled as having a high conflict level. The mean score was 1.84 (Std. Dev: 1.127); most households (77.4%) showed a low level of conflict.

Table 2.8 reports incidences of livestock injured or killed by wild animals, crop damage and wildlife disease transmission within the year prior to the interview, as reported by the household heads. Since household heads were interviewed at different times, these figures do not reflect the level of conflict within a definite period of time.

Table 2.8. Household heads' Reports of occurrences of different types of human-wildlife conflicts. Numbers in parentheses are percentages.

<i>Human wildlife conflicts within the past year</i>	<i>Affected households</i>	<i>Study areas</i>			<i>Test statistics*</i>		
		<i>Swamps (n=32)</i>	<i>Emeshenani (n=33)</i>	<i>Osilalei (n=31)</i>	χ^2	<i>p</i>	<i>Cramer's V</i>
Livestock killed/injured (n=96)	47 (49.0)	13 (40.6)	18 (54.5)	16 (51.6)	1.389	0.499	
Crop damage (n=65) [§]	44 (67.7)	23 (85.2)	3 (27.3)	18 (66.7)	12.008	0.002	.430
Wildlife-disease transmission (n=96)	42 (43.8)	13 (40.6)	21 (63.6)	8 (25.8)	9.486	0.009	.314

[§] Only farming households (n=27 in the swamps; n=11 in Emeshenani; n=18 in Osilalei);

*df = 2.

Crop damage was the most frequently reported conflict (67.7%), among those households that were cultivating at the time of the interview (n=65). It was significantly more reported in the Swamps (85.2%) and Osilalei (66.7%) than in Emeshenani (27.3%). Among non-Maasai farmers, this was reported by 62.5% of the informants. Besides the danger involved in guarding crops against such dangerous animals as buffaloes and elephants (see Human-Wildlife Conflict Diaries, Appendix 2), crop damage can also be a major threat to household food security. One of our Kalesirua swamp informants showed us the massive damage caused by elephants the night before we interviewed him: the animals annihilated his ready-to-harvest maize crop, leaving his seven-member household depending on two cows only for food.

Killing or injuring of livestock by wildlife was reported by 49.0% of the household heads. This includes predation by carnivores, as well as livestock killed or injured by buffaloes and elephants. The differences across study areas are not

significant. But there is a trend, with reports of predation being more numerous in Emeshenani than in the Swamps and in Osilalei. The non-Maasai Swamps residents did not report any loss of livestock between Jan. 2002 and Jan. 2003, which is not surprising since they do not own cattle and small stock.

Forty three percent of the Maasai household heads reported losses of livestock to wildlife-transmitted diseases, mainly Malignant Catarrhal Fever, which is transmitted by wildebeests to cattle⁵². The problem was significantly higher in Emeshenani (63.6%), than in the Swamps (40.6%) and Osilalei (25.8%).

Household heads and dependants were also asked about casualties caused by wild animals in their families (household and/or extended family) (Table 2.9).

Table 2.9. Informants from families with wildlife-caused casualties. Numbers in parentheses are percentages.

<i>Human wildlife conflict</i>	<i>Informants with casualties in families (n=191)</i>	<i>Study areas</i>			<i>Test statistics*</i>		
		<i>Swamps (n=64)</i>	<i>Emeshenani (n=65)</i>	<i>Osilalei (n=62)</i>	<i>χ²</i>	<i>p</i>	<i>Cramer's V</i>
Family member injured (ever) (n=184 [§])	44 (23.9)	23 (40.4)	16 (24.6)	5 (8.1)	17.041	<0.001	0.304
Family member killed (ever) (n=181 [§])	20 (11.0)	10 (17.5)	9 (14.1)	1 (1.7)	8.411	0.015	0.216

[§]Question not asked of all informants (reasons discussed below)

*df = 2.

In total, 23.9% cited having had some family member injured by wildlife, at some point. Deaths were mentioned by only 11% of the informants. The study areas differed regarding these problems. Swamps' informants reported a higher number

⁵² In Maa: *Enkeeya oinkati* ("disease of wildebeests"); *oinkat* ("wildebeest"); *Emuyian oinkati* ("disease of wildebeest"); *Inkutukie oolcangit* ("mouths of the wild animals"); *enkeyiaa oolukuny* ("disease of the head"); MCF is believed by Maasai to be transmitted by the wildebeests' placenta. A common curse is *taduara anaa inkipa oinkat*: "be bitter like the afterbirth of the wildebeest".

of injuries (40.4%) and deaths (17.5%) caused by wild animals, mainly by elephant and buffalo crop raiders. Feelings towards these animals were intense: an elephant that had been wreaking havoc locally, and known for being “very destructive and very coward [sic]”, was baptized Osama⁵³. One strategy to defend the crops against raiders is to scare the animals away from the plots at night. In Kalesirua, which has no anti-wildlife electric fence, this puts guards, who are mainly non-Maasai, at great risk. However, surprisingly, among non-Maasai, only two informants (2.5%) mentioned injuries and no one mentioned any death. In Emeshenani, 24.6% of the informants mentioned injuries and 14.1% mentioned deaths. These mainly happened as a consequence of *olamayio* (lion hunt) and/or herding inside the park, which exposes herders to buffaloes, elephants and black rhinos (when they were present in the ecosystem⁵⁴). Only 8.1% of the Osilalei informants reported injuries, and only 1.7% reported deaths. It is important to note that not all the informants were asked about this topic: Maasai do not talk of dead people and it is offensive to ask. Below, I discuss this cultural aspect and how this biases investigation of wildlife-induced losses in Maasai communities.

These are not the only problems caused by wildlife. Two other important issues perceived by livestock herders are wildlife-livestock competition for grass and for water. However, because these impacts are not quantifiable with interview

⁵³ As in Osama bin Laden. See also Human-Wildlife Conflict Diary, Kalesirua (Appendix 2).

⁵⁴ Black rhinoceroses were locally driven to extinction in the late 90's by poaching and Maasai protest spearing (as a consequence of ANP's creation) (see Western 1972; Croze et al 2006). However, a small population has recently been shown to survive in the Chyulu Hills, on Imbirikani GR (Interview data; Anonymous 2003).

data and because every household suffers from them on a more or less continuous basis, they were not considered here (See Appendix 4).

These data represent perceptions of conflicts and costs, which were not cross-checked with observational data. In order to contextualize human-wildlife conflict relative to other problems, informants were asked at the beginning of the interview to list the challenges encountered by their households at the time of the interview. Wild animals, as a source of problems, were spontaneously mentioned by only 13.8% of the informants, thus coming fifth after drought (cited by 41.8%), diseases of people and livestock (39.2%), lack of water (27.0%) and “no problem” (25.4%).

Below, I characterize and quantify attitudes towards wildlife across and within the three study areas.

Characterization and comparison of attitudes towards wildlife

To determine and analyze attitudes towards wildlife, as mentioned above, a post-hoc attitude scale was devised from the responses of the sub-set of 113 informants who answered the five questions (items) that make up the scale. The scale's Cronbach's alpha value of 0.72 shows that it is internally consistent and reliable (See Appendix 5). Responses to each of the five items and related scores (from 0 to 2) are summarized in Table 2.10.

Table 2.10. Five-item attitude scale. Numbers in parentheses are percentages.

<i>Attitude Scale Items</i>	<i>Answers and Scores</i>	<i>Responses (n=113)</i>		
		<i>Frequency</i>	<i>Mean score</i>	<i>Std. Dev.</i>
1. Are wild animals part of a "good" land or part of a "bad" land?	Good (+2)	45 (39.8)	0.80	0.983
	Bad (+0)	68 (60.2)		
2. Do you think wild animals have the same right as people and livestock to live in this area?	Yes (+2)	77 (68.1)	1.05	0.953
	No (+0)	36 (31.9)		
3. Is it a good or a bad thing that the government has made killing wild animals illegal?*	Good (+2)	54 (47.8)	1.36	0.936
	I don't care (+1)	1 (0.9)		
	I don't know (+1)	9 (8.0)		
	Bad (+0)	49 (43.4)		
4. How do the good things of wild animals compare to their bad things?	Good things more than bad things (+2)	25 (22.1)	0.57	0.833
	Good things as many as bad things (+1)	12 (10.6)		
	I don't know (+1)	2 (1.8)		
	Bad things more than good things (+0)	74 (65.5)		
5. How do you feel about "staying together" with wild animals?	I like (+2)	51 (45.1)	1.16	0.882
	I don't know (+1)	1 (0.9)		
	I don't care (+1)	9 (8.0)		
	I both like and dislike (+1)	11 (9.7)		
	I don't like (+0)	41 (36.3)		

* Question developed by Kangwana (1993).

The mean score on the scale from 0 to 10 is 4.94 (Std. Dev.: 3.146). The attitudinal characterization of the 113 informants was then extrapolated to the remaining informants, after running a Pearsons' correlation between the classification based on the scores on the attitude scale (n=113) and the subjective classification of the 113 informants. The ad-hoc classification results correlate strongly with the subjective classification ($r = 0.769$, $p < 0.001$), which allows for inclusion of the subjectively classified informants in the subsequent analyses

(Vaske⁵⁵, pers. com). The association between attitude types and independent variables was analyzed using Pearson's Chi-square tests and Cramer's *V*.

To use human-wildlife conflict, which is a possible driver of attitudes towards wildlife, as an independent variable in the subsequent analyses, informants were categorized as coming from households with low or high level of conflict and each dependant was classified as having the same level of conflict as the one determined for the household⁵⁶, as based on household heads' interviews.

Table 2.11 shows the distribution of attitudes towards wildlife across groups with different socioeconomic and demographic characteristics. Overall, informants with positive attitudes predominate (44.4%). Negative attitudes are 36.0%, and neutral or undecided represent 19.6% of the sample.

The study areas differed significantly in terms of dominant attitudes towards wildlife, which are polarized between the Swamps and Osilalei. Almost 55.0% of the Swamps' informants were positive towards wildlife, while 50.8% in Osilalei were negative. In Emeshenani, distribution of attitudes is more balanced: 23.4% of the informants harbored negative attitudes, 32.8% were neutral/undecided and 43.8% positive.

Unexpectedly, attitudes were not associated with wildlife-related economic benefits and level of human-wildlife conflict in the households. Attitudes were also

⁵⁵ Dr. J. Vaske, Dep. of Human Dimensions of Natural Resources, Colorado State University, Fort Collins.

⁵⁶ Dependants were not asked about the direct costs of wildlife due to human-wildlife conflicts. However, in contrast with knowledge of benefits, it was clear that human-wildlife conflicts were events most household members were aware of. Indeed, as I discussed below, some dependants even mentioned costs that the household heads did not refer to.

Table 2.11. Attitudes towards wildlife and associated socio-economic and demographic variables. Numbers in parentheses represent percentages. *: Swamps and Emeshenani only

Factors	Attitude type (n=189)			Test statistics		
	Negative (n=68; 36.0%)	Neutral/undecided (n=37; 19.6%)	Positive (n=84; 44.4%)	χ^2	df	Cramer's V
Study area						
Swamps (n=64)	22 (34.4)	7 (10.9)	35 (54.7)	18.365	4	0.001
Emeshenani (n=64)	15 (23.4)	21 (32.8)	28 (43.8)			
Osilalei (n=61)	31 (50.8)	9 (14.8)	21 (34.4)			
Household economically benefited by wildlife*						
Yes (n=44)	11 (25.0)	8 (18.2)	25 (56.8)	3.954	2	0.138
No (n=145)	57 (39.3)	29 (20.0)	59 (40.7)			
Households affected by human-wildlife conflict						
Low level of conflict (n=148)	55 (37.2)	28 (18.9)	65 (43.9)	0.459	2	0.795
High level of conflict (n=41)	13 (31.7)	9 (22.0)	19 (46.3)			
Land tenure						
Group Ranch (n=128)	37 (28.9)	28 (21.9)	63 (49.2)	8.618	2	0.013
Private Ranch (n=61)	31 (50.8)	9 (14.8)	21 (34.4)			0.214
Land use						
Livestock only (n=57)	16 (28.1)	16 (28.1)	25 (43.9)	4.432	2	0.109
Livestock + cultivation (n=132)	52 (39.4)	21 (15.9)	59 (44.7)			

Table 2.11 (cont.). Attitudes and associated socio-economic and demographic variables.

Factors		Attitude type (n=189)		Test statistics				
		Negative (n=68; 36.0%)	Neutral/undecided (n=37; 19.6%)	Positive (n=84; 44.4%)	χ^2	df	p	Cramer's V
Wealth								
	Poor (n=94)	37 (39.4)	17 (18.1)	40 (42.6)	1.197	4	0.879	
	Medium (n=43)	13 (30.2)	9 (20.9)	21 (48.8)				
Education								
	Uneducated (n=161)	62 (38.5)	35 (21.7)	64 (39.8)	9.915	2	0.007	0.229
	Educated (n=28)	6 (21.4)	2 (7.1)	20 (71.4)				
Religious affiliation								
	Traditional (n=74)	36 (48.6)	15 (20.3)	23 (31.1)	10.343	2	0.006	0.234
	Christian (n=115)	32 (27.8)	22 (19.1)	61 (53.0)				
Age category								
	Young (n=125)	41 (32.8)	25 (20.0)	59 (47.2)	1.732	2	0.421	
	Old (n=61)	26 (42.6)	10 (16.4)	25 (41.0)				
Gender								
	Male (n=108)	40 (37.0)	13 (12.0)	55 (50.9)	9.778	2	0.008	.227
	Female (n=81)	28 (41.2)	24 (64.9)	29 (35.8)				

independent of land use type, wealth and age. As predicted, however, attitudes were significantly associated with land tenure: there were more positive informants among GR residents than among residents of Osilalei private ranches. Education is another factor with a positive effect on attitudes. Finally, there were also significantly more positive males and positive Christians than there were positive women and positive Maasai who practice the traditional religion.

A possible reason for women's negative attitudes towards wildlife is lack of knowledge of economic benefits. Another explanation could be their fear of wild animals. Both possibilities were investigated. The association between report of benefits in the household and gender was significant: fewer women (17.9%) than men (39.7%) reported benefits in their households ($\chi^2=7.185$, $df=1$, $p<0.01$, $V=0.236$). There are, however, significant differences across study areas: more women in the Swamps than in Emeshenani knew about those benefits (27.6% vs. 7.4%) ($\chi^2=3.881$, $df=1$, $p<0.05$). To the question "Are there wildlife species that you fear?" more women (97.5%) than men (88.0%) answered that they feared at least one wild animal species ($\chi^2=5.693$, $df=1$, $p<0.05$, $V=0.174$). So, in general, women were simultaneously more fearful of wild animals and less aware than men of economic benefits of wildlife.

Predictors of attitudes towards wildlife

In this section, I used multinomial logistic regression to identify predictors of attitudes towards wildlife. The influence of factors identified with χ^2 tests is confirmed. Three of the hypothesized predictors – religion, gender and land tenure – are significant contributors to the regression model (Likelihood ratio tests: Religion,

$\chi^2=13.281$, $p<0.001$; Gender, $\chi^2=13.735$, $p<0.001$; Land tenure, $\chi^2=7.133$; $p=0.028$).

The individual contribution of each predictor is quantified in the parameter estimates table below (Table 2.12).

Table 2.12. Multinomial regression model of the relationship between attitudes towards wildlife and socioeconomic and demographic variables (n=189). β = regression coefficient, SE = standard error, Wald = Wald statistic, p = significance, $\text{Exp}(\beta)$ = odds ratio; df=1.

<i>Attitude type*</i>	<i>Parameter Estimates</i>						
	<i>Variable</i>	β	<i>SE</i>	<i>Wald</i>	<i>p</i>	<i>Exp(β)</i> (odds ratios)	<i>95% Confidence Interval</i>
Neutral/undecided	Intercept	-0.878	0.528	2.763	0.096		
	Religion (Christian)	0.152	0.453	0.113	0.737	1.164	0.480 - 2.827
	Gender (Male)	-0.887	0.456	3.773	0.052	0.412	0.168 - 1.008
	Land tenure (Communal)	0.920	0.461	3.988	0.046	2.509	1.017 - 6.189
Positive	Intercept	-1.539	0.475	10.475	0.001		
	Religion (Christian)	1.264	0.377	11.229	0.001	3.540	1.690 - 7.415
	Gender (Male)	0.700	0.377	3.445	0.063	2.013	0.962 - 4.213
	Land tenure (Communal)	0.855	0.363	5.540	0.019	2.351	1.154 - 4.790

*The reference group is "negative".

When comparing neutral/undecided attitudes with the reference group (negative attitudes), only land tenure is a significant predictor. Thus, according to the model, being a GR resident increases the odds of holding neutral/undecided attitudes towards wildlife by 2.509, as compared to residents of private ranches.

Land tenure is also a predictor of positive attitudes: again, being a resident of a group ranch increases the odds of being positive (by 2.351). However, contrary to expectations, being a Christian, rather than following the Maasai traditional religion,

increases the odds of a person being positive by 3.540. Note that in the parameter estimates table above, the individual contribution of gender on positive attitudes and on neutral attitudes is not significant, although it is close to significance. However, taken together, the overall gender effect is significant (Likelihood ratio test: $p < 0.001$). Thus, being a man rather than a woman increases the odds of holding positive and neutral attitudes relative to negative attitudes.

Being Christian thus appears as the strongest predictor of positive attitudes relative to negative attitudes towards wildlife, followed by living on communal land and being a man. The regression coefficients were used to convert some of the odds to probabilities⁵⁷. Accordingly, there is a 78.0% probability for a male Christian from a GR to hold positive attitudes towards wildlife. In contrast, there is only a 17.6% probability for a traditional Maasai woman living on a private ranch to be positive. The regression analysis shows real, statistically significant effects of the predictors. However, a substantial proportion of variation remains unexplained by the model (Pseudo R-square Nagelkerke = 0.175; Overall percentage of correctly classified predicted to observed results: 51.9%) (See Appendix 6).

Conflict between Amboseli National Park and the Emeshenani community

In this section, I more closely examine how Emeshenani residents, who live on the edge of ANP and whose livelihoods have been constrained by park policy, feel

⁵⁷ $\text{Log} [p/(1-p)] = \exp (\beta_0 + \beta_1 x) / [1 + \exp (\beta_0 + \beta_1 x)]$

about the park. Tense relationships between protected areas, their management and the human communities living around them have been identified as sources of negative attitudes towards conservation and wildlife. In Emeshenani, many community members have used and lived in the Oltukai area⁵⁸ inside what is now ANP, using it for dry season grazing, water and settlement before the park's establishment in 1974. Indeed, 60.0% of the 50 informants who were old enough to be asked the question have used and lived at Oltukai. Upon the park's creation, these swamps became off-limits for Maasai settlement and grazing. As compensation, a water supply system, with pipelines and water tanks, was implemented to bring water to the arid areas around the park to which people and livestock were relegated. However, it has worked poorly, if at all at times (Western 1994).

In general (n=64), 70.3% of the Emeshenani informants held negative attitudes towards the park. There were significantly more "old" informants who were negative (94.4%) than "young" (60.9%) ($\chi^2=7.080$; df=2; $p<0.05$; $V=0.333$), as well as more negative men (81.6%) than negative women (51.9%) ($\chi^2=8.264$; df=2; $p<0.05$; $V=0.357$). Asked whether "ANP has good things", only 12.3% of the informants (n=65) thought so. Among these, five people mentioned employment; two mentioned the water tanks and one mentioned being able to use the park for grazing⁵⁹. All but one of these answers came from "young" informants. For 64.6% of the informants, ANP provided "nothing good" and 21.5% had no opinion. Asked about ANP's "bad things", only 7.7% of the informants thought that ANP had no bad

⁵⁸ In the three study areas, Amboseli NP is still known by most informants as "Oltukai", the Maasai name of the *Phoenix reclinata* palm tree, abundant in that area of the park.

⁵⁹ In recognition of the malfunction of the water supply system, at the time of fieldwork, cattle were allowed inside the park, for "water only".

things. Among the informants who cited bad things (70.3%), the most frequently mentioned one was the prohibition on grazing inside the park (35.55%), which, when not respected, leads to cows being chased out of the park and young herders being harassed by game rangers (28.8%) (pers. obs., Nov. 2002; interview data). Lack of “the promised water” outside of the park was mentioned by 28.8% of the informants; finally, 6.6% perceived the park as benefiting only a few people (government; staff; tourists):

It's only benefiting the people inside, the *ilashumpa*⁶⁰. But here we are really suffering. When we were living there, no cows and no shoats were dying. Especially, it's old people who were staying there. Cows were coming here [Emeshenani] when it rained (Iseuri elder).

Some authors (e.g. Akama 1995; Holmes 2003; Infield & Namara 2001; Kangwana 1993; Newmark et al 1993) have inferred attitudes towards protected areas by asking whether people wished to see a protected area abolished. Here, similarly, I asked informants whether they would like to see ANP used for other activities, instead of tourism and conservation. Contradicting the previous negative answers, as many as 52.5% of the informants were opposed to the idea of converting the park to a land for cultivation and grazing, and 16.9% had no opinion.

The reasons for not wanting to see the park used for those other activities include perceptions that “It is too late/impossible to undo what has been done”, and “The Park has been sold and the money spent”. Others mentioned that fellow community members are economically benefiting from it. Finally, some informants thought that the park's main land use should remain tourism and wildlife

⁶⁰ *Olashumpai*, pl.*ilashumpa*: white people; educated people.

conservation on the condition that it becomes managed by the Maasai and/or that more money flows from it to the community.

In Emeshenani, negative attitudes towards the park appear to influence attitudes towards wildlife in general. After collapsing the “negative” and “neutral/undecided” categories in order to obtain sufficient counts for analysis, cross-tabulating attitudes towards the park and attitudes towards wildlife shows that they are not independent: 61.0% of the people who were negative/neutral towards the park now were also negative/neutral towards wildlife in general ($\chi^2=6.973$; $df=1$; $p<0.01$; $V=0.330$).

DISCUSSION

In this chapter, I 1) explored perceived costs and benefits of wildlife at the household level, by focusing on human-wildlife conflict and direct economic benefits, 2) characterized attitudes towards wildlife and their distribution, and 3) examined how these and socioeconomic and demographic variables influence attitudes towards wildlife.

Most informants (44.4%) were positive towards wildlife, 36.0% were negative and 19.6% of them were neutral or undecided. This happens despite a high degree of friction between humans and wildlife that results from competition over resources between wildlife, herding and farming. These conflicts have intensified in the past 30 years (Campbell et al 2003). In the early 1990's, working in the area immediately around ANP (in Olgulului-Lolarrash and Kimana GRs), Kangwana

(1993) found similar proportions: 67.4% of her informants were positive and 32.6% of them were negative.

The statistical portion of this study shows no evidence that human-wildlife conflict affects attitudes towards wildlife in the study area. Unexpectedly, neither do household's land use, economic benefits from wildlife, wealth, and age. Land tenure, gender and religion are the socioeconomic and demographic variables that emerged as predictors of attitudes towards wildlife. Below, I discuss why these factors do or do not influence attitudes towards wildlife.

Economic benefits of wildlife and attitudes towards wildlife

In contrast with a tenet of the community-based conservation paradigm, in this study wildlife-related economic benefits in the households were found to have no influence on attitudes. However counter-intuitive, this situation has been reported elsewhere (e.g. Gillingham & Lee 1999; Parry & Campbell 1992; Romañach et al 2007). In addition, BurnSilver (2007) showed that, in this area, wildlife-based economic activities have not significantly contributed to improving livelihoods and economic well-being. This could explain why I could not detect any effect of economic benefits of wildlife on attitudes towards wildlife.

The positive influence of benefits on attitudes towards wildlife has, however, been described in other areas of Maasailand, namely around Nairobi NP (Ole Nkedianye 2003) and Amboseli NP (Kangwana 1993). However, as shown above, the data in this study really seem to reflect awareness of benefits rather than actual receipt of benefits. Both this and the knowledge of the origin in wildlife-related

activities of those benefits is low in the population. This is especially the case among women. One reason for this could be women's "traditionally" domestic role⁶¹. This is suggested by the fact that Swamps' women were found to be more knowledgeable than women of the other areas: they are heavily involved in self-help and church groups. Arguably this gives them more exposure to information on wildlife-based activities and benefits thereof. Another confounding factor could be that Swamps informants mentioned benefits that they erroneously associated in their minds with wildlife, such as school bursaries, which were also provided by Christian and development NGO's, as well as by a private lodge on the GR.

An additional reason for relatively few people mentioning benefits at the household level could also be an actual lack of receipt of benefits because these are misappropriated. As we saw, a frequent complaint was that only a few community members (i.e., the GR Committee members) were "eating the money from wild animals by themselves or to help their friends". This was more reported in Emeshenani than in the Swamps, and is a situation that was already suggested by the fact that Emeshenani people received less of those benefits whose distribution is mediated by the GR Committee. The elite capture problem is possibly exacerbated by the attitude of outside tour operators who "[I] do not feel the responsibility to ensure that the money reaches all the individuals in the GR" (pers. com., private tour operator), despite their awareness of the problem. Real or perceived inequitable distribution of benefits is an issue that was already identified by Western (1994),

⁶¹ Note that Hodgson (1999a; 2000a) argues that Maasai women's status as subordinate, powerless, "irresponsible" and "unreliable" beings and their relegation to the domestic realm, away from public life, is not "traditional". Rather, it results from colonial state formation and monetarization of the Maasai economy.

Campbell et al (2000), Kellert et al (2000) and BurnSilver (2007) in the area. This results in mistrust by the communities towards their leaders and also in an increased desire to subdivide the GRs:

These leaders are the only ones eating all the money from the wild animals. We don't even get one cent. After subdivision, the wild animals on my ranch will be mine (Iseuri elder, Swamps).

The strength of Emeshenani community's feelings regarding the perceived embezzlement of community benefits by their GR Committee was strongly conveyed in interviews, as well as dramatically expressed by local *ilmurran*, who burned down a developing tourist operation. This was instigated by the elders as retaliation for the GRC renting out GR land without community approval and not sharing that income⁶². Thus, distribution of economic benefits of wildlife is an issue with sometimes grave consequences. Another illustration of such strong emotions, felt when access to necessary natural resources is lost, and ensuing intra-community conflict over distribution of tourism benefits is illustrated by the circumstances of the deaths of the Kimana GR chairman and several of his family members. Allegedly, these were consequences of their being cursed by the senior elders, the women and the cows⁶³, for the chairman's giving away part of the swamp for establishing the Kimana Wildlife Sanctuary (created in 1996). A similar fate is said to have been encountered by Stanley Oloitiptip in 1985, then Assistant Minister of Health in the Kenyatta Government (1964-78), and a mediator between the community and the government in the negotiations over the future Amboseli NP. He is perceived as

⁶² This lodge was located near the Iremito gate of ANP. This incident was cited by several informants (see also Emeshenani Human-Wildlife Conflict Diary, Appendix 2). However, I was not able to find out what exactly happened, who owned the lodge etc.

⁶³ Looking at the Sanctuary, the cows were observed turning their mouths towards the swamp and making a "special sound": "the sound of the hunger of a cow" (Ilanyankusi elder, Swamps).

having cheated the local Maasai into having them sign off the swamps that became part of the park. So, “He was killed by eating soil [...], cursed by the senior elders” (Iseuri elder, Swamps) (See “Cheating Narratives”, Appendix 7). These dramatic reactions and perceptions reflect the potential for tourism to fuel conflict within a community, in turn potentially harming tourism and conservation initiatives themselves.

Another issue related to inequitable distribution of economic benefits concerns the situation of the growing population of non-Maasai land users in the swamps. Although they are welcome in the facilities and services which are provided through wildlife-based revenue⁶⁴, they are not entitled to the direct benefits (e.g. school bursaries; financial help)⁶⁵, while their positions as mostly share-croppers and *shamba* guards put them at the forefront of wildlife attacks. I would support Campbell’s et al (2003) contention that there is a lack of appreciation by the several entities providing and/or managing wildlife-based revenue for the increasing diversity of livelihoods and cultures in the GAE. This has obvious implications for human-wildlife interactions: for instance, some non-Maasai ethnic groups in the swamps are renowned for their use of bushmeat and were locally

⁶⁴ The same seems to apply to members of other GRs. I once transported sick members of a family from Olgulului-Lolarrash GR to the Mobile Clinic in Imbirikani GR, where they were attended even though they were not members of Imbirikani GR. When I expressed my surprise at this fact, the several Imbirikani GR members who were in the car thought it perfectly fine that these non-members should be treated there. This reflects traditional Maasai values of solidarity, cooperation and reciprocity, which have expressed themselves, for example, through sharing of grazing across sections and, nowadays, across GR boundaries, in times of need.

⁶⁵ This rule is flexible for Maasai non-members. One of the Namelok elders we interviewed was officially a member of Eselenkei GR. However, being extremely poor, his family had been financially helped by Imbirikani GR Committee.

accused of poaching⁶⁶. Studying non-Maasai attitudes towards wildlife was out of the scope of this study, but would constitute a step towards addressing the concern that non-Maasai have not been considered as stakeholders in wildlife-related issues in the GAE (Campbell et al 2003).

Finally, another possible confounding factor is the fact that, even if not directly benefited by wildlife, some people might be satisfied with community-wide benefits and/or with the fact that at least some community members are benefited:

I support [ANP] the way it is now [...] because there are some people who are eating that money from wild animals and so I also want these people to have something to eat just like we are also eating from our cows (Ilkimunyak elder, Emeshenani).

This fuels expectations that more people might, in turn, benefit in the future (even if not legitimately):

The only people benefiting from wild animals are the [GR] chairman and the GR Committee. These ones are really benefiting: people come and kill [wild animals] and they get at least Ksh 1,000,000 every year⁶⁷. But us we don't get that money. That's why we want to substitute them, so that the new GR Committee members also eat. So, by changing them, more people will eat that money (Iseuri elder, Swamps).

Kangwana (1993) found that knowledge of benefits enjoyed by other members of the community was one factor explaining attitudes. Expectations of future economic benefits also explained positive attitudes in Udaya Sekhar (2003) and Wang et al (2006). A related problem is that, as acknowledged by, e.g., Abbott & Thomas (2001), Ali (2006) and Udaya Sekhar (2003), if not fulfilled, such

⁶⁶ For example: "Let me assure you that *Ilmeek* (non-Maasai) eat a lot of everything. They only don't eat humans and donkeys" (Ilkishimu elder, Swamps feedback workshop, Kalesirua, July 2004).

⁶⁷ He is mentioning the game cropping operations conducted yearly on Imbirikani GR by an external company.

expectations do not sustain positive attitudes in the long term and may even contribute to a worsening of attitudes (Romañach et al 2007).

Thus, the combined problems of financial mismanagement by GR leaders (whether real or perceived is difficult to determine) and lack of awareness of and/or confusion over the origin of benefits in the population make it difficult to test the hypothesis that positive attitudes towards wildlife are linked to the provision of economic benefits from wildlife.

Human-wildlife conflict and attitudes towards wildlife

Next, I compared types and levels of conflicts with wildlife across study areas and explored their influence on attitudes towards wildlife. As expected, because there are ecological and land use differences across the study areas, there were also geographic differences in types and level of conflicts with wild animals. Campbell et al (2003) compared human-wildlife conflict data from 1977 and 1996 in the GAE and found that human-wildlife conflict had intensified within that period, accompanying changes in land use: in 1996, conflict with wild animals was strongest in the swamps settled for cultivation, a finding that is confirmed here. However, it is also in this area that attitudes are the most positive.

This study does not show the association between human-wildlife conflict and attitudes that has been demonstrated in other settings (e.g. De Boer & Baquete 1998; Wang et al 2006).

A possible confounding effect here is that some factors interfere with the assessment of costs of wildlife from interview data. For example, there is a well

described tendency for informants to over-report losses. This was obvious with only a few informants in this study and usually happens either because of inflated perceptions of conflict (e.g. Aboud 1989; Gillingham & Lee 2003; Hazzah 2006) or from seeking to influence wildlife management interventions (Gillingham & Lee 2003). Quantifying the economic impact of wildlife on households in one of the focal GRs (Imbirikani GR), Mizutani et al (2005) found that predators were often blamed for the disappearance of livestock that had actually gotten lost. They also found that wildlife-induced losses of livestock (due to predation, wildlife-transmitted disease) were negligible when compared with other causes of losses, such as non-wildlife diseases. This is comparable to this study's and Hazzah's (2006) findings that wildlife-caused problems were not perceived as the main problem by most informants, when compared to drought and human and livestock health issues.

Rather counter-intuitively, however, the major problem here appears to be *under-reporting* of losses. For example, in Emeshenani, although more than a third of the households were agropastoralist, a disproportionately small number of household heads reported crop damage. This could be attributed to a lack of awareness of crop damage in their very distant plots, as these are tended by family members or share-croppers.

The under-reporting problem also applied to losses of cattle and human lives, and this reflects intrinsic aspects of Maasai culture. This issue was most dramatically illustrated by the strong reactions of informants of older age-sets to my questions on wildlife-induced human deaths and injuries in their families. This has, on occasion, disrupted friendly interviews:

Cases of deaths are exceptional! We don't even want to mention them, so don't ask about them. It is rude and I really don't want to answer these questions. (Ilkishimu elder, Osilalei)

Yes, of course, it has happened. But I cannot mention it! (Iseuri elder, Swamps)

Such experiences led me to avoid asking these questions in ten interviews, where I felt they might have been especially unwelcome because of the age of the informant. In other cases, it appeared that the informants simply answered “no” to the question. Subsequent triangulation of information revealed that those people had lost loved ones. A clear instance is this exchange, with a friendly informant with whom I felt at ease to probe, later on:

JRP: Your son mentioned a brother of yours who was killed by a lion at *olamayio* (lion hunt)...”

Iseuri elder: “It is true. But I was trying not to remind myself of that accident... It always hurts me when I remember! Yes, it is true that my beloved brother was killed by that terrible animal (*engues torrono*) (Swamps).

In a heart wrenching episode, I interviewed an Emeshenani elder who had recently lost a young wife, the mother of an infant. She had been killed by an elephant while walking in the bush during the day and her story had been told to us by other, shocked, informants⁶⁸. The husband merely mentioned the loss of a wife, without volunteering details and I did not ask for them. In contrast to other people, he did not try to exploit the event by complaining about inadequate economic compensation by KWS. Indeed, in Maasai culture, a dead person's name is never to be mentioned again, especially in the case of young people.

⁶⁸ Elephants have been responsible for several fatal incidents around ANP during my time in the field. The general perception is that their population has increased and that they have become “more aggressive”, killing people and cows. There seems to be a worsening of attitudes towards elephants since Kangwana's (1993) study.

Another source of non-disclosure of wildlife attacks involves the feeling of shame, which reveals the significance of symbolism in human-wildlife interactions (see Knight 2000 and contributors). I let this episode told by one informant, whose protagonist is an elder we had previously interviewed, speak for itself:

Iseuri elder: Hyenas are really becoming so bad: one hyena attacked another guy, a Iseuri called Lemanka⁶⁹.

JRP (to RS⁷⁰): Isn't this the *mzee*⁷¹ we interviewed the other day? He didn't talk of that...

RS: Yes, but it is a bit shameful to say that you were bitten by a hyena. It's very ridiculous!

Iseuri elder: The hyena really wanted to eat him. He just had his club (*rungu*) and he beat the hyena with it on the face. He did not have his spear. He kept on beating until his arm was really tired so he really thought the hyena was going to finish him. He didn't want to scream because this was just a hyena and it is very shameful for a *mzee* to scream for [because of] a hyena. Finally, the hyena also became weak and he was able to escape⁷².

I did not anticipate to find such few reports of human casualties from non-Maasai who live and work in the Kalesirua irrigated area, considering the intensity of conflict there and their vulnerability to wildlife attacks, as shamba guards⁷³. This could result from their precarious status (illegal immigrants; lack of land ownership), which possibly makes them hesitant to share incidents that would attract attention to them⁷⁴.

⁶⁹ All names are changed.

⁷⁰ RS: Richard ole Supeet, research assistant.

⁷¹ *Mzee*, pl. *wazee*: old man (Swahili); Used in the Maasai context, it is equivalent to *olpayian*, pl. *ilpayiani*: elder, husband.

⁷² Also, cases of hyenas attacking people (perceived as rare but on the increase), are believed to result from elders' curses, especially from Ilaatasero sub-clan members.

⁷³ This was dramatically expressed by an incident that involved elephants and two Tanzanian brothers. As one of our informants was showing us how much of his shamba had been destroyed by elephants, he became extremely distressed when he saw elephants coming out of the Kimana Wildlife Sanctuary, in the direction of the shambas. He predicted that they would be there that night. The following day, we heard that, indeed, that very night, a Tanzanian sharecropper had been killed by an elephant and that his brother, who had later returned to his house to collect his belongings, had been badly injured too by the same elephants.

⁷⁴ See non-Maasai Survey Reports, Appendix 8: some respondents expressed suspicion and even fear at my research assistant's, Simayo, questions, as some of them associating her with KWS in their minds.

Among Maasai, the selective memory regarding or unwillingness to talk about human casualties also appeared concerning the question of losses of cattle to wildlife. This is not surprising, considering the affective dimension of people's relationship with their cows. In several cases, "never!" was the answer. Probing, however, elicited information on losses that were, in some cases, recent and substantial. In other cases, dependants mentioned recent losses of cattle and small stock that had not been mentioned by the household head. Finally, some simply refused to answer the question: "Now that [the cow] was eaten by lion, I don't want to talk about it because what should I say about it?" (Woman, Osilalei). Once again, the explanation is to be found in the pain of recalling such losses: "You're reminding me of my lost cows. I had recovered from my pain, but now I am being reminded of it" (Illyankusi elder, Emeshenani).

For all these reasons, it is difficult to objectively assess actual costs of wildlife. According to Gillingham & Lee (2003), because a mismatch between perceived and real costs is common, understanding the nature and costs of human-wildlife conflict requires the assessment of both perceived and actual dimensions of the problem. The latter should be done through collection of observational data, which was not done here. On the other hand, it has also been argued that, because of the influence of perceptions on attitudes and actions, perceived costs of wildlife are an equally important factor in shaping attitudes towards conservation (Gillingham & Lee 2003).

An additional limitation is that the measure of conflict with wildlife and the associated losses adopted in this study is a coarse one. A more realistic estimate of

conflict should involve the simultaneous consideration of other dimensions of conflict, such as the frequency of conflict and the degree of psychological pain associated with each type of loss⁷⁵.

Also, there are cultural and intangible dimensions to human-wildlife conflict. For pastoralists like the Maasai, the value of a cow goes well beyond its economic utility (Abbink 2006; Evans-Pritchard 1940; Hutchinson 1992; 1996). Cows are, for example, considered to be more or less beautiful (e.g. Coote 1992; Evans-Pritchard 1940; Infield et al 2003), and to vary in their personalities. Each cow has a name that reflects, for instance, its genealogy or the circumstances in which the cow was obtained⁷⁶. When exchanged between stock associates and friends, they form ties of friendship and love, and allow marriages to happen. Known individually, no matter how big the herd, they are never counted by their owners (neither are children counted by their parents), under the risk of bringing misfortune to the family⁷⁷. This is one reason why it is extremely difficult to obtain information on livestock numbers: people refuse to tell, lie or genuinely do not know⁷⁸. These are cultural and subtle dimensions that are not easily integrated in conservation projects that rely on economic valuation of wildlife. In recognition of this, the Amboseli Trust for Elephants called their program, whereby owners of cows killed by elephants are

⁷⁵ These data were collected but not entered and analyzed.

⁷⁶ For instance, cows that *ilmurran* bring back home from cattle raids can be named according to that *enjore* (cattle raid) or for things that happened during that *enjore*. The name will then be transmitted to the offsprings of those particular cows. For example, a cow can be named Pukoret from *apukoo* (to be hungry) to reflect that the moran was hungry for a few days during that cattle raid. Then, the sons and grand-sons of that moran will know that the cow called Nepukoret is a child of that particular cow.

⁷⁷ Acknowledging how “rich” one is in cows and children by counting them attracts jealousy and even hatred. These feelings escape the control of the person holding them and harm the objects of the jealousy.

⁷⁸ “Uncountable!” was a common answer to this question.

awarded compensation money, a “consolation” program (C. Moss⁷⁹, pers. com.) rather than a compensation program: some cows just cannot be replaced with money. Despite Maasai society’s increasing integration in the market economy, such feelings are extremely strong.

In general, consideration of non-economic dimensions of human-wildlife conflicts has been missing from studies of attitudes towards wildlife in conservation biology. Structured questionnaires and attitudinal scales do not capture these nuances well. Thus, social science has an important role to play. Anthropologists and geographers have, indeed, highlighted the highly social, symbolic and political dimensions of human-wildlife conflict (e.g. Knight 1999; 2000; Knight 2003; McGregor 2004). In some cases, these studies have been able to explain unexpected outcomes of community-based conservation projects as a result of perspectives that are too narrowly focused on economics (e.g. Alexander & McGregor 2000; Gibson & Marks 1995; Richards 2000).

Effects of socio-economic variables on attitudes

In this study, neither land use, wealth nor education level were found to be predictors of attitudes. Given the intensity and frequency of crop damage and its negative effects on safety and food security, it is surprising not to find that more agropastoralists than pastoralists were negative towards wildlife, as found by Akama (1995), Okello (2005) and Gadd (2005)⁸⁰ in Maa-speaking areas of Kenya.

⁷⁹ Cynthia Moss, Amboseli Trust for Elephants.

⁸⁰ Working in Laikipia, N. Kenya, among several ethnic groups, Gadd (2005) found land use to be a stronger predictor of attitudes towards wildlife conservation than ethnicity: Maasai farmers were as

Kangwana (1993), however, found that Amboseli agriculturalists were more positive than pastoralists. There is, thus, a lack of consensus regarding the effect of land use on attitudes towards wildlife in Maasailand.

In this study, characteristics of the interviewed agropastoralists might have had confounding effects. As we saw above, Emeshenani agropastoralists, are little aware of their losses to wild crop raiders; in Osilalei, where cultivation is rain fed, low input (BurnSilver 2007) and not a source of food that is as relied upon as it is in the Swamps, the conflict might not be as strongly felt. In the Swamps, the Namelok anti-wildlife electric fence (although ineffective against destructive smaller animals, like primates, small gazelles and birds), might also have contributed to improve attitudes of local agropastoralists towards wildlife⁸¹.

Although not a predictor in the regression analysis, formal education was associated with positive attitudes among the educated informants. Interviews with local primary school teachers and formally educated informants reflect the “official” discourse, which is taught in school and which primarily stresses the value of wildlife, national parks and tourism to the nation’s economy. Education has been shown to positively influence attitudes towards conservation in other areas of Kajiado District (Akama 1995; Ali 2006; Mwangi & Warinda 1999). Berger (1993), however, sees modern education as having intrinsically negative effects, as it undermines Maasai practical knowledge of ecology and range management that is

negative as their Kikuyu farmer neighbors, while pastoralists of different ethnicities (including Maasai) were more tolerant of wild animals.

⁸¹ Despite the sample being too small for statistical analysis, there is a trend, with more positive people in Namelok than in Kalesirua. By hindering occasionally extreme crop destruction events by big animals, which have stronger effects on perceptions than cumulatively larger losses due to smaller animals (cf. Naughton-Treves 1997), the electric fence seems, indeed, to minimize negative attitudes.

gained through herding, moranhood and dependence on natural resources. Here, nevertheless, at least at the level of perceptions of wildlife as an economic asset, formal education has a positive effect. However, as Boonzaier (1996) points out, this might also merely show that people have learned the language of international conservation. This does not necessarily mean that they have internalized its ideas and behave accordingly.

As expected, private land tenure is a predictor of negative attitudes towards wildlife: significantly more Osilalei residents were negative than neutral or positive towards wildlife. This area was “emptied” of dangerous animals (lions, elephants, buffaloes) in the process of subdivision, as settlements have spread over the landscape (Rutten 1998). This result was anticipated because individual ranch ownership increases the costs of accessing grazing resources (BurnSilver 2007) and, thus, makes competition for resources between livestock and wildlife less tolerable. Indeed, Osilalei residents complained profusely about competition for grass with zebras and wildebeests (“they graze day and night and you cannot stop them!”). They also complained about increasing individualism and selfishness, two traditionally abhorred traits, within their community: neighbors no longer tolerate neighbors’ cattle on their land or ask for payment. If Maasai have become intolerant of cows, it seems all the more natural that they would also become intolerant of wild animals, which they do not own. This intolerance of both livestock and wildlife is manifested locally by some fencing of private ranches, disputes among neighbors and wildlife snaring. This finding gives credence to Collett’s (1987) prophecy that Maasai sedentarization would ultimately be the biggest threat to wildlife.

One unexpected results was that Christians emerge as the most positive people towards wildlife. The opposite prediction, that Maasai following traditional religious practices would be more positive, was based on the assumption that converting to Christianity (which is facilitated by sedentarization) and losing touch with traditional Maasai practices and cultural norms would also erode a hypothetical tolerant relationship with wildlife. However, the opposite happens here. Protestant Maasai, in their majority agropastoralists, who uttered such proud statements as “We don’t practice dirty Maasai customs anymore”, and who are locally perceived as being “modern”, actually appeared as the most tolerant towards wildlife when compared with Catholics and Traditional Maasai⁸² (see also chapter 3). In Imbirikani GR, Hazzah (2006) also found Christianity to be a predictor – in her case, of propensity to kill predators. Our conclusions are not necessarily in contradiction, though, as it is conceivably possible to hold positive attitudes towards wildlife (or “God’s creation”), while feeling the urge to kill *the* animal that has caused a direct loss, a position that was held by a majority of informants:

I don’t hate any [wild animal] as long as they don’t come close to my cows because that’s my heart. (Ilnyankusi elder, Emeshenani)

We just kill the problematic ones. If a wild animal kills a cow, then that animal will die automatically because it has touched a cow, which is Maasai life. (Iseuri elder, Swamps)

I don’t hate any [wild animal] except the one that causes problems to me like destroying the *esilanke* [dam] or my shamba. I don’t hate all the wildebeests: I just hate the one that wronged me. (Ilkimunyak elder, Osilalei)

⁸² A word of caution: local religious affiliation is fluid, adherence to Christianity geographically variable, and sometimes superficial: some informants called themselves Catholics even if they had been to mass only once in their lives. Others were “strong Christians” (Born Again) who, however, also strictly adhered to and respected Maasai traditions (e.g. circumcision, graduation ceremonies etc).

Unfortunately, the possibility that Christianity would be the strongest predictor of positive attitudes towards wildlife was overlooked in this study. Regrettably, local preachers and priests were not interviewed during the fieldwork. So, the role played by Christianity remains unclear (but I explore it in more depth in chapter 3). This is an issue worth examining in future research⁸³. The fact that Christianity is a predictor of attitudes towards wildlife, however, compellingly illustrates the magnitude of the social and cultural changes occurring in Maasailand, and their effects on how people relate to their natural environment.

Effects of demographic variables on attitudes

Among demographic variables, only gender emerged as a predictor of attitudes towards wildlife in this system, with women being more negative than men. This situation has been described in other parts of east Africa (e.g., Hill 1998; Gadd 2005). Two possible explanations, confirmed by the data, are that women's fear of wild animals induces negative attitudes. As shown above, they also appear to be less aware of economic benefits provided by wildlife⁸⁴. Kangwana (1993) also found that Maasai men were more positive than women. This author relates this result to women's subordinate status in Maasai society, which entails their being excluded from meetings where information is shared. Indeed, we have seen that Swamps women, although little educated, were both more involved in community

⁸³ This will be done in the context of a smaller project funded by a fellowship awarded by the Center for Collaborative Conservation, CSU.

⁸⁴ This fear seems to derive from women's lesser exposure to wild animals. For instance, when discussing wildlife taxonomy, one Osilalei woman explained: "I know the ones I've seen close to the boma and then there are others deeper in the bush that us, *mamas*, are not able to see" (e.g. lion, elephant, rhino, buffalo). She, however, went on to describe how she and an elder killed (by spearing) a leopard that was inside the boma eating one of her goats!

life and more aware of economic benefits from wildlife than Emeshenani women⁸⁵. This underscores the significance of awareness of benefits and of their origin if they are to have a positive impact on attitudes towards wildlife. Hill (1998), in addition, proposes that being less exposed to conservation discourse, women could be less prone than men to give the “right answer” to the researcher who is perceived as associated with wildlife conservation. This might have happened in this case.

People - protected area conflict

Previous studies have reported that people living close to protected areas tend to have antagonistic attitudes towards the protected area and/or its management, even though they might be positive towards wildlife and/or the abstract concept of conservation (e.g. Bauer 2003; Fiallo & Jacobson 1995; Ite 1996; Kangwana 1993; Picard 2003). In Emeshenani, too, some disconnect between attitudes towards wildlife and attitudes towards ANP appeared: more people were positive towards wildlife in general than there were people who were positive towards the park, even though negative attitudes towards wildlife were associated with negative attitudes towards ANP.

Counter-intuitively, amidst overwhelmingly antagonistic attitudes towards the park, most informants were against a conversion of ANP to grazing and cultivation, away from tourism and conservation. It became apparent, though, that this opposition to the abolishment of ANP does not reflect a positive attitude

⁸⁵ These differential gender dynamics also played themselves out at the feedback meeting that I held at the end of my fieldwork. In the Swamps, women were a large proportion of the participants; in Osilalei, they kept themselves in a separate, silent group, away from the proceedings; in Emeshenani, despite my expressed desire to see our female informants attend, only *ilmurran* and elders came.

towards it. Rather, it reveals a sense of disempowerment and fatalism over events that led to the loss of a crucial area. Most people see themselves as disenfranchised from the park's control and destiny, which they perceive as the property of others (government; white people)⁸⁶.

Finding a higher number of both “young” people and women who are positive towards the park is consistent with other studies. In Amboseli, Kangwana (1993) found *ilmurran* and women to be more positive towards the park than the elders. In this study, too, members of these two groups appeared to be little aware of the history of intense conflict between the park and the community, which started before the creation of the park and entailed people feeling “cheated” by some leaders “who sold the park” (Péron 1994; see “Cheating” narratives, Appendix 7) and perceptions of “broken promises” as the water supply system broke down after three years (reviewed in Lindsay 1987; Western 1994). Born after the park was created, some young informants even considered the dysfunctional water tanks that were provided as part of the agreement to vacate the park a *benefit*, rather than a compensatory measure.

CONCLUSION

This comparative study is a “snapshot” of attitudes towards wildlife across the Greater Amboseli Ecosystem. However, as it covered areas at different stages of the gradual shift over time in land tenure and land use away from communal land tenure and extensive pastoralism to private land tenure and land use intensification,

⁸⁶ Surprising Kenyans and the world, in Sept. 2005, President M. Kibaki de-gazetted ANP and handed it over to the Kajiado County Council to be run as a National Reserve. Now seen as a move to win Maasai votes for the referendum over the new constitution, this decision has since been fought in courts.

it can be seen as reflecting possible concomitant changes in attitudes towards wildlife. Broadly, the results suggest that private land tenure, which hinders extensive pastoralism and exacerbates conflict for resources, fosters negative attitudes towards wildlife. Unexpectedly, educated, Christian Maasai (and men) emerged as more likely to be tolerant of wildlife than more “traditional” people (uneducated, non-Christian) and women. In general, the majority of the informants held positive and neutral/undecided attitudes.

A substantial amount of variation in the data remains unexplained by the regression model. An explanation lies in the influence of confounding effects present in this study, which is typical of research in social settings (Coast 2002) as opposed to controlled experiments. In this study, spatial autocorrelation of independent variables prevents the separation of the effects of those variables (see correlation matrix, Appendix 9).

Another influence could be that of factors which are not easily investigated with attitudinal scales and are less amenable to statistical analysis. This might include cultural and other non-economic dimensions of Maasai-wildlife relationship. A few attitudinal studies have touched upon the influence of cultural factors, such as religious affiliation and practices (e.g. Noss & Cuellar 2001; Udaya Sekhar 2003) and/or traditional beliefs about species (e.g. Gadd 2005; Kuriyan 2002). In the same way that cattle are valued in multiple ways, in addition to their subsistence and economic value, it could also be argued that wild animals are valued in multiple, ambiguous and possibly contradictory ways. The linguistic data suggest as much. There is not a single word in Maa for “animal”: animals are domestic (“taken care

of", *eramatare*) or "from the bush" (*enoseero*); harmless or harmful; or even "monsters" (*inkukuuni*). There are, however, many instances of boundary crossing and flexibility in these classifications, which underscores the need to examine local interpretations of and possibly competing meanings attached to, as Adams and Hulme point out, *what conservationists call "wildlife"*⁸⁷ (2001:197).

It could also explain the relatively large proportion of informants whom I classified as "neutral" and "undecided", who could not decide whether they liked or disliked "wildlife", or who both "liked and disliked" "wild animals". Thus, feelings are possibly contradictory as different species are valued or hated for different reasons and the same person might express ambivalent or conflicting feelings.

Likewise, community-based conservation projects, tending as they do to work on a predominantly economic basis, have not paid enough attention to the fact that valuation of natural resources and linked activities are complex, situated and include non-quantifiable cultural, social and other non-economic dimensions. Several authors (Alexander & McGregor 2000; Gibson & Marks 1995; McGregor 2004; Neumann 1992; Richards 2000) have discussed how perceptions of and attitudes towards wildlife and conservation are shaped by more intricate factors than utilitarian cost-benefits analyses, which interact in subtle ways. These include national and global political economic pressures, ideological forces, colonial legacies, conservation discourse, cultural specificities and practices and historical factors that affect how people interact with different components of their environment, how they perceive them, conceptualize them and relate to them. Thus,

⁸⁷ Emphasis added.

simply giving people an economic and managerial stake, as advocated in the CBC approach, may not be enough to create conservationist attitudes towards wildlife (Boonzaier 1996). Thus, there have been recent calls from within conservation biology to increase consideration of these dimensions in the design and planning of conservation projects (Gadd 2005; Infield 2001).

Also, using attitudinal surveys does not capture many of the subtleties involved in people-environment relations, especially in non-Western contexts. This study, by combining quantitative and qualitative data, has highlighted discrepancies and inconsistencies that would have gone undetected had only quantitative data been collected. In addition, as suggested by Boonzaier (1996) and Infield (2001), attitudes towards conservation are difficult to study because they are in constant flux. However, to date, few studies have compared human-wildlife conflicts and/or attitudes towards wildlife over time. Exceptions include Campbell et al (2003) and Infield and Namara (2001). Thus, considering the potential for attitudes to evolve in a system in which livelihood strategies are rapidly shifting, this study highlights the importance of time-series data for helping in the identification of characteristics or events that influence attitudes. I have imperfectly attempted to indirectly capture some of this temporal variability by investigating different areas at different stages of land use and tenure change, as well as across age-categories.

In Amboseli, wildlife is a politically charged issue, not only because of the history of land alienation, perceptions of “cheating” by politicians, conservationists and local leaders, restrictions on use of natural resource, competing land uses, consequent conflicts among countless stakeholders, and recent electoral uses of

ANP⁸⁸. It is also so because of decades of scientific research and NGO work in the ecosystem. Many informants in the Swamps and Emeshenani clearly suffered from interview fatigue and frustration with the lack of solutions coming out of the research conducted over the years⁸⁹. It is also conceivable that some “positive” informants expressed towards a foreign fieldworker what they believed is the publicly condoned attitude among *ilashumpa* (white people/tourists/researchers/missionaries) – which is to like/love wild animals⁹⁰.

Finally, what has not been examined here, and which has rarely been investigated (Holmes 2003) and even less established in conservation biology (see, e.g., Infield & Namara 2001; Lewis & Phiri 1998; Waylen 2005), is the link between attitudes towards wildlife and behaviors towards wildlife. More difficult to study than attitudes in and of themselves, evidence of this connection in conservation biology has remained elusive and should be the focus of future research.

This study is one of several studies to have examined Maasai attitudes towards protected areas, wildlife and/or conservation, both within the Amboseli ecosystem and in other regions of Maasailand. All these studies have yielded results at variance with one another across different areas and different groups of land users. Given the complexity inherent to determining attitudes towards wildlife, this study does not confirm nor does it refute past romantic depictions of Maasai as

⁸⁸ The return of Amboseli to the Maasai was one of the electoral promises of Katoo ole Metito, a local Kisonko Maasai running for Kajiado South Member of Parliament in 2004. I had not envisioned then that what I interpreted as an empty promise would become reality in 2005.

⁸⁹ Having been “spared” from most research, Osilalei informants had a much more welcoming attitude to us. That is, the ones who did not think that we were “Korean” devil worshippers did.

⁹⁰ This did not prevent some informants from being surprisingly candid about their use of poison (to get rid of predators) or bushmeat.

“natural conservationists”, whose nomadic ways and cultural respect for wildlife would have allowed for a peaceful coexistence with the wild fauna. Instead, this study stresses the impact on attitudes, both *across* and *within* communities, of a diversity of individual experiences and local and non-local political-economic forces that are affecting people and wildlife in a system in transition. This should underscore that “Maasai attitudes towards wildlife” are not to be taken for granted. Rather, they should be questioned and examined as part of specific temporal and spatial circumstances, especially in the rapidly shifting contexts of Kenya and Tanzania Maasailand’s historically and currently diverse assortment of political, linguistic, cultural, and ecological units.

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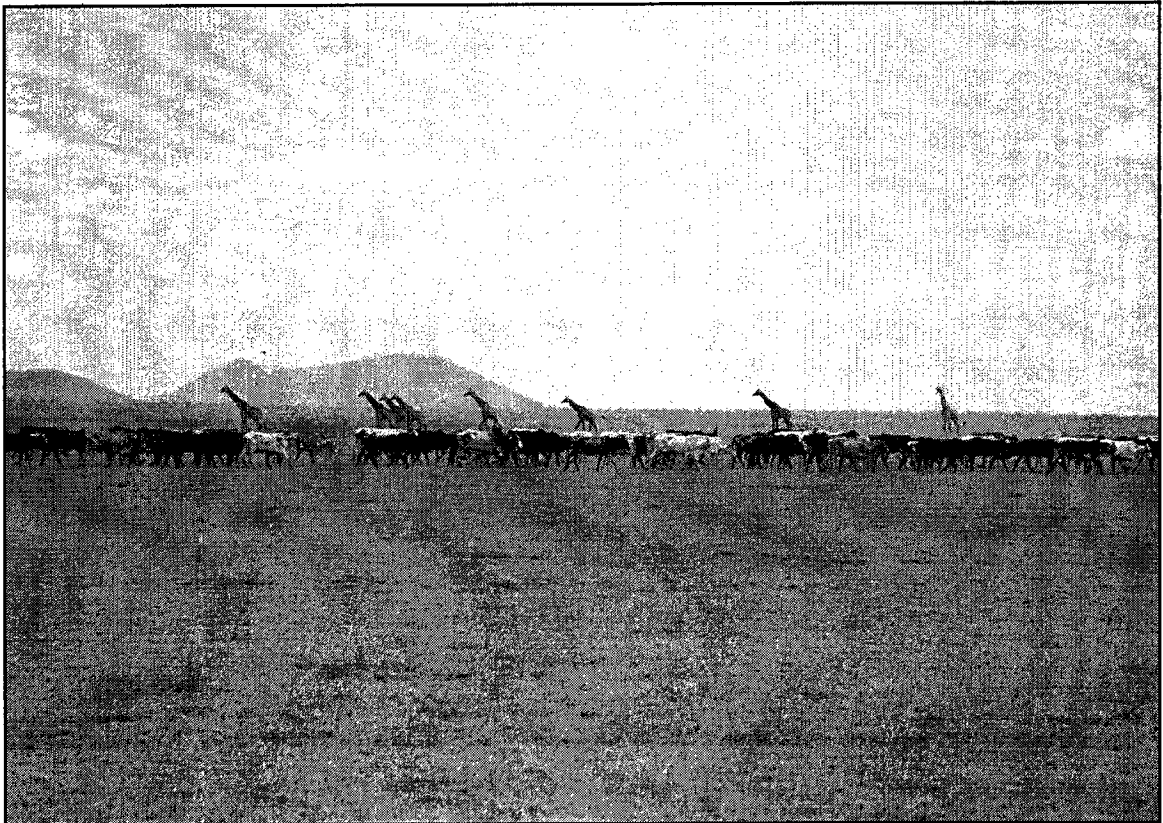
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CHAPTER 3

FROM “STAYING TOGETHER” TO “LET’S BE SEPARATED”: CHANGING CULTURAL MODELS OF PEOPLE-WILDLIFE RELATIONSHIPS IN THE AMBOSELI ECOSYSTEM, SOUTHERN KENYA



Cows coming back from the Chyulu hills dry season grazing area; giraffes going the other way (Imbirikani Group Ranch, September 2003).

INTRODUCTION

Of women, children and lions in Amboseli

In the Maasai pastoralist and agropastoralist communities that surround Amboseli National Park, in SE Kajiado District, southern Kenya, African lions (*Panthera leo*) are believed never to kill children and women, instead protecting them against dangerous wild animals⁹¹. This belief is one facet of the complex and ambivalent relationship that Maasai pastoralists and African lions have with each other (see Chapter 2, Goldman et al In prep.; Goldman et al 2009; Lichtenfeld 2005).

In this savanna region, stories are told of women traveling with babies on their backs, who, for some reason, spend the night in the bush and then wake up the following morning to find the tree under which they slept surrounded by lion tracks. These tracks, in turn, are encircled by tracks of other carnivores, such as hyenas. This, to local Maasai, means that the lions protected these women and children against other predators (see narratives in Appendix 10). In another story, a woman and her donkeys loaded with water containers were on their way from a swamp inside Amboseli National Park (hereafter, ANP) back to her home on the park's outskirts. The sun was setting, and she was inside the park when a lion appeared to her. She was not scared and simply told the lion "Let me go". As she reached her family's settlement in the darkness, still followed by the lion, someone lit a torch and disclosed the presence of the lion nearby the *boma*⁹². When they saw the lion, the

⁹¹ To my knowledge, this belief has not been reported for other areas.

⁹² *Boma*: fence (Swahili); understood as settlement, kraal.

*ilmurran*⁹³ became very excited at the prospect of spearing it. But one of the elders restrained them from doing so and ordered them to instead take a goat, kill it outside of the *boma* and leave it there for the lion to eat “because we must thank this lion for not having killed this *mama*⁹⁴ and maybe having protected her against other wild animals”⁹⁵.

When I later told this story to a zoologist friend, who has been working on lion conservation in a Group Ranch near ANP, he invoked the fact that lions are stalkers and that they follow their prey for a while before attacking (McLennan, pers. com.⁹⁶), which would explain this lion's behavior. However, this western, scientific interpretation of the story ignores that, thanks to the certainty that Maasai have that lions do not kill women and children, the lion was spared and even fed. This should be seen as relevant for lion conservation strategies, especially those that aim at collaboration with local communities. Indeed, it suggests the existence of a nuanced and complex relationship with lions that contrasts with the current

⁹³ *Olmurrani*, pl. *ilmurran*: “the circumcised ones”. Erroneously translated as “warriors”, this term describes the *age-grade* of circumcised males, who have a protective role in the community, before they graduate to elderhood. These cohorts of men who were circumcised within the same periods form distinct *age-sets* (*olaji*, pl. *ilajijik*), each with their own name. Within each age-set, age-mates display strong loyalty towards each other throughout Maasailand. They are also known as “morans”, the anglicized version, which I will sometimes use here to reflect local English-speaking Maasai use of it.

⁹⁴ *Mama*: woman, mother (Swahili)

⁹⁵ This story was told by an elder of the Ilkimunyak age-set (30-40 years old; see Chapter 2 for explanation of age-sets), from Emeshenani ridge, Olgulului-Lolarrash Group Ranch (GR). Other beliefs related to a reciprocal, respectful relationship between people and lions include the idea that unless you are a “warrior” intent on provoking a lion into fighting back, a lion “cannot get you” and “will not get you”: “a lion does not come for you. Only if you go and chase it, then it decides to fight you”. Another Ilkimunyak elder from Imbirikani GR told me: “If I’m walking and there’s a lion in that bush, I just know it is there, even without seeing it. So, I avoid it” (see Watson and Orville 2008) for a similar example among the Koyukon Athabascans). Reflecting the effect of this belief on human attitudes, in this area, is the fact that lions do not top the list of most feared animals (interview data). Although they are cited by 51.6% of the informants as being an animal that they fear, the elephant supersedes the lion (67.9%). The lion is closely followed by the buffalo (42.1%) and the rhino (42.1%), even though rhinos disappeared from the ecosystem in the 1990’s (see Appendix 11).

⁹⁶ S. McLennan, Kilimanjaro Lion Conservation Project, Imbirikani GR.

depiction of Maasai as the main threat to lion survival in southern Kenya (see Frank 2007; Frank et al Undated; Frank et al 2006).

These stories about lions not attacking women and children surfaced in the course of interviews and conversations with friends and seemed well-known in the areas of the Amboseli Maasai Kisonko section⁹⁷ where I worked. While interviewing a woman, a resident of Kalesirua, an area settled for irrigated cultivation close to Isinet town and the Kimana swamp, I probed for more information on this topic. Here is her answer:

Whoever told you that story of lions not killing and protecting women and babies cheated you⁹⁸... Just the other day, at Morkoit, near Tsavo⁹⁹, I saw cows without their herder because a lion had eaten the boy completely! That story is just a belief: I've never seen it, I've never heard it. The Maasai believe that because a mama is carrying an innocent baby, she will not be eaten... But I don't think a lion knows a baby: flesh is flesh to him. It is only by luck that you're not eaten... If it is not your day to die, you won't be dead. It only depends on God's protection.

This was surprising, coming from an elderly woman who, despite her western clothes and “modern” house, made of mud walls and grass roof and inside which chickens freely came and went¹⁰⁰, showed signs of adherence to “traditional” Maasai culture such as elongated ear lobe holes (although devoid of beadwork).

⁹⁷ Sections (*olosh*, pl. *iloshon*) are historically politically autonomous territorial units with their own cultural characteristics (Mol 1978). This research took place in two sections of southern Kenya: the Kisonko Maasai and the Matapato Maasai sections.

⁹⁸ I probed by broadly asking whether lions would kill women and children, without specifying any specific story or belief. The fact that she answers by invoking “that story of lions not killing and protecting women and babies” seems to indicate that she is, indeed, familiar with “that story”.

⁹⁹ Lions in Tsavo National Park (where Amboseli people take their cows in severe droughts) are reputed for attacking people “just for nothing” and livestock, a behavior that Maasai impute to the fact that they live in an area devoid of livestock and people “so when anything comes, they go for it”. The situation in Amboseli is different: it is believed that, because lions and people “know each other and know that they can fight each other”, a lion attacks a person only when provoked into fighting (what morans do in the course of a lion hunt). So, it is perhaps not coincidental that the example this woman chose to illustrate her lack of belief in lions as protectors of women and children is precisely an example from the Tsavo area.

¹⁰⁰ Keeping poultry is a recent practice, associated with sedentarization and a sign of “being modern”. Traditionally, birds of any kind and their eggs are not eaten. Several of our older informants expressed surprise and disgust at the chickens that are kept by younger members of their homesteads.

This, together with her age (approximately 70's) lead me to expect that she would be familiar with such stories. However, she is also one of the numerous local members of a Pentecostal church, the Kenya Assemblies of God (KAG). For members of local Evangelical churches, converting to Christianity and becoming "Saved" (*Ilairukok*)¹⁰¹, or Born Again¹⁰², entails abandoning Maasai traditional beliefs and practices. Thus, I initially interpreted her refusal to acknowledge these stories about lions protecting women and children as her signaling how strongly she had separated herself from her past "unenlightened" Maasai life. Her denial of this belief, however, could also be construed as indicating a shift in how people conceptualize their relationship with the wild animals with which they share the land. This interpretation was reinforced as similar instances of diverse and competing ideas about wildlife accumulated as we interviewed more people throughout the region.

In this chapter, I am interested in local understandings (or models) of people's relationship with wildlife, the extent to which these understandings are shared (which makes them cultural), and how they are distributed within and across three Maasai communities of the Greater Amboseli Ecosystem (hereafter, GAE), thus possibly revealing sources of differences and changes in these models. We have seen, in Chapter 2, that religious affiliation and land tenure were the strongest predictors of attitudes towards wildlife in the Greater Amboseli Ecosystem: Christian Maasai unexpectedly emerged as more likely than non-Christians to hold positive attitudes towards wildlife; residents of private ranches were more likely to be negative towards wild animals, as opposed to residents of

¹⁰¹ *Olairukoni*, pl. *ilairukok*: believer, faithful, "Saved".

¹⁰² Born Again: *einoto eare* ("born twice")

group ranches (where land is held in common). Are local processes of socioeconomic change (e.g. land tenure and use change, Christianity, immigration, education and global conservation practice and rhetoric) contributing to diversifying local ideas about how people and wild animals relate (or should relate) to each other?

Drawing from cognitive anthropology's cultural models theory (D'Andrade 1995a; Holland & Quinn 1987; Strauss & Quinn 1997) and methodologically combining discourse analysis (Quinn 2005a) and cultural consensus analysis (Romney et al 1987; Romney et al 1986), I investigate local cultural models of people's relationship with wildlife and whether and how local and extra-local processes of cultural and socio-economic change are associated with differences and transformations in these cognitive models. Considering the ongoing rapid socioeconomic changes in the Amboseli ecosystem, my expectation is that alternative cultural models of how people frame their relationship with wild animals are emerging.

Here then, I strive to offer a nuanced picture of the complex and multifaceted relationship between people and wildlife in Amboseli. This type of enquiry is relevant for local conservation strategies because there is a link between cultural models of nature and environmental decision-making (e.g. Atran & Medin 2008; Medin et al 2006; Ross 2002; Ross 2004). In particular, research has focused on how conflict over meanings of natural resources (e.g. Medin et al 2007; Medin et al 2006) can fuel inter-group conflict over them, including between land users and conservationists (e.g. Haenn 1999; Paolisso 2000; Paolisso 2002; Pfeffer et al 2001).

Finally, this line of research has relied on and contributed to understanding culture as a dynamic process rather than a static entity, and as differentially distributed within and across populations. This notion is crucial to the study of non-western populations' relationship to their natural environments in times of globalization and associated changes. Also, in Maasailand, this has implications for local collaborative wildlife conservation efforts that might rely on preconceived or outdated ideas of the relationship between Maasai and wildlife.

This chapter is organized in the following manner: first, after briefly describing past and current wildlife conservation and development initiatives in the GAE, I provide background on Maasai relationships with wildlife in the context of Maasai traditional cosmology, religion and daily life, as well as on the processes of socio-economic and cultural change currently underway throughout Maasailand. Second, I present this research's theoretical framework and the methodological approaches that I combined to address the research questions. Finally, I review the research findings and discuss them in terms of their implications for wildlife conservation efforts in the ecosystem.

Wildlife conservation in the Greater Amboseli Ecosystem

Le gibier multiplie à foison sur cette terre, pourtant si aride et désolée.¹⁰³ (Thomson 1886: 178)

Early travelers, such as Joseph Thomson in 1882, the first European to cross Maasailand, have marveled at the rich and diverse wildlife populations that inhabited Amboseli, home to the Maasai pastoralists. Such fascination has lasted to

¹⁰³ "Wild game multiplies in abundance on this land, despite its being so arid and desolate."

this day, with Amboseli the focus of long-term conservation efforts and scientific research and one of Kenya's three most visited parks (Croze et al 2006). In this section I briefly outline the history of wildlife conservation and tourism development in the GAE as a background to exploring local human-wildlife relationships and understandings thereof.

The GAE, whose ecological dynamics have been thoroughly described by Western (1973), is situated in southern Kenya's Kajiado District's rangelands and located within the basin of a former Pleistocene lakebed situated between the slopes of Mount Kilimanjaro to the south, the Oldoinyo Orok hills and the Ilaingarrunyoni hills to the west, and the Chyulu hills to the east (Ole Katampoi et al 1990). The ecosystem is also characterized by a bimodal rainfall regime, a separate drainage system, and springs and swamps, which in combination with complex vegetation and soil patterns, have created conditions that favour large and diverse wild herbivore populations (Croze et al 2006). This system of east-west oriented swamps and springs has historically acted as key dry season resource areas for people, livestock and wildlife, and as stepping stones for wildlife moving between the Tsavo and Amboseli ecosystems (Reid et al 2004a). Some swamps (e.g. Kimana, Namelok and Esampu) are currently settled for irrigated horticulture (Githaiga et al 2003; Southgate & Hulme 1996; Worden et al 2003). The ecosystem's boundaries are defined by the range covered by wildlife dispersing out of the Amboseli basin in the rainy season (8,500 km²) (BurnSilver 2007; Croze et al 2006; Western 1973; 1975).

Maasai and their specialized form of pastoralism (Spear & Waller 1993) are said to have arrived in the Amboseli region in the 19th c. from the north, displacing

earlier Nilotic and Maa-speaking pastoralists (the Iloogolala¹⁰⁴) (Galaty 1993; Jacobs 1965). Other authors (e.g. Western 1971) place the arrival of Maasai in Amboseli as early as the 16th c. In any case, in southern Kenya, the existence of pastoralism since 500 AD (Galaty 1993) alongside wildlife attests to their ecological compatibility and complementarity (Western 1973). Amboseli wild animals are even said to have been tamed through contact with people and livestock (Lovatt Smith 1986; Western 1971).

This was not lost on British colonial administrators who established, in 1899, the Southern Game Reserve (27,700 km²) between Nairobi and the Tanganyika border (Lindsay 1987; Rutten 1992)¹⁰⁵. By the 1940-50's, colonial authorities adopted policies aimed at sedentarizing the Maasai and at increasing their livestock productivity and participation in the national economy (Lindsay 1987). In subsequent decades, rising livestock numbers and excessive sport hunting had conservationists worried about the future of Amboseli wildlife (Lindsay 1987; Rutten 2002). This led to the creation, in 1948, of the Amboseli National Reserve (3,260 km²) around the Amboseli basin, within which pastoralism was allowed (Croze et al 2006; Rutten 2002)¹⁰⁶. In 1974, 392 km² surrounding the central swamps (the dry-season concentration area for livestock and wildlife) (Western 1975) were gazetted as Amboseli National Park (ANP) and grazing and settlement

¹⁰⁴ "The ones of the hard teeth" (interview data).

¹⁰⁵ Its boundaries corresponded roughly to those of the Southern Masai Reserve, one of the two reserves set aside to receive the Maasai who were displaced when white settlers took over the "White Highlands".

¹⁰⁶ "A national reserve denotes an area for wildlife preservation where the reasonable needs of the human inhabitants living within the area take precedence" (Lovatt Smith 1986: 22).

within it prohibited (Lindsay 1987; Rutten 2002; Croze 2006). In 1977, Kenya banned all hunting (Steinhart 1989).

As part of policies designed to improve Maasai livestock productivity, modernizing them and limiting perceived pasture degradation (Rutten 1992), land tenure was formalized through the 1969 Land (Group Representatives) Act of Parliament. Government-held trust land was converted to land under group tenure, with fixed and legally recognized boundaries. Within the newly created group ranches (GRs), grazing was theoretically restricted to registered GR members' livestock. However, the program failed and from the mid-1980's onwards, for diverse reasons, GRs started to break up into private holdings (Bekure et al 1991; Kimani & Pickard 1998; Rutten 1998). Meanwhile, land use change and intensification, with expansion of cultivation in key resource areas (e.g. swamps, highlands) (Campbell 1986; Campbell et al 2000; Reid et al 2004a; Reid et al 2004b) increased.

At about this time, the scientific community was coming to appreciate the adaptiveness of nomadic pastoralism in savanna ecosystems (e.g. Behnke & Scoones 1993; Ellis & Swift 1988) and its compatibility with wildlife. Because East African pastoralist ecosystems are non-equilibrial (Ellis & Swift 1988), human and non-human resource use has to be mobile, opportunistic and carried out at large spatial scales. GR subdivision, sedentarization, land use change and ensuing landscape fragmentation constrain that mobility and have thus raised concern among conservationists¹⁰⁷ because they threaten wildlife's ability to disperse and migrate,

¹⁰⁷ See e.g. Croze (2006) on the "tragedy of fragmentation".

the ecosystem's integrity and the tourism industry (Collett 1987; Croze et al 2006; Rutten 2002; Western & Gichohi 1993)¹⁰⁸.

On the human side, the creation of protected areas has profound social and economic consequences (West & Brockington 2006; West et al 2006; Western & Gichohi 1993). Amboseli National Park is no exception. Its establishment has hindered pastoralists' access to grazing and water resources (Campbell 1986; Lindsay 1987; Rutten 2002; Western 1994). This has caused great hardship to households that have depended on the swamps, now inside the park, for dry-season grazing. The park's creation process and subsequent dealings between Maasai and park authorities have generated mistrust of and resentment towards conservation (see Chapter 2). Near the park, this has translated into political killings of wildlife (Lindsay 1987; Lovatt Smith 1986; Western & Sindiyo 1972) and negative attitudes towards the park and wildlife in general (see Chapter 2).

To address these mounting conflicts and the threat of subdivision and land use change to the ecosystem's integrity, Amboseli has pioneered efforts to economically benefit communities around the park through tourism and community-based conservation initiatives (Berger 1993; 1996; Rutten 2002; Western 1994). In 1996, KWS started the *Parks beyond Parks* program which promoted the development of small-scale tourism activities on GR land (Rutten 2002). The goal is to have wildlife be locally perceived as an economic asset. It is assumed that this enhances tolerance towards wild animals and discourages land uses less compatible with their existence. These economic benefits, however, have

¹⁰⁸ Also in interviews with M. Kipkeu, ANP Senior Warden (January, April and June 02); P. Granli and S. Sayialel Amboseli Trust for Elephants (June 04).

been elusive for most households (see Chapter 2) and in some cases, “community-based conservation” on Maasai-owned land still entails resource use restriction and loss of access to grazing (pers. obs.; interviews with managers of local tourism operations¹⁰⁹; see also Rutten 2002).

In 1991, UNESCO declared Amboseli a Biosphere Reserve, with the park as its core; four surrounding group ranches as its the buffer zone; and Kajiado District as its transition zone (Croze et al 2006). Currently, several local wildlife research and conservation projects have collaborative dimensions, promoting local participation in conservation through employment (e.g. wildlife monitoring, community conflict resolution, collecting ecological data, etc) ¹¹⁰. Underlying these strategies of encouraging economic valuation of wildlife, collaboration with local communities and expansion of conservation beyond the park’s boundaries is the goal of maintaining ecosystem connectivity and securing migration corridors for wildlife¹¹¹.

Maasai culture and wildlife

Ici, la sagesse qui entoure le rapport à la faune sauvage est proche de l’enseignement de Bouddha (Péron 2003: 219) ¹¹²

¹⁰⁹ Eselenkei Conservation Area; Tortilis Camp; Oldoinyo Wuas Lodge; Oltukai Lodge.

¹¹⁰ E.g. the Amboseli-Tsavo Game Scouts (African Conservation Center)

<http://www.conservationafrica.org/conservation-projects/project-details.php?pid=1>; the Lion Guardians (<http://lionguardians.wildlifedirect.org/about-lion-guardians/>); Maasailand Preservation Trust (<http://www.richardbonhamsafaris.com/maasailand-preservation-trust.htm>); the Hifadhi Network (Maasai anti-poaching game scouts) (African Wildlife Foundation). Accessed Aug. 5, 2008. (<http://www.awf.org/content/solution/detail/3583>). Accessed Aug. 5, 2008.

¹¹¹ See, e.g., AWF (Kilimanjaro Heartland: <http://www.awf.org/content/heartland/detail/1283>); ACC (Amboseli Research and Conservation: <http://www.conservationafrica.org/conservation-projects/project-details.php?pid=12>); KWS (Community Wildlife Service: <http://www.kws.org/community.html>); Amboseli Trust for Elephants <http://www.elephanttrust.org/node/217>). Accessed Aug. 5, 2008.

¹¹² “Here [Maasailand], the wisdom relating to the relationship with wildlife is similar to the teachings of Buddha” (Péron, 2003)

The Maasai, in truth, like [...] any indigenous people everywhere, do whatever they must to feed themselves and their families, and that may include taxing the environment beyond its capacity to regenerate itself. The Maasai are just as capable as Westerners of reshaping the natural order of things to fit their needs. (Adams & McShane 1992)

The establishment of Amboseli National park as a world-class tourism destination has taken place among people who have been described as “*par excellence* conservationists” (Richard Leakey, quoted in Horgan 1989: 42). Maasai, as other indigenous peoples, have been celebrated for their alleged harmonious relationship with the natural environment. Whether indigenous people are conservationists, and whether they are so by design or by accident, are themes that have been debated in anthropology and conservation biology (e.g. Alvard 1998; Redford 1990; Smith & Wishnie 2000). Snodgrass, Tiedje and contributors (2008) argue that labeling indigenous peoples as conservationist or as environmental degraders is oversimplifying: their long-term and complex involvement with the world-system and colonial and post-colonial nation-states may make them appear as more or less conservationist at different points in time and scales. The same caveat applies to the Maasai, an ethnic group that is geographically diverse and historically dynamic in its economic and cultural characteristics (e.g. Hodgson 2001; Spear & Waller 1993).

In the above description of the GAE, it was noted that pastoralism has not had a significant impact on local wildlife populations. While the East African archaeological record shows no wildlife extinction due to pastoralism (Collett 1987), some pastoralists, such as the Turkana, have hunted wildlife and participated in the wildlife products trade (e.g. Beachey 1967; Dalleo 1979; Watson 1969). The

Maasai, in contrast, have been described as peacefully co-existing with wild animals, “respecting wildlife and wildlife keeping their distance” (Lovatt Smith 1986: 15). Some authors (e.g. Mol 1981; Reid et al 2003; Talbot 1972), however, have suggested that this coexistence is the indirect consequence of communal grazing management practices, settlement patterns and local political economic arrangements that have allowed for benign interactions based on avoidance of conflict (Kangwana 1993) and indifference (Brown 1969; Mol 1981; Simon 1962). Other authors, perhaps more romantically and without specifying, have ascribed this coexistence to some cultural “wisdom” (Matampash 1993; Péron 2003), “love” for wild animals (Kipuri 1983) and practical knowledge of nature (Berger 1993; 1996). Others still (e.g. Grzimek & Grzimek 1960; Kabubo-Mariara 2005; Prins 1992), have depicted Maasai as threats to their natural environment. In this section, drawing from my fieldwork data and the literature, I non-exhaustively review aspects of Maasai culture and livelihoods that overlap with wildlife as a background to exploring contemporary local understandings of human-wildlife relationships in the GAE.

Traditional Maasai religion

Here, I draw on Hodgson’s (2005) excellent synthesis of Maasai religion and cosmology and on my data to highlight those aspects of Maasai religious beliefs that

pertain to the relationship with the natural environment in general and to wildlife in particular¹¹³.

Central to Maasai religion is an emphasis on fertility, birth, nurture and reverence for nature (Hodgson 2005). *Enkai*, the Maasai genderless divinity¹¹⁴, has created “everything on top of the land” (interview data) and natural events are understood as manifestations of *Enkai* (e.g. rain as blessing; drought as displeasure; lightning as anger). Certain sacred trees, such as the *oreteti* (*Ficus thonningii*), are the setting for fertility prayers and ceremonies (Hodgson 2005).

As I will show below, wild animals are seen as part of *Enkai*’s creation, on equal terms with people and livestock. Maasai treat some of them with respect out of reverence for *Enkai* (Hodgson 2005), calling herbivores “cattle of God” (*inkishu eEnkai*) and “goats of God” (*enkinjeji eEnkai*) (Mol 1981)¹¹⁵. Some species are especially “holy” (*sinyati*) and are never killed. Killing them is *engoki* (a “curse” or a “sin”) and attracts misfortune upon the offender and his family¹¹⁶. Among the holy species, the ostrich, whose Maasai name *esidai* means “the good/beautiful one” and whose body displays the three colors of *Enkai* (black, red, white), is the most “protected”. Ostrich killers and their descendants are cursed and forbidden to use ostrich feathers upon their circumcision. Other animals that should never be killed are the “lucky” ones (*emunyak*), such as the aardvark (*enaishirr dama*¹¹⁷). A certain

¹¹³ Distinguishing between what is religious and not religious is artificial among cultures like the Maasai (Hodgson 2005) because religion is practiced by everyone in the context of everyday life, usually at no specific time and place.

¹¹⁴ But note the feminine prefix *en-* and the fact that *Enkai* is strongly associated with female principles (creation, fertility, motherhood) and is thus close to a mother figure.

¹¹⁵ However, even after probing, I did not hear about this in the Amboseli area.

¹¹⁶ See list of species that must never be killed in Appendix 12.

¹¹⁷ Its Maasai name means “the one that cries at daytime”.

“type” of eland, which has long black hairs on its face and is known as the eland with *olmasi* (*osirua lolmasi*), is also respected. *Olmasi* refers to the liminal, holy state of certain people (e.g. recently circumcised youth, new mothers, newborn babies) who wear black and whose hair is not shaved. This eland is said to pray to *Enkai* on behalf of the herd of eland every morning¹¹⁸ (interview data). Snakes are particularly feared (and killed) but members of specific clans will not kill “their” snakes (interview data; Hollis 1905). My informants also reported a strong prohibition to killing animals engaged in reproductive activities (e.g. being pregnant; mating; giving or having recently given birth; being a newborn). This applies to all species and reflects Maasai utmost respect for motherhood and life in all its forms (Hodgson 2005; Voshaar 1998)¹¹⁹. This reverence extends to restraint against “finishing whole families”. Having heard that a boy had tried to sell me an ostrich egg, an elder condemned his action: “*Torrok doi!* Very bad! That’s the beginning of an ostrich family, so you’re finishing [sic] them completely if you’re selling the eggs!” Another enlightening story concerns the killing by *ilmurran* of seventeen elephants in retaliation for an elephant killing one of the morans’ father. An elder begged the morans not to kill the last elephant “otherwise that family (house: *enkaji*) will be completely finished!” Elephants are somewhat respected and are believed to descend from a young bride who turned back on her wedding day and was transformed into an elephant¹²⁰. In recognition of their human origins,

¹¹⁸ As one Protestant informant explained, the eland with *olmasi* is “like the pastor of the herd of eland”.

¹¹⁹ At war, killing pregnant women was extremely taboo (Merker 1910).

¹²⁰ According to my informants, that elephants descend from human is obvious in their intelligence, their blood, their teats like women’s and their “hand” (the trunk). They also “drink water and take

people will place grass (a gift of Enkai) in dead elephants' skulls (see also Kangwana 1993; Kuriyan 2002). Seeing its placenta brings good luck (interview data)¹²¹.

It is possible to control, to a certain extent, the actions of people and wild animals through magic. In Amboseli, members of the Ilatayok clan are renowned for their powers over natural elements. Stories are told of "strong Ilaitayok" elders ordering giraffes that had dispersed their cattle calves to break their own legs, for example. They are also famous for "tying cows" (*aen inkishu*), a magic act that involves making a knot out of a small "rope" of lion skin and that protects cows against lions and thieves¹²². In the past, after a lion attacked cows, elders would ask *iloibonok* (sing. *oloiboni*; ritual experts) to ensure that the predator would not come back by practicing some magic on dust collected at its tracks. They could also ensure that the lion would become silly (*emada*) and easily speared by the *ilmurran*. *Ilmurran* keep their lion hunts secret to avoid their mothers using magic that would avoid them finding the lion (and risking being injured or killed) (interview data). Upon death, what Enkai has created is returned to Her through nature: corpses are left in the bush to be eaten by hyenas and other predators (Bland-sutton 1911; Hodgson 2005; Hollis 1943; Storrs Fox 1930; Straight 2006).

baths like people". This explains why eating elephant meat is strictly forbidden but does not prevent people from killing elephants.

¹²¹ A little fence of bushes will even be placed around it.

¹²² I have interacted with Ilaitayok people and (somewhat) benefited from their curative powers. In one case, I had been stung by a scorpion and an Ilaitayok moran who was visiting the camp declared that, being from that clan, he could cure me. This he did by spitting gently on the affected bitten finger. Unfortunately, the pain did not subside. At another time, one Ilaitayok assistant slapped me hard on the neck and copiously spit on it after he saw a caterpillar fall on me from a tree. The goal, again, was to cure me from the caterpillar poison. However, the pain of the slap was so strong that I do not know if it has cured any problem caused by the caterpillar.

Maasai Pastoralism and wildlife

The Maasai have historically been transhumant pastoralists with a subsistence economy based on cattle and small stock (Western & Dunne 1979)¹²³. Pastoral activities (e.g. grazing management and conservation, fire use and settlement patterns), such as practiced by the Maasai, have shaped East African savanna ecosystems in ways beneficial to wildlife (Goldman 2007; Homewood & Rodgers 1991; Lamprey & Waller 1990; Little 1996; Ole Saitoti 1978; Reid & Ellis 1995; Reid et al 2003; Western & Dunne 1979).

Traditionally, Maasai see the land as a *territory* containing resources that are used by all rather than as a *resource* owned by individuals (Campbell 1993). Land (and grass, water and salt) is a gift of God to all the people (Hodgson 2005; Rigby 1981) and, within Maasai sections, grazing is communal (Galaty 1981b). Land belongs to God and had no human owner before recent land privatization. Semi-nomadic movements of people and livestock, communal use of the land and strategies and rules to conserve grazing have ensured a relatively peaceful sharing of resources between livestock and wildlife. The absence of fences, private parcels and sedentary settlements allowed for the migrations of wildlife. In addition, in moister East African savannas, livestock grazing has been shown to promote pastures that are of higher quality for wild herbivores than the ones inside protected areas (Gichohi 1990 cited in Western & Gichohi 1993). In the GAE, transhumant movements of people and livestock paralleled those of wildlife, with

¹²³ But see Spear and Waller (1993) and contributors for a more nuanced discussion of Maasai economic strategies, identity and ethnicity.

livestock and wild animals sharing the swamps in the dry season and dispersing out of them in the rainy season (Western 1973; Western & Dunne 1979)¹²⁴. Around the Masai-Mara National Reserve, Reid et al. (2003) showed that some herbivores enjoy the vicinity of pastoral settlements. They are possibly attracted to the vegetation of nutrient-rich soils of nearby abandoned settlements, to the productive pastures created by livestock grazing or to some measure of protection against predators.

So, in general, Maasai pastoralism has been considered as a land use that is compatible with wildlife (e.g. Homewood & Rodgers 1984; 1991; Homewood et al 1987; Ole Saitoti 1978; Western 1989; 1994). Maasai coexistence with and tolerance for wildlife is possibly, in part, a consequence of this extensive use of the land, which minimizes direct conflict with wildlife and which has provided wildlife with what Talbot (1972) terms “indirect protection”.

Maasai hunters?

Maasai are conservationists: they don't eat wild animals (interview with Amboseli National Park, Senior Warden. April 2002)

Ilmeek people fear us [Maasai]: they would have finished all the wild animals if we weren't here. [...] And let me assure you that Ilmeek eat a lot of everything; they just don't eat humans and donkeys! (Maasai participant at research feedback workshop, Kalesirua. July 2004)¹²⁵.

Maasai pastoralism is more than a land use: it is also an identity¹²⁶.

Associated with it is the ideal pastoral diet composed of milk, meat and blood

¹²⁴ Resource conservation among Maasai is dynamic and responsive to land use and land tenure changes. In Amboseli (BurnSilver 2007) and (Worden 2007) showed how, because of water infrastructure development and ensuing sedentarization, herding patterns were deliberately shifted from rainy season movements to the current dry season movements, an idea initially suggested by one Eselenkei GR elder, then replicated across the local GR's.

¹²⁵ *Olmeeki*, pl. *ilmeek*: Non-Maasai, mostly farmers.

¹²⁶ Albeit a flexible one (see Spear 1993 and contributors; Galaty 1986).

(Arhem 1989) and scorn for other foods, especially the meat of wild animals¹²⁷ (Cronk 2002; Fosbrooke 1948; Galaty 1979; 1986; Hollis 1905 (1970); Jacobs 1975; Lewis 1968; Simon 1962). Nevertheless, out of necessity, in the same way that Maasai have depended on non-Maasai farmers to supplement their diet with grain (Spear 1993), they have also eaten wildlife in droughts (Collett 1987; Kangwana 1993; Western 1982a; b)¹²⁸.

This cultural aversion to eating the flesh of wild animals has been anecdotally credited with contributing to the persistence of wildlife. It should not, however, be seen as the rule for Maasailand as a whole. Among my informants from the Kisonko section, eating wild meat is associated with poverty and shame and the thought of it even induces physical symptoms of sickness¹²⁹. However, among Matapato Maasai, wild meat is not only actively sought (bought; hunted), it is also enjoyed without embarrassment. This has landed the Matapato their derogatory “Rhino Eaters” nickname (*Ilkinyamuny*: “the ones who eat rhinos”). In both sections, killing wild animals for food and for the bushmeat trade seems to be increasing, perhaps accompanying local pauperization and economic and ethnic diversification. At the same time, people are psychologically opening up to idea of eating different foods in general and wild meat in particular (interview data)¹³⁰.

¹²⁷ Other restricted foods include fowl, fish and pork.

¹²⁸ According to Western, who works in Amboseli, wild animals are seen as Maasai “second cattle” (Western and Nightingale 2005). However, I have never heard this from my Amboseli informants.

¹²⁹ I witnessed this while preparing an ostrich egg omelet: one of my assistants was about to vomit while watching me use our daily kitchen ware to cook a meal out of something that is “not edible”.

¹³⁰ Ironically, wildlife conservation might be contributing to this. Some of my informants had their first taste of wild meat when wildebeest meat, remaining from a game-cropping operation on Imbirikani GR, was distributed to local households. Others ate buffalo meat when working at a local tourist lodge (pers. com, S. Rodriguez). Goldman (2003) gives a similar example for Northern Tanzania Maasailand.

In general, Maasai are said to have rarely killed wildlife, mostly doing it in defense of livestock (Rutten 2002) while herding or in retaliation for killed livestock. This impact has been qualified as negligible (Mol 1981). According to Mol (1981), the main culprits for killing wildlife are the herding boys (*ilayiok le shoo*). While out herding, these boys will kill “anything” (from rabbits to the aggressive oryx) by using sticks, spears and dogs. They do it out of curiosity, for fun, to feed their dogs, to eat, and to train their spearing skills. They also bring home hides for their mothers and wildebeest tails for the elders. As informants explained, boys do this because “boys can do anything”. Later in life, killing “innocent” and harmless wild animals is condemned as inadequate and ridiculous for adults (interview data). Newly circumcised boys, the *ilaibartak*, shoot birds that they stuff and make into headdresses (Galaty 1998; Hollis 1905 (1970); Mol 1981; Storrs Fox 1930). They use small bows and blunt arrows to target species of specific colors and behaviors (interview data; see Figure 3.1 and 3.2; Appendix 13).



Figure 3.1. Initiates (*ilaibartak*) wearing ostrich feather headdresses and carrying birds that they shot to insert as part of headdresses (April 2003).

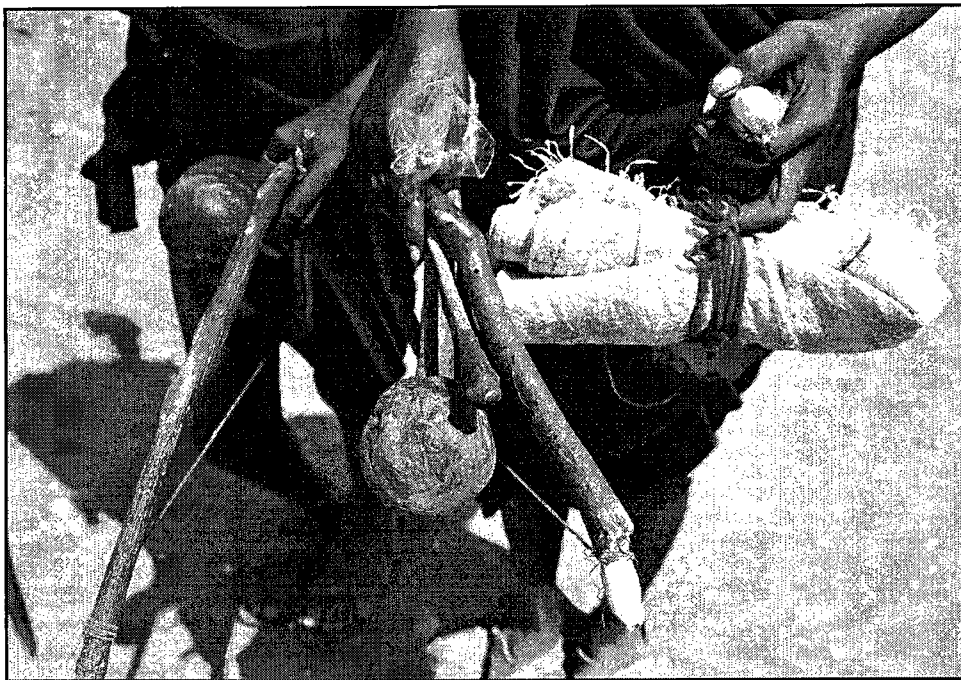


Figure 3.2. *Ilaibartak*'s small bows and arrows and a bird that they shot for their headdresses (on the right) (April 2003).

Perhaps the most famous facet of Maasai relationship with wildlife is the lion hunt, or *olamayio*, carried out by the *ilmurran* (see e.g. Farson 1940; Gilbert 2003; Hinde & Hinde 1901; Hunter 1953; Kessel 1958; Maddox 2003; Ole Saitoti 1988; Shelford 1910; Simon 1962; Spencer 1988) (see Figure 3.3). A successful *olamayio*, where a lion has been killed and no moran has been injured, is joyfully celebrated by the whole community. Commonly described as a “manhood ritual” (e.g. Frank et al 2006; Hazzah 2006), its meanings are considerably more complex (Goldman et al In prep.). In Amboseli, the motivations behind *olamayio* are multifaceted and include having fun and attracting girls by displaying strength and courage; acquiring prestige and showing leadership skills; getting the “lion name” (*enkarna olowaru*)¹³¹; competing with other “manyatas” (*emanyata*)¹³²; killing a lion that has harmed the community, thus preventing it from coming back; and controlling the population of lions (Goldman et al In prep.). If a lion is not found, other dangerous animals (e.g. buffalo, elephant) are targeted (interview data; Mol 1981).

¹³¹ See Appendix 14 for a list of “lion names”, which are given to the first moran who drew blood from the lion. This name is awarded at the site of the kill in recognition that he is the “owner of the lion” (*olopeny olowaru*). This is a traditional practice in the Kenyan Kisonko section and a recent one in the Matapato section. It is not necessarily practiced in other Maasai sections.

¹³² *Emanyata*, pl. *imanyat*, in this context, is the settlement of morans, their “barracks”. In Amboseli, they are organized by clan.



Figure 3.3. Lion hunt (*olamayio*) in progress in a local group ranch (June 2000).

Maasai are reputed for having collaborated with the conservation authorities in fighting poaching (Grzimek & Grzimek 1960; Lovatt Smith 1986). However, several informants of the Ilnyankusi (*ilmurran* from the early 1940's to mid-50's) and the Iseuri (*ilmurran* from the mid-1950's to late 60's) age-sets¹³³ candidly reported their involvement in rhino horn and ivory poaching for the trade (interview data)¹³⁴.

Uses of wildlife

Certain species have ritual and medicinal value, as well as use as implements of daily life. Earlier literature (e.g. Anonymous 1884; Bland-sutton 1911; Hollis 1905 (1970); Leakey 1930) describes how elders used fly whisks made of wildebeest tails; rhino horn was carved into clubs; eland hide strips were made into

¹³³ See Appendix 1 (age-sets and age-categories of informants).

¹³⁴ Sold to Somali middle-men. See also Beachey (1967).

thongs and “beds” (mattresses); giraffe hair was used as thread; and ostrich feathers and lion manes were prepared into headdresses for *ilmurran*, who made shields out of buffalo hides. Some of these uses have persisted: according to my informants, nothing is as strong as a “rope” made of eland skin. Other practical uses include the utilization of certain parts or substances from wild animals as medicine (Mol 1981) and charms (*entasi*)¹³⁵. For the most part, animals are not killed with the purpose of getting these items: wildebeest hair is collected where wildebeests sleep¹³⁶; ostrich feathers are gathered from the ground; skins and other parts are taken from animals found dead. Some parts are also bought if unavailable locally. In Amboseli, this is the case of the black and white¹³⁷ tail of the *Colobus guereza* monkey¹³⁸ (*enkoroi*, a species that inhabits the Loitokitok highlands), and which is used by brides and girls as a ceremonial ornament (see Figure 3.4).

¹³⁵ See Appendix 15 for these uses in Amboseli.

¹³⁶ Flywhisks made of wildebeest tail hair are signs of seniority that are highly sought after by the elders. The fact that most elders desire them but do not own them attest to the fact that wildebeests are not killed in order to collect their hairs, even though they are abundant and generally disliked because they transmit the fatal malignant catarrhal fever to cattle.

¹³⁷ Again, two of the colors of *Enkai* (God).

¹³⁸ The Black-and-white eastern *colobus* monkey.



Figure 3.4. Young girls (*isankikin*) wearing *enkoroi* ornament made of the black and white tail of *Colobus guereza* monkeys (June 2000)

Knowledge of wildlife

As extensively shown by Goldman (2007; 2006), Maasai possess a deep and sophisticated knowledge about wildlife ecology and behavior¹³⁹. This knowledge reflects how intertwined the lives of people, livestock and wild animals are in these pastoral ecosystems. Through practice, Maasai are educated to become expert observers of and knowledgeable about natural processes (Berger 1993). It is, indeed, impressive to witness how, in the dark, the faintest sound of a wild animal is recognized as belonging to a specific species; or how species are visually identified

¹³⁹ In particular, Goldman (2006) argues that combining Maasai knowledge of wildlife whereabouts with scientific techniques of counting and recording animal provides a more thorough knowledge of wildlife ecology.

at great distances (pers. obs.). I have also witnessed the rich ornithological knowledge of Maasai friends, which they ascribe to their “education” in the bush as initiates trying to shoot the “right” bird for their headdresses. Wild animals are observed for the clues they provide about pasture status (see also Goldman 2006); wildebeest, for example, are said to move to places where the first rain will fall or where green grass has just appeared; ostriches are likened to *iloibonok*, the ritual experts with divinatory powers: their sound indicates that “God will rain” (*esha Enkai*) (interview data). Maasai also show a remarkable knowledge of livestock diseases, including the ones transmitted by wildlife (Lewis 1968; Mol 1981; Ole Miaron 2003).

Wildlife in oral literature

Mepal olowaru enetadaare (the lion does not stop frequenting a place where it has fed; Kipuri 1983).

Maasai rich oral literature profusely features wildlife. In riddles, tales, proverbs, myths and poetry (see Hollis 1905 (1970); Kipuri 1983; Ol' Oloisolo Masek & Sidai 1974; Ole Sankan 1971), wild animals fulfill an educational role: certain species show moral characteristics and behaviors to be emulated (e.g., the hare); others have despicable personality traits that are condemned (e.g., the hyena).

In summary, my aim here was to briefly review Maasai practices and beliefs as they relate to people's relationship with wildlife and expose some of the ambiguities and complexities inherent to this relationship: while semi-nomadic pastoralism is more compatible with wildlife than other land uses and while there

are practices and beliefs that appear as conservationist (even if they are not so by design and intent: see Smith and Wishnie 2000), Maasai culture also displays beliefs and practices that would not qualify as so in the eyes of western conservationists.

In the preceding section, I have sometimes used the ethnographic present, which downplays the economic and cultural dynamism and the ethnic flexibility that have characterized Maasai history and identity (see Cronk 2002; 2004; Hodgson 2001; Spear & Waller 1993). Below, I review processes of socio-economic change ongoing throughout southern Kenya Maasailand and that hypothetically contribute to spatial and temporal variation in such practices and beliefs.

Being Maasai/becoming “modern”: cultural change in Maasailand

[In the past] there was respect among people and the land was good [...]. When I say the land, I mean the people on the land. For example, if an old man sent a son to bring a cow, the son would go straight and come back very quickly [...]. Children had respect: they would greet people, even from far. Now, children pass by and fail to greet elders [...]. This is the kind of life we're living in now. When we were growing up, religious people were saying “There will be changes”. Indeed, those changes we have seen! I think these are the changes that religious people were foreseeing... [...] These *ilkanisani* people (Christians)¹⁴⁰ are the ones who brought this bad luck (*kiserani*; Swahili)... (Ilkishimu elder, Osilalei)

This life is better [than the past] because there are schools and we go to church: this has really made people to change because we don't follow the traditions anymore. For us, Saved People, we don't find anything important in tradition. We were lost when we were following the traditions. I don't hate traditions but I don't find them helpful. (Young Pentecostal woman, Swamps)

Croze et al. (2006: 7) argue that, regarding ecological patterns, “*changing* [emphasis in original] is the best way to characterize the core of the Amboseli ecosystem”. The same can be said of the human component of the ecosystem. Indeed, the reality in Maasailand is more nuanced than in the popular ahistorical

¹⁴⁰ *Ilkanisani*: “the ones of the church”; from *enkanisa*, pl. *inkanisani*: church.

and essentialist depictions of Maasai as quintessential pastoralists (Galaty 2002; Hodgson 2001). Processes of socioeconomic change, such as land privatization, land use change, conversion to Christianity, market economy integration, formal education, non-Maasai immigration and tourism and conservation are underway in Amboseli. And Maasai are actively negotiating their “becoming modern” and what “Maasai culture” (*olkuak loolMaasai*) is about (see also Hodgson 1999b; May & Ole Ikayo 2007). Some authors (e.g. Mol 1981; Simon 1962; Western 1994) have predicted that these transformations would negatively affect Maasai tolerance towards wildlife.

Although it is artificial to distinguish between processes of change that might be intimately coupled, I offer a brief overview (based on the literature and field data) of some of these in Kenya Maasailand. This is a way to contextualize this research on (possibly) associated changes in people’s relationship with wildlife, in both its practical and ideational dimensions.

Land tenure/land use change and market economy integration

Above, I mentioned how land tenure and land use changes (e.g. adoption of cultivation – now increasingly culturally acceptable) have had ecological and economic impacts in the Amboseli ecosystem. These changes in Maasai relationship with the land also have had other consequences. For instance, land privatization and/or adoption of cultivation have encouraged household sedentarization (see also Lesorogol 2005). This, in turn, has promoted economic diversification (BurnSilver 2007), adoption of formal education and Christianity, dietary and health changes

(Bekure et al 1991), decreasing *boma* and household sizes and changes in housing style (Bekure et al 1991; Rukwaro & Mukono 2001; Seno & Shaw 2002; Worden 2007; Zaal 1999).

Increasing integration of households in the market economy and commodification of aspects of livelihoods have also induced cultural changes. With privatization, land has become a commodity and social stratification based on control of the land has increased (Galaty 1981b; Hodgson 1999b; Lesorogol 2003). With this ideological shift in values, private land ownership has become a signifier of “modernity” (Lesorogol 2003). In the GAE, land privatization has also implied a partial breakdown in social cooperation and increasing isolation (Ntiati 2002; Zaal 1999)¹⁴¹. As a result of the increasing monetarization of livestock production (e.g. veterinary inputs; livestock trading etc.) (Bekure et al 1991; BurnSilver 2007; Zaal 1999), the economic value of livestock is increasingly emphasized (although non-economic dimensions of livestock remain important; see Chapter 2). An Ilkimunyak elder from Osilalei sums up the advantages of land privatization:

Before [GR] subdivision, there was no benefit for people because you didn't have your place, your land; you didn't know how to manage where you are; how to change breeds for your milk; how to dig; how to keep beehives; how to build a modern house... There were no developments when land was temporarily owned...

Non-Maasai immigration

Since the 1960's, the local non-Maasai population has increased tremendously through immigration of farmers from Tanzania and other parts of Kenya to irrigated areas and urban centers in the ecosystem (Campbell et al 2000; Ntiati 2002;

¹⁴¹ In Osilalei, among the most frequent complaints about subdivision, especially among women, are physical and social isolation, selfishness and individualism. There is also the fact that neighbors “have become enemies” and “people don't love each other anymore”.

Southgate & Hulme 1996). One effect, among others, on local Maasai culture (besides promoting the acceptance of cultivation and teaching Maasai about it), has been the rising recognition of wildlife as food. Many Kisonko informants credited their eating bushmeat on learning from their *Ilmeek* neighbors that wild meat does not cause diseases.

Christianity

World religions are powerful forces of globalization and socioeconomic and cultural change (e.g. Robbins 2004a; Robbins 2004b; Woodberry 2006). In Kenya, about 88.5% percent of the population is Christian and local and international churches, especially Evangelical/Pentecostal and Charismatic ones, are booming, with attendant effects on local cultures (Anderson 2020; Droz 2001; Hearn 2002; Kalu 2007; Lugo et al 2006)¹⁴². In Maasailand, which has previously been described as impervious to Christian conversion (Rigby 1981; Waller 1999), Christianity is now well established. In the GAE Kiringe (2005) found that 81% of his Kuku GR informants were mainly Born Again Christians. In local “shopping centers” (e.g. Kalesirua, Kimana, Isinet) the spread of Evangelism is patent in mushrooming churches (Figure 3.5) and associated crusades and Christian movie shows (pers. obs.).

¹⁴² Pentecostal-Charismatic Christianity is the form of Christianity in which believers receive the gifts of the Holy Spirit (Robbins 2004b).

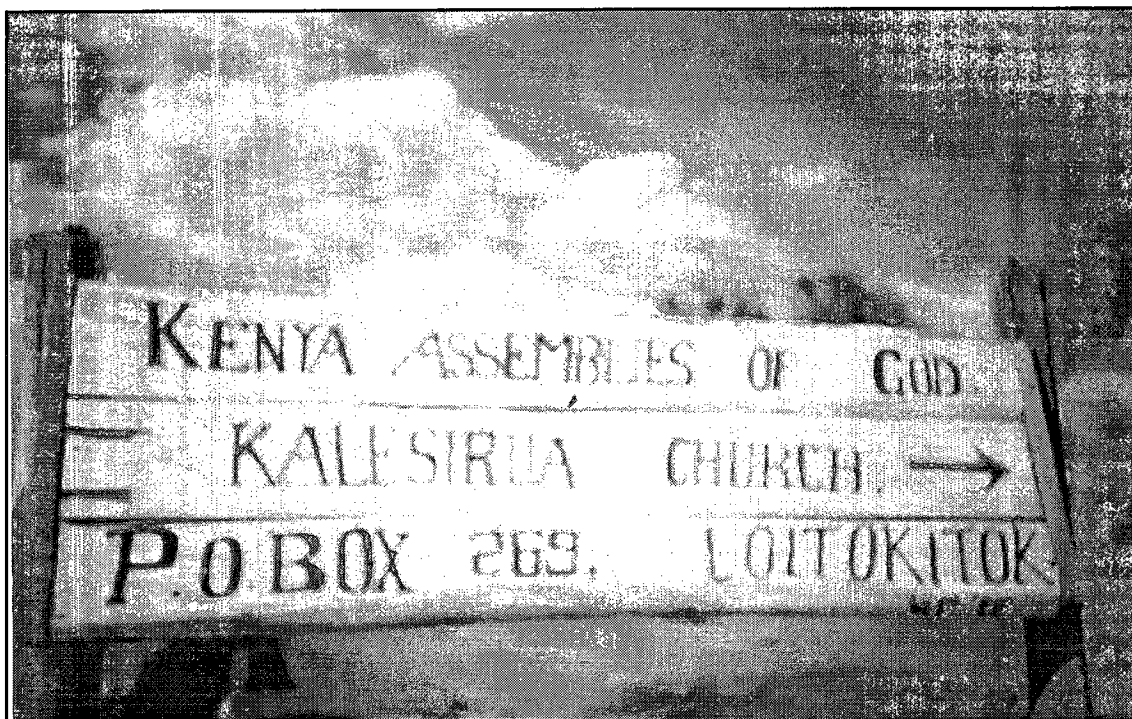


Figure 3.5. Kenya Assemblies of God church in Kalesirua (Swamps study area), a Pentecostal church of US origin.

Christianity covers “many denominations, sects and churches [ranging] from extreme American fundamentalism to a more liberal Catholicism” (Voshaar 1998: 138). Amboseli presents a similar diversity in affiliations, which differ in their encounters with and effects on the local culture. Here, it is especially relevant to distinguish between Catholic and Protestant attitudes towards Maasai culture. Following the inculturation approach (Hillman 1992), local Catholic missionaries have respected Maasai culture, incorporated some of its elements and highlighted the similarities between Maasai religion and Christianity (pers. obs.¹⁴³; Hodgson 2005). In contrast, Protestantism has disallowed traditional Maasai beliefs, practices

¹⁴³ I witnessed this during my five-week stay at the Lenkitem Mission (Olgulului-Lolarrash GR), as well as during shorter visits to Mashuru Catholic Mission. For instance, a catholic Maasai woman explained to me that *olamayio*, the lion hunt, is “the baptism of the morans”, since the killers of the lions are given new names.

and institutions (e.g. moranhood, ceremonies, foods¹⁴⁴ and dietary restrictions) (Hodgson 2005)¹⁴⁵. In practice, Protestant Maasai, especially the “Saved” ones (Born Again) from Evangelical churches¹⁴⁶ who embrace the values of “modernity”¹⁴⁷ (e.g. formal education, being “productive” through business and cultivation etc), look down on Catholic Maasai for being “traditional” (i.e. attending traditional ceremonies; drinking alcohol; using tobacco; wearing traditional clothes) (interview data)¹⁴⁸. Adjectives that Saved Christians use to describe Maasai traditional life ways include, among others, “misleading”, “aimless”, “idle”, “stupid”, “not beneficial”, “ignorant”, “immoral”, “dirty”, “lost”, “foolish”, “lazy”. In contrast, “modern” people are praised for being “productive”, “clean”, “clever”, “knowledgeable”, “wise”, “self-reliant”, and “busy”. Several informants described their conversion to Christianity as “being delivered from the dirty Maasai culture”, which has freed them from following customs seen as sinful and as a waste of time.

Formal education: “the pen is the best”

Now it is our children who are educating us, unlike in the past... (Iseuri elder, Swamps).

¹⁴⁴ Blood and the meat of animals that have not been properly slaughtered (with their neck cut while the animals are alive and the blood is collected) are forbidden. Thus, Christians who attend Maasai traditional ceremonies will only take *chai* (tea with lots of milk and sugar) and avoid the blood and the meat of animals that were ritually suffocated.

¹⁴⁵ Of course, there is great individual variation. Some individuals, as I witnessed, are able to or strive to maintain a fine balance between modernity and tradition in their lives; between both their identities as Saved Christians and as people respectful of the elders and Maasai tradition.

¹⁴⁶ Interestingly, locally, the term “Saved” is also applied to members of Mainline Protestant churches (e.g. Presbyterians and Lutherans) who also call themselves “Saved”.

¹⁴⁷ Known in Swahili as *maendeleo*: development, progress, modernity.

¹⁴⁸ In other parts of Kenya, Protestants even perceive Catholics as indulging in “satanic activities” (Droz 2001). In Osilalei, we had the same reputation: the “Korean” missionaries of the Spirit of Jesus Church in one of our study areas (Osilalei) were perceived as being devil worshipers. So were we, as I was presumed to be Korean. This made our work in that area difficult: on the scheduled days of interviews, we would find settlements empty, as if people had ran away to avoid us. I suspect that such rumors, in some cases, are spread by “competing” churches.

Although still low in comparison with national rural levels (Coast 2001; 2002), formal education is nowadays highly desired in Maasailand (Bekure et al 1991; Galaty 2002; Hodgson 1999b); in the past, “you sent to school the child you hated the most [...] Nowadays, you send to school the child you love the most” (focus-group, Imbirikani GR, Sept. 2002). Educated offspring are seen as a guarantee of economic security in a changing world. Contrasting with traditional seniority-based leadership structures (Spencer 1988; 1993), modern leaders (e.g. GR committee members; elected politicians) are educated men of younger age-grades (Hedlund 1971; 1979). In Kenya, formal education and Christianity are closely coupled, as many public and private schools are affiliated with particular denominations and the national curriculum offers Christian Religious Education (CRE) (Onsongo 2002).

Tourism and wildlife conservation

Above, we saw how the creation of ANP has negatively affected pastoral welfare. Another way in which conservation policy and tourism influence local culture and livelihoods is by introducing western concepts and values (West et al 2006). By banning all hunting, the Kenyan government outlawed the culturally significant lion hunt (*olamayio*). Tourism, too, potentially affects local Maasai culture (Berger 1996; Charnley 2005). In Amboseli, “cultural bomas” (settlements open to paying tourists) have been promoted by conservation authorities and NGOs as a way to develop tourism on Maasai-owned land and spread economic benefits

from wildlife¹⁴⁹. Many Maasai have welcomed such initiatives as an opportunity to enter the cash economy (Berger 1996). However, besides contributing to commodifying Maasai culture (see Bruner & Kirshenblatt-Gimblett 1994), these ventures have sparked intra-community conflict because of the freedom they afford Maasai women and the perceived corruption of Maasai youth by white women. In Imbirikani GR such “immoralities” have caused local Christians to oppose the start of a cultural boma. We have also seen in Chapter 2 how perceptions of leaders “selling” land for tourism without community backing have fueled conflict.

“Traditional” vs. “modern” Maasai

English-speaking Maasai frequently used the terms “traditional” and “modern”, without my prompting, to describe fellow Maasai. What do these terms entail in Amboseli? A picture emerged out of combining meanings that were informally captured during fieldwork and data from a participatory ranking exercise designed to elicit local criteria of “tradition” and “modernity”¹⁵⁰.

In the words of “modern” informants, “traditional” Maasai are those people who have “done nothing to advance their lives”, i.e. they are exclusively pastoralists; have not obtained improved livestock breeds; do not cultivate; do not go to church; are not employed; and do not educate their children. In contrast, “modern” Maasai are actively engaged with *maendeleo*: they cultivate; own urban plots; are employed and/or do some business(es). They also go to church; educate their children; wear

¹⁴⁹ E.g. Amboseli Trust for Elephants; African Wildlife Foundation.

¹⁵⁰ Adapted from Grandins’ (1988) wealth ranking method.

western clothes and live in tin roofed houses. This diversity of criteria gives an idea of how heterogeneous contemporary Amboseli Maasai society is.

Research questions and objectives

The objective of this chapter is to present an integrated approach to how people conceptualize the relationship between humans and wildlife in the GAE, a pastoral system in transition. The analysis includes cognitive, social, economic, religious and cultural dimensions of the relationship and interactions among these dimensions. Taking into consideration the contrasting socioeconomic contexts throughout the GAE, I am specifically interested in investigating patterns of variation in cultural models of human-wildlife relationship and whether and how these patterns relate to socioeconomic changes.

To answer this general question, I use a cultural models framework, based on the distributional view of culture (Atran & Medin 2008; Atran et al 2002; Atran et al 2005; Sperber 1985) and combine quantitative and qualitative methods from cognitive anthropology to answer three specific questions:

- 1) What is or what are the cultural model(s) of people's relationships with wild animals within and across different groups of land users in the ecosystem?
- 2) Is there variation in agreement and disagreement among land users regarding the model(s) of this relationship? If yes, what are the patterns in this variation?
- 3) What are the processes underlying this variation?

I hypothesize that although individual variation in models of human-wildlife relationships is expected and although differences in socioeconomic contexts possibly influences content and distribution of cultural models, there is a shared, common cultural model of people-wildlife relationships among the Maasai of Amboseli. First, I will describe the content of predominant cultural model(s) of people-wildlife relationships. Then I will investigate patterns of agreement with these model(s) within and across communities and explore the processes related to the variation thereof.

Several characteristics of the GAE make it an excellent case-study to explore how research on cultural models of the environment can inform conservation science and practice. These include the Maasai historically benign co-existence with wildlife and the presence of both a range of wildlife conservation initiatives and of contrasting socio-economic contexts that possibly allow isolating mechanisms of variation in cultural models. As I discuss below, emerging models of human-environmental relationships may influence conservation decision-making in unanticipated ways and with consequences for local wildlife conservation efforts.

Theoretical framework

At the intersection of psychology and anthropology: cultural models theory

The study of culture formation and cross-cultural relations requires careful attention to group dynamics and individual psychological processes. To causally understand cultural cognition and behavior, anthropology and psychology must be close companions (Atran 2005: 772).

In this chapter, I draw on recent developments at the intersection of anthropology and psychology to explore how people in the GAE conceptualize their relationship with wild animals, as well as the processes underlying specific understandings thereof. Major aims of cognitive anthropology are to “[represent] aspects of the way the world is understood to be within particular cultural settings as well as intracultural variation in and the social distribution of cultural knowledge” (Garro 2000: 279). Here, cultural knowledge loosely means ideas, knowledge, concepts, biases, beliefs, values and every mental process that is subject to social transmission (Paolisso 2000; Ross 2004).

Cognitive anthropologists have developed the concepts of schemas and models as conceptual frameworks and interpretive processes that mediate our understanding of the world (see D’Andrade 1995a; Holland & Quinn 1987; Strauss & Quinn 1997). Formed through accumulated experience and learned from others (Garro 2000; Holland & Quinn 1987; Quinn 2005a), we use them to perceive, process, organize and interpret information; to reason about the world; to attribute meaning to situations and events; and to guide behavior and solve problems (Garro 2000; Holland & Quinn 1987; Kempton et al 1995). They are both data structures and data processors; both patterns *of* action and patterns *for* action (Casson 1983).

Typically, these cognitive structures and processes are described as nested hierarchies in the mind, where a schema, the prototypical representation of some object or event, is part of a system of interconnected building blocks constituting more complex models (D'Andrade 1995b). A cognitive model, as Dressler (2000: 246) explains, is “a highly schematized, skeletal representation of some conceptual domain, including the elements, structure, associations and processes within that domain”. It also defines how the model’s elements relate to one another (D'Andrade 1995b). We draw on these internalized representations when deciding how to behave in certain situations or when making sense of our thoughts, feelings, motivations and actions and the actions of others (Dressler 2000; Quinn 2005a). However, models are not precisely stated rules and rigid structures. Rather, they are loose patterns of association that enable flexible reactions to events (Strauss & Quinn 1994).

Psychologists refer to “mental models” as the subjective representations held by individuals and constructed from idiosyncratic experience in a relatively direct relationship with a physical environment. Anthropologists focus on intersubjective representations built by individuals from common experience and thus shared within social groups (Shore 1996; Strauss & Quinn 1994). This sharedness makes them “cultural models”(Holland & Quinn 1987; Quinn 2005a; Ross 2004; Strauss & Quinn 1997). It also means that these models are taken for granted by and tacit to the individuals holding them (D'Andrade 1995a; Holland & Quinn 1987; Paolisso 2007). Instead of being formulated as explicit declarative knowledge, they are implicit and based on schemas embedded in words (D'Andrade 1995b).

The sharedness does not imply the exclusion of other, alternative models (Holland & Quinn 1987; Ross 2004; Strauss & Quinn 1994). Cultural models are in peoples' heads but a given cultural model is not necessarily in everyone's heads (Strauss & Quinn 1994); across individuals, there is considerable difference in the amount and elaboration of the knowledge encoded in cultural models (Dressler 2000) and people can draw from different models at different times (Strauss 2005).

My approach relies on a definition of culture that stresses intracultural variation and change, and causal processes of stability and change. This contrasts with the "common-sense" view of culture which posits culture as a stable and bound system of equally shared and perfectly transmitted rules, norms, beliefs and practices (Atran et al 2005; Ross 2002; Ross 2004). In the more recent distributional view of culture (Atran & Medin 2008; Atran et al 2002; Atran et al 2005; Sperber 1985), cultures are composed of linked and overlapping mental models that are imperfectly shared and diversely distributed across individuals in a population, and the models' attendant behaviors (Atran et al 2005; Dressler 2000). Without giving up the idea of sharing, culture is thus seen as an emergent system consisting of individual cognitions arising out of interactions with the social and physical environments and that are distributed according to processes involved in their creation and modification (Ross 2004). Within a given population, agreement and disagreement with cultural models have clear patterns of variation that reflect differences and changes in physical and socio-political environments (Kempton et al 1995; Ross 2004). These patterns can then be explored with respect to their origin and the knowledge involved, which allows identifying the processes involved in

cultural models' production, maintenance, transmission and change (Atran et al 2005; Ross 2004).

Thus, it is important to study how individuals handle novel situations and introduce new ideas and concepts into their existing frameworks (Ross 2004). Building upon previously learned models and schemas (Strauss & Quinn 1997), change in cultural models also results from socioeconomic or political factors that affect and constrain exposure to social discourses, information flow, and individual learning processes (Atran et al 2005; Paolisso 2000; Strauss 2005). Taking into account the social forces that shape and are shaped by persons and that lead to variation and change in cultural understandings, Strauss (1994) draws attention to the existence of competing models within populations, the existence of sub-cultures and the change in cultural models over time (Handwerker 2002; Ross 2004; Strauss & Quinn 1994). This approach stresses the need to first identify patterns of variation and then only ascribe "boundaries" to groups of people so as to move beyond "reified and essentialized social groups that exist only by assumption" (Handwerker 2002: 108). This is especially relevant in the study of groups undergoing rapid changes linked to globalization and "westernization" (Ross 2004).

This theoretical and methodological focus on cultural change and associated variability in cultural models is particularly appropriate for this study, if one considers Maasai historical cultural diversity and dynamism, and the intensity of current socio-economic transformations in Maasailand.

“Why meanings matter”¹⁵¹ in environmental management and conservation

Focusing on the contested meanings of environmental problems and resources across stakeholders, cognitive anthropology has contributed to research on environmental issues ranging from forestry (e.g. Atran & Medin 2008; Medin et al 2006)) and fisheries (e.g. Miller et al 2004; Paolisso 2002; 2007) to global changes (e.g. Kempton et al 1995) and pollution (e.g. Paolisso 2000; Paolisso & Chambers 2001).

Because of the established link between cultural models and behaviors (e.g. Chavez et al 2001; Dressler 2000; Medin et al 2006), uncovering these meanings is a relevant contribution to research on environmental decision-making, and thus for conservation policy. Cultural models of the natural environment and how these vary across and within populations have been shown to correlate with values, attitudes and resource management behaviors (e.g. Atran & Medin 2008; Atran et al 1999; Atran et al 2002; Atran et al 2005; Kempton et al 1995; Medin et al 2006). In a telling study of environmental decision-making in the lowland rainforest around the Maya Biosphere Reserve (Guatemala), Atran, et al. (2005), Atran, et al. (1999), Atran, et al. (2002) and Atran and Medin (2008) show how three culturally distinct groups of people living in the same environment and holding contrasting cultural models of the forest’s ecological relationships have correspondingly divergent patterns of land use that also differ in sustainability.

¹⁵¹ From book by Medin, Ross and Cox (2006): *Culture and Resource Conflict: Why Meanings Matter*. Russell Sage Foundation.

Also, when stakeholders hold competing cultural models of nature and associated knowledge, meanings and values, this might hinder communication among stakeholders who use natural resources or spaces and thus generate intragroup and intergroup conflict. This can happen both among communities using the same resources (e.g. Medin et al 2007; Medin et al 2006; Strang 1997) and between conservationists and/or governments and local communities (e.g. Casagrande 2004; Haenn 1999; Paolisso 2000; 2002; Pfeffer et al 2001). Thus, as Paolisso (2000), Atran et al. (2005), Medin, Ross and Cox (2006) and Medin et al. (2007) argue, knowledge of cultural models and of how they change can be used to improve dialogue among stakeholders and thus contribute to solving these conflicts.

In this study, I am concerned with 1) the cultural model(s) of human-wildlife relationships that are held by different groups of land users in Amboseli, 2) whether, how and why these models are changing and 3) the implications of these changes for local wildlife conservation efforts.

Changing cultural models of the environment and forces of change

Cultural models of the environment change over time, in part reflecting interrelated changes in the social and economic spheres of the communities (Ross 2002). They are the products of ever-changing historical contexts and cultural specificities (Descola & Palsson 1996a) and vary with political economic factors that condition access to resources, patterns of land use, context of learning and explicit transmission of knowledge (Paolisso 2007; Paolisso et al 2006; Ross 2002). In particular, indigenous cultural models and associated knowledge and behaviors

which may have conservationist value are often negatively affected by transformations associated with globalization (Ross 2002; Snodgrass & Tiedje 2008). Here I review socioeconomic drivers that have been discussed as influencing human-environmental relationships in general and cultural models of the environment in particular.

Among drivers of change in cultural models of nature are changes in land tenure and land use change. For example, in Indonesia, Ellen (1993) shows how Nuaulu conceptualizations of the forest have been affected by logging, market economy penetration, land privatization and the 1980's transmigration policy. These changes have promoted the idea that humans can overcome previously uncontrollable natural forces. I would argue that in Maasailand, the transformation in perceptions of the land (from being shared and abundant to being a bounded, scarce, individually controlled asset) (Galaty 1981b; Hodgson 1999a), could result in important changes in models of the natural environment.

Immigrants have been blamed for introducing new models of nature and destroying local environments (e.g. Noss 1997). However, immigrants can also internalize local cultural models of nature. In the Maya Lowlands (Guatemala), Atran et al. (1999), Atran et al. (2002) and Atran et al. (2005), show how one group of immigrants, the Ladinos, are actively changing their mental models of the forest and adopting sustainable practices from their indigenous Itza Maya neighbors.

Although the impact of Judaeo-Christianity on (strictly defined) cultural models of the environment has not been investigated, its role in mediating human relationship with the natural environment has been widely debated. In particular, it

has been denounced as contributing to a world view that is anthropocentric, hierarchical, patriarchal, abstract and entailing human separation from and dominion over nature, a position famously associated with Lynn White's (White 1967) seminal article¹⁵². However, extensive quantitative research in the USA and Europe on the influence of Christianity on environmental attitudes and behaviors has not conclusively shown whether and how Christianity and its different denominations influence human-environmental relationships (see e.g. Boyd 1999; Eckberg & Blocker 1989; Eckberg & Blocker 1996; Greeley 1993; Guth et al 1995; Guth et al 1993; Hand et al 1984; Hayes & Marangudakis 2000; Hayes & Marangudakis 2001; Kanagy & Nelsen 1995; McCammack 2007; Schultz et al 2000; Sherkat & Ellison 2007; Tarakeshwar et al 2001; Wolkomir et al 1997).

In the non-Western world, Christianity has played an important role in the transformation of indigenous environmental constructions (Robbins 1995) by muting certain belief systems and associated practices that may have been conservationist in their effects (if not in intent). Appell (1997), for example, discusses how among swidden agriculturalists of Malaysia, a post-conversion loss of reverence for an environment that was alive with spirits and is now seen as an economic resource (as encouraged by Christian missionaries) has led to sacred grove destruction and environmental damage. Similarly, Robbins (1995) shows how, among Urapmin (Papua-New Guinea), Pentecostalism, exclusively, has transformed local perceptions of the environment through the injunction to use and dominate the earth and its fruits and the rejection of spirit ownership of resources

¹⁵² The same author, though, highlights such early Christian conservationists as St Francis of Assisi, whom he proposes as the saint patron of ecologists.

and taboos on foods and uses of the land (now seen as “false laws”). To follow these taboos is to sin, while willingness to break them is a sign of Christian faith. In East Africa, too, conversion to Christianity has generally been equated with loss of indigenous knowledge and beliefs credited with conservation value (e.g. Kideghesho 2008; Kiringe 2005).

In other contexts, however, Christianity, in its diverse forms, has promoted conservationist values and behaviors. With a shift away from the idea of dominion to the idea of stewardship of God’s creation¹⁵³, both the North and the South are now witnessing what has been termed a “Greening of Christianity” (e.g. Gitau 2000; Kanagy & Willits 1993; Kearns 1996; McCammack 2007). For instance, in the Borneo interior, in pre-conversion animistic contexts now faced with environmental degradation, Christianity is contributing to a resacralization of the forest (and its indirect protection) (Amster 2008). Among Inuit communities, local Pentecostal movements have developed “healing the land” rituals with shamanistic elements that stress the connection between people’s behaviors and the productivity of the land (Laugrand & Oosten 2007). In Kenya, there are several international Christian conservation NGO’s that have partnered with local churches to spread an environmental conservation message¹⁵⁴. Finally, we have seen (Chapter 2) how Christianity emerged as the strongest predictor of positive attitudes towards wildlife in the GAE. Thus, Christianity’s effects on conceptualizations of nature and

¹⁵³ Hart (2002) defines these two concepts as follows: in the dominion worldview, people see the world as created for humans, to be used by them; in the stewardship understanding, people have a trust from God to care for the earth and its goods on behalf of God, their ultimate owner.

¹⁵⁴ E.g. A Rocha (<http://en.arocha.org/kenya/>); Care of Creation (<http://careofcreation.org/prj.brackenhurst.cfm>). These NGO’s collaborate with local churches, such as the Anglican Church of Kenya and the African Inland Church, among others.

associated behaviors can be counter-intuitive. As Robbins (1995) argues, the outcomes of struggles between Christian and indigenous beliefs need to be examined on a case-by-case basis.

In non-western settings, formal education also potentially influences cultural models by conveying western ideas about nature. This, Berger (1993) sees as a threat to the sustainable practices associated with Maasai practical ecological knowledge gained through the pastoralist lifestyle. In Kenya, among Kajiado District primary and secondary students (including Maasai), Ali (2002; 2006) found a dominant perception of wildlife as sources of economic benefits to the country.

Transformation of indigenous understandings of the environment can result from global conservation discourses and initiatives implemented in non-Western settings (Pfeffer et al 2001; Snodgrass & Tiedje 2008; West et al 2006). Indeed, Pfeffer et al. (2001) argue that global environmentalism represents a cultural model that has grown out of First World environmental concerns, has been promoted by international environmental NGOs and is based on distinctive shared values, norms, attitudes and knowledge about the environment. For instance, Atran et al. (2005) show that Q'eqchi immigrants to the Maya lowlands get most of their expertise on agroforestry from local and international development NGOs (which value local resources economically) and, incidentally, are the group with the least sustainable agroforestry practices when compared to two other groups who hold different cultural models of the forest. For West (2006), the creation of protected areas (themselves a form and expression of globalization) has imposed the western nature/culture dichotomy on places where this distinction did not previously exist

– a pattern that can even be, counter-intuitively, reinforced by some community-based conservation initiatives (Goldman 2006). Also, in Maasailand, Goldman (2003; 2006) has argued that reshaping the landscape into protected and unprotected areas is reshaping Maasai relationships with wildlife into more antagonistic ways (see also Chapter 2). Also, local appropriation of the language of environmentalism can influence how people see themselves in relation to their surroundings (Pfeffer et al 2001).

In western contexts, too, changes in conservation policy can play a long-term role in changing cultural models of natural resources. In Wisconsin Medin et al. (2006) demonstrate how, under the influence of changes in state fishing regulations (size limits), cultural models of appropriate fishing practices have shifted away from the idea of “fishing for food” (a “do not waste ethic” still held by native Americans locally) to “fishing for sport” (with catch-release), which is typical of the white majority culture. Holders of each model perceive the other group’s model as leading to environmentally detrimental actions. Some of these general processes of modernization are underway in the GAE and I will investigate their association with variation in cultural models of human-wildlife relationships.

METHODS

The study areas

The fieldwork took place in the GAE in SE Kajiado District, southern Kenya, between February 2002 and July 2004. To capture both spatial and temporal dimensions of variation in cultural models, I selected three strongly contrasting study areas that are at different stages in the process of land tenure change (from communal to private), land use change (from extensive pastoralism to intensive agropastoralism) and development of tourism and wildlife conservation (Table 3.1). These three areas belong to two Maasai sections (Matapato section in the NW; Kisonko in the south).

Two study areas, hereafter called “Swamps” and “Emeshenani”, were chosen for their proximity to the park¹⁵⁵, the presence of conservation and tourism initiatives and their contrasting land uses (respectively agropastoralism and extensive pastoralism). In the north, I selected Osilalei for its private land regime and the absence of tourism and conservation initiatives (see Figure 3.6).

¹⁵⁵ Both are part of the Amboseli Biosphere Reserve buffer zone.

Table 3.1. Study areas' characteristics.

<i>Study area</i>	<i>Osilalei</i>	<i>Emeshenani</i>	<i>Swamps</i>
Group Ranch	Osilalei	Olgulului-Lolarrash	Imbirikani
Maasai section	Matapato	Kisonko	Kisonko
Administrative Division	Mashuru	Loitokitok	Loitokitok
Land tenure	Private	Communal	Communal
Land use	Sedentary pastoralism + rainfed cultivation	Extensive pastoralism	Sedentary pastoralism + irrigated cultivation
Tourism & conservation initiatives	No	Yes	Yes
Infrastructure access*	High	Low	High

* From BurnSilver (2007).

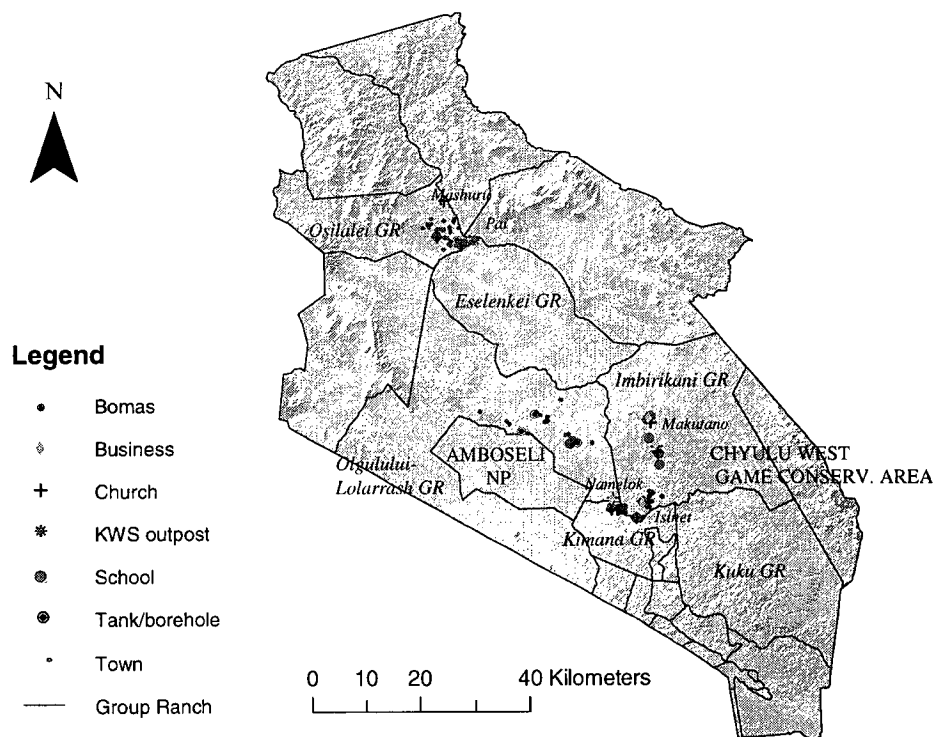


Figure 3.6. The Greater Amboseli Ecosystem and study areas. Osilalei study area lies in the eastern side of Osilalei former GR; Emeshenani is on ANP's northern boundary; the Swamps study area lies around Namelok and Isinet settlement areas.

The “Swamps” study area is located in the south of Imbirikani GR (4,600 registered members; 122,89 hectares) (Ntiati 2002), around the Kimana and Namelok swamps. These have been settled for horticulture since the 1970’s by non-Maasai farmers and Maasai agropastoralists. The settlement areas included here are Kalesirua and Namelok, two small bustling “shopping centers” that cater to an ethnically diverse population. This area is close to a road linking the Nairobi-Mombasa road to Loitokitok and the Tanzanian border, as well as to roads to ANP and offers livestock markets, churches, mosques, consumer goods, schools and dispensaries (see Figure 3.7).



Figure 3.7. Hollywood at the market (Kimana town; October 2003).

At the time of fieldwork, both Kalesirua and Namelok irrigated areas were being subdivided into private plots. Namelok plots are enclosed within an anti-elephant electric fence installed by Kenya Wildlife Service (KWS) in 1997. In contrast, Kalesirua's cultivated area shares an unfenced boundary with the privately held small Kimana Wildlife Sanctuary¹⁵⁶. Imbirikani GR has been the focus of extensive community-based conservation initiatives (see Chapter 2).

Located within Olgulului-Lolarrash GR (6,418 members; 147,050 ha) (Ntiati 2002), along ANP's northern boundary, Emeshenani is a semi-arid area with no permanent natural water source. Transhumant pastoralism is the main land use and some families cultivate in the GR's arable parts (Namelok; Loitokitok). Access to health and education is low; infrastructure is limited to malfunctioning water tanks and boreholes¹⁵⁷.

Osilalei lies in the eastern part of Osilalei GR, a 38,629 ha former GR (Rutten 1992) that was subdivided in 1990 (BurnSilver 2007; Worden 2007)¹⁵⁸. It is relatively close to Mashuru, the headquarters of the Mashuru Administrative Division. Households combine herding and rain fed cultivation on their private ranches (100 - 250 acres)¹⁵⁹; wildlife populations are low (J. Worden, pers. com.)¹⁶⁰, although herbivores from the Amboseli basin migrate to the area.

¹⁵⁶ Owned by the African Safari Club at the time of fieldwork. See Chapter 2 for more information.

¹⁵⁷ This water provision system was originally provided as part of the agreement between the government and Maasai communities that made official Maasai departure from what is now ANP.

¹⁵⁸ Osilalei GR still has a GR Committee and 900 registered members.

¹⁵⁹ In Osilalei, settlements are theoretically single-household settlements that "belong" to the owner of the land. However, some families (e.g. fathers and sons) decide to live together, even if momentarily, as a way to keep access to grazing that has been made inaccessible because of land subdivision. The average number of households per settlement is the lowest there (2.45). It is 2.84 in the Swamps and 4.70 in Emeshenani.

Despite selecting the study areas for their differences, some spatial correlation was unavoidable. For instance, the association between presence/absence of economic benefits from wildlife and land tenure was known from the outset and was impossible to circumvent: there is no subdivided area with tourism and conservation initiatives and, conversely, no group ranch without them. Other correlations, however, only became evident later and could not be controlled for. For example, the association between land tenure and Maasai section: all the private ranches are located in Matapato section, while all the GRs are situated in Kisonko. Another incidental correlation is how religious affiliation varies spatially according to the geographic location of different Christian missions and churches¹⁶¹. In such cases, qualitative data are crucial to tease out these confounding effects.

Data collection

To address the research questions in a holistic way, I collected both quantitative data, which are amenable to rigorous statistical analysis, and qualitative data, which are crucial in shedding light on statistical patterns and contextualizing results.

As Ross (2004) argues, formal methods in anthropology have to be complemented with in-depth, ethnographic and historic knowledge of both the studied populations and domains. Thus, within a general ethnographic approach

¹⁶⁰ J. Worden, International Livestock Research Institute, Nairobi, Kenya. Locals attribute this to land subdivision and the relatively even spread of settlements across the landscape. Former reserved dry season-grazing areas (*enkaron*) have now become *imparnati* areas (areas of permanent settlement). The ensuing disappearance of “bush” has led to the most dangerous wild animals “moving away”. Some informants even believe that those wild animals were actually taken on airplanes to ANP by white people.

¹⁶¹ See Appendix 16 for church membership per study area.

that combined long-term permanence in the field, participant observation and the collection of unstructured data in the course of daily interactions, I also collected data formally.

Throughout the fieldwork, my locally-recruited research assistants¹⁶² and I carried out 46 interviews with key-informants (unstructured and semi-structured). These included Maasai leaders (elected and appointed), GR Committees' members, non-Maasai and Maasai tour operators, conservationists, KWS staff, as well as knowledgeable Maasai individuals. We also conducted four focus-groups (with elders, women and herding boys); and three interviews with primary school teachers (the goal was to identify the contribution of formal education to ideas about wildlife, conservation and tourism). Finally, at the end of the field work, we carried out one workshop in each study area, where we presented preliminary results and obtained feedback on them. Throughout, I kept a field diary where I recorded observations on people, formal and informal interactions and events.

Most of the data that I use to describe and analyze cultural models come from semi-structured interviews that we carried out in 96 households¹⁶³ (32 per study area). These households were randomly selected from an updated sampling frame that was developed by BurnSilver (2007) and Worden (2007). In each household, two informants (the household head and one of his/her dependents)¹⁶⁴ were

¹⁶² Richard ole Supeet and Simayo ene Somoire, both Imbirikani GR members.

¹⁶³ A household is usually headed by an elder. It includes a husband, his wife(ves) and their children, as well as the people, relatives or not, who are "taken care of" by the household head. In Osilalei and the Swamps, some households are headed by widows, something we did not see in Emeshenani, a more traditional area.

¹⁶⁴ For example, a wife, a child, a sibling or a parent (see Appendix 2, table 1, for household composition). Despite attempts to interview equal numbers of dependants of different age/gender

interviewed (total n = 192), following an interview guide designed to collect both quantitative and qualitative data. Its questions were derived from preliminary data collection (informal and key-informant interviews; focus-groups) and tested with ten informants of different gender/age categories in the three study areas. The questions were thus culturally appropriate and relevant.

The interviews were not tape recorded: the English-Maa-English translations, the number of interviews and their length (they ranged from two hour interviews to full days affairs with meals included) made the transcribing process overly time-consuming. Instead, after training both my assistants in the importance of translating verbatim and in the research themes that needed to be more deeply probed, I opted to take scrupulous notes during the interviews. R. Supeet and I conducted the longer interviews with the household heads, while S. Somoire carried out the household head dependents' interviews¹⁶⁵. Everyday Simayo and I reviewed each of her interviews for clarity.

From early on, translation issues appeared as crucial. In this chapter, it is particularly relevant that, in Maa, there is no single word for "animal"; that the concept of "wildlife" is articulated through several words; and that this shows individual and regional variation. This makes "wildlife" a problematic notion concept to deal with in talk. While wild animals are sometimes generically referred to as *inguesi* (at least based on my experience in Amboseli), this term is mostly

groups, the sample was biased towards people who spend more time at home (women) as opposed to people who tend to be away during the day (herders; school-going children).

¹⁶⁵ The interviews with the household heads were longer because we collected the households' demographic and socioeconomic background data from them.

employed to speak about harmful and aggressive (*eerisho*) wild animals¹⁶⁶. Thus, using the word *inguesi* can bias informants towards speaking only about those usually disliked species. Another word, *ilchangit*, tends to apply to a different set of species: the “polite” (*ebor*; harmless, peaceful) animals. To minimize these biases, we inquired about the informant’s personal wildlife taxonomy at the beginning of the interview. Then, by asking questions that simultaneously included these different terms, we obtained data on “wildlife”¹⁶⁷. In addition, aware of individual and spatial variation in Maasai naming of wildlife species, we minimized potential confusion among species by having the informants identify the species they were talking about with the help of a guide to African wildlife (Alden et al 2001).

In order to investigate possible spatial and intergenerational differences in cultural models, I stratified the sample by study area and by age. Stratifying by age allows inferring changes over time, which is something to be expected in contexts of rapid social transformation (see Atran & Medin 2008; Atran et al 2005; Garro 2000; Ross 2002). In the Maasai context this approach is easy to implement because well-defined male age-sets are formed of cohorts of age-mates of equal ages. Also, in the past 100 years, age-sets have responded differently to government policies, the market economy, Christianity, formal education and development interventions (Rigby 1989). Thus, interviewing members of distinct age-sets possibly taps into cognitive models that are based on common experiences within age-sets – an

¹⁶⁶ These are also sometimes generically called “lions” (*ilowarak*; also carnivores), which also includes elephants and baboons, as well as *inkukuuni* (“monsters”).

¹⁶⁷ According to free list data (“Which wild animals do you see the most often?”), animals recognized as “wildlife” include the following species (in no special order): wildebeest, impala, gerenuk, Thompson’s gazelle, Grant’s gazelle, giraffe, eland, baboon, hyena, lion, elephant, buffalo, zebra, leopard, cheetah, warthog, oryx, hare, kudu, jackal, ostrich, snakes, hippopotamus, wild dog, dikdik, mongoose, fox, vervet monkey, common duiker, hartebeest, squirrel, eagle.

interpretation that informants confirmed: age-sets are differently talked about depending on their perceived level engagement with *maendeleo*. However, interviewing large age-set stratified samples was made difficult by time and resource limitations and the small number of members of the youngest and oldest age-sets among household heads. So, in order to increase sample sizes, older age-sets (Iseuri, Ilnyankusi and Ilterito; age range: 60s-90s), perceived as more “traditional” (following the traditional religion; uneducated) were sampled together, forming an “Old Elders” age-group; the younger age-sets (Ilkiponi, Ilkimunyak and Ilkishimu; age range: 20s-50s), perceived as “modern” (Christian; educated) were sampled together (as “Young Elders”). In each study area, sixteen “Old Elders” and sixteen “Young Elders” were randomly selected for interviews. The members of these two groups and their dependants¹⁶⁸ were then aggregated in two broad age-categories (Young vs. Old) to achieve samples large enough for statistical analysis¹⁶⁹. In total, 191 interviews were analyzed¹⁷⁰.

Having completed the fieldwork in Kenya, I have since been in contact by phone with my Amboseli assistants to ask for clarifications about the data and additional information. In March 2008, R. Supeet asked questions to the pastor of the local Pentecostal church he attends, while I had a conversation over coffee with a Fort Collins Pentecostal pastor (both pastors are from the Assemblies of God Church, of US origin). Information was also obtained through Christian

¹⁶⁸ See Chapter 2 for explanation on how age of women was determined.

¹⁶⁹ Age ranges: “Old”: 50s-90s; “Young”: children-50s.

¹⁷⁰ We carried out 193 interviews, but I discarded two of them - incidentally from the same Osilalei household - for being inconsistent and erratic.

environmental NGOs in Kenya, fellow researchers in the GAE and the Korean embassy in Nairobi¹⁷¹.

Analytical methods

Within cognitive anthropology, the investigation of cultural models has been approached from both qualitative and quantitative angles. In this study, I combine the strengths of a qualitative approach (discourse analysis) and of a statistical approach (cultural consensus analysis) to explore the content and the distribution of cultural models of people-wildlife relationships in the GAE. I transcribed and then coded and analyzed all the qualitative data with the help of the QSR NVivo 2.0 software; I entered all quantitative data in ACCESS and exported them to SPSS 16.0 for statistical tests and to Ucinet (Borgatti et al 2002) for cultural consensus analysis.

Discourse analysis

Typically, cultural models are inferred from what people say because people's talk on a subject is the best window into its cultural meaning for them (Garro 2000; Paolisso 2002; Quinn 2005c). To describe and analyze the content of the cultural model(s) of human-wildlife relationships in the GAE, I carried out discourse analysis of the interviews.

Discourse, here, means language in use, either spoken or written, consisting of fragments of speech or written text longer than single words or sentences; and

¹⁷¹ I contacted the South Korean embassy in order to identify the origin of Spirit of Jesus church in Osilalei, which was locally perceived as being Korean. However, this church turned out to be Japanese.

discourse analysis is the effort to tease from it the rarely explicitly stated cultural understandings and meanings that underlie it (Quinn 2005c). It is an in-depth and systematic analysis procedure that is concerned with representative sampling and disclosed evidence (Quinn 2005b; c).

Although there is no single way to do it (Quinn 2005c; Strauss 2005), a common feature is the investigation of cultural models and meanings through interviews and their rigorous reconstruction from clues provided in them. Ideally unstructured, the interview generates extended samples of rich discourse and provides a great density of clues to cultural understandings (Quinn 2005c). Reconstructing cultural models is done by searching for and comparing patterns across multiple interviews and passages (Quinn 2005b; c). Some of these patterns are frequent features of discourse, such as metaphors, key words and phrases, and instances of reasoning and linkage of ideas; and the contexts in and regularity with which they are used (Muhlhausler & Peace 2006; Paolisso 2002; Quinn 2005b). Also, people's talk will reveal traces of explicit social discourses and ideologies, such as ideas, jargon and phraseology typical of those discourses (Strauss 2005), thus providing evidence of their origin.

These linguistic expressions are all culture-laden, and their selection and use are governed by underlying cultural models (Quinn 2005b). They thus provide powerful insights into the human conceptual system (Casson 1983). Metaphors, especially, are revealing. According to Lakoff and Johnson (1980), the centrality of metaphors in language reflects how fundamental they are to our cognitive functioning and conceptual systems. Their relevance for discourse analysis stems

from their being 1) frequent in speech, 2) like flags waving (speakers choose metaphors that are cultural exemplars of the points they are making) and 3) key concepts in schemas or models (Quinn 2005b).

Quinn (2005) recommends that talk be tape-recorded and transcribed.

D'Andrade (2005), however, argues that if the main goal is to describe the content of a cultural model (rather than attitudes, feelings etc), less details are needed and verbatim records are enough. Discourse analysis also requires native or near-native control over the language and interviewee's culture (Quinn 2005). Finally, for D'Andrade (2005), rather than asking informants directly about their model(s), it is better to ask something that will make them use the model(s) in the answers.

My interviews fell short of several of these recommendations: they were semi-structured (as required for a comparative study) rather than unstructured; they were not tape-recorded; I did not carry out all the interviews face-to-face (most dependants' interviews were conducted by Simayo); neither I nor my assistants were perfectly fluent in, respectively, Maa and English. Finally, many questions directly and explicitly asked about aspects of the models I was interested in.

I explained above why tape-recording was impossible. Despite this limitation, as most questions were open-ended, we collected large chunks of detailed qualitative data (including narratives) that are amenable to discourse analysis. Also, close-ended questions were followed by questions asking to explain the answers, which provided additional rich discourse. I addressed the problem of our respective limited linguistic fluencies by having the questions back-translated and reviewing the translation of the answers for accuracy by asking for the Maa

word of each new concept to me and checking with a Maa-English dictionary (Mol 1996). In some cases, my Maa¹⁷² was good enough to identify mistranslation and “shortcuts” and to pick up important subtleties. For example, one assistant would translate “wild animals don’t have a shepherd” (*meata inguesi olchekut*) as “wild animals are not taken care of”¹⁷³. Or “beautiful” was translated as “good” (*sidaŋ*)¹⁷⁴. Of course, there were countless nuances that I did not grasp. Finally, my assistants’ translations themselves sometimes reveal more on the origins of *their* cultural models than of the interviewees’. For example, when a traditional elder mentions wildlife as a “source of foreign exchange”, I suspect that my high-school educated assistant heard something like “wild animals provide money to the country”¹⁷⁵. Finally, while it is true that some questions explicitly asked about aspect of the model(s), many others indirectly had the informants bring into play concepts and metaphors that reflected the underlying models (e.g. “the cow” as a metaphor was used frequently across very different questions and narratives; see below).

After transcribing and reading several times all the interviews and the field notes, I coded them using NVivo. Then, I explored the data for patterns in several (sometimes simultaneous) phases, keeping in mind the shortcomings mentioned above. First, I coded the answers into response categories; second, I coded the

¹⁷² I started learning Maa during a five-week intensive course at the Lenkiseem Catholic Mission (Olgulului-Lolarrash GR), taught by Father F. Mol (Kajiado Diocese) and H. Stocks (Feb. – Mar. 2002).

¹⁷³ Below, I explain the relevance of this.

¹⁷⁴ This, in itself, is culturally significant and revealing but misses the point that the question was asked to specifically explore aesthetic perceptions from a narrower western point of view (focused on the visual aspect) (see Chapter 4).

¹⁷⁵ This is revealing of the discourse on wildlife that children hear in school (more on this below). Another interesting example is one Christian research assistant translating “[wild animals have the same right as people and livestock to live here] because we all belong to one person” (*oltungani obo oitushula yiook pookin*) as “[...] because we all belong to one father”. This shows how my assistant has internalized the Christian idea of a male, father-like God, as opposed to the Maasai gender-less/female-like *Enkai*.

answers, as well as narratives and field notes, according to emerging and recurrent themes, paying special attention to metaphors and key-expressions¹⁷⁶. Finally, I qualitatively explored patterns in the coded data according to socioeconomic and demographic variables¹⁷⁷. Coding is not just a way to organize and retrieve data: it is also an analytical process that has been ongoing simultaneously across all the dissertation chapters, since my return from the field.

When the same structure is reconstructed from different people's talk, this shows that they share the understandings embodied in that structure. These understandings are thus "cultural" (Quinn 2005). However, it is also vital to be alert to competing ideas in the data corpus (Strauss 2005), which reflect variation in cultural models. One limitation of discourse analysis is that it provides no grounds for determining whether and how much (a) cultural model(s) is/are shared (Garro 2000). Neither does it, for example, accurately tell us whether people holding some or different models belong to groups that share common or different characteristics. Indeed, to describe such group response patterns, it is necessary to compare all the informants in all their responses (Ross 2004). But no qualitative method can keep track of differences and similarities in the response pattern of many informants answering many questions. Tackling this requires using formal statistical methods, such as the cultural consensus model, which I describe below. This method allows

¹⁷⁶ See Appendix 17 for the node tree I developed in NVivo. Nodes are structures in the NVivo program that store chunks of data that are categorized or "coded" according to concepts, ideas, or topics. NVivo nodes allow for the retrieval of all the data "coded" there for a more targeted analysis of their content.

¹⁷⁷ For this, I used the NVivo intersection matrix option, which allows to "pull out" all the data associated with the informants of a group defined by specific attributes (e.g. demographic or socio-economic) (see Appendix 18).

ascribing cultural boundaries after the fact, based on knowing the distribution of cultural models in a population and patterns of agreement with the models, rather than doing it *a priori*.

Cultural consensus analysis

The cultural consensus model (CCM) (Romney et al 1987; Romney et al 1986) is a formal statistical method that objectively describes and measures the distribution of cultural knowledge among informants¹⁷⁸. It determines whether there is enough sharing in responses to a set of structured questions to infer that the informants are drawing from one common cultural model of that domain (Dressler 2000). In other words, whether there is cultural consensus, which is defined as a generally agreed upon set of beliefs and values (Kempton et al 1995). The CCM also measures individual “cultural competence” and estimates the “culturally correct answers” to the questions (Romney et al 1986)¹⁷⁹. The idea behind the CCM is that high agreement among informants (consensus) reflects shared knowledge (Atran et al 2005; Kempton et al 1995; Ross 2002; Ross 2004). In this procedure, informants are asked to answer a set of structured questions that all relate to a single domain (Weller 2007). These questions should be first derived from preliminary qualitative data collection (such as informal interviews, free-lists) so that they reflect local meanings and understandings.

¹⁷⁸ Here, too, knowledge is taken to loosely include beliefs, perceptions, ideas etc.

¹⁷⁹ Some examples of application of the CCM: fisheries and knowledge (e.g. Miller, et al. 2004); international management research (e.g. Caulkins 2004); medical anthropology (e.g. Dressler 2000; Garro 1988; Monarrez-Espino et al. 2004; Trotter et al. 1999); gender (e.g. De Munck et al. 2002); forestry and natural resource management (e.g. Medin et al. 2007; 2006; Atran et al., 1999; 2002; 2008; Ross 2002).

Cultural consensus analysis is a factor analysis of people (the informants) rather than of variables (Berges et al 2006). It produces an informant by informant correlation matrix (adjusted for guessing). A factor analysis is then performed on that matrix (Boster 1986; Weller 2007).

The analysis then unfolds in three steps: first, inferring the existence of consensus; second, estimating how much each informant agrees with what the group agrees on (the “cultural competence”); third, determining the “culturally correct” responses (answer key) (Dressler 2000; Romney et al 1986). There is consensus if: 1) the ratio of the first eigenvalue to the second eigenvalue is at least 3/1; 2) the first factor accounts for a large portion of the variance; 3) all individual first factor loadings are positive and high and 4) there are no or only small numbers of high loadings on the second factor (Handwerker 2002; Romney et al 1986; Ross 2002; Weller 2007).

If these conditions are met, a single-factor solution explains the structure of the agreement among informants and reflects a homogeneous response pattern across people and across questions (Ross 2004; Weller 2007). Across informants, then, the agreement is strong enough that we can assume the existence of one underlying shared cultural model, the consensus, from which informants are drawing when answering a set of structured questions on a specific domain. This, however, does not imply that all informants give the same answers. Variability in their response pattern will be reflected in the individual loadings on the first factor, which measure how strongly each informant’s responses are correlated with the group’s response pattern (the consensus) (Atran et al 2005; Dressler 2000;

Kempton et al 1995; Weller 2007) – or the extent to which informants share, or not, what everybody else agrees on (Atran 2005). These loadings are termed “cultural competence” scores (Romney et al 1986). For instance, if one person has a competence score of 0.90, his/her responses reflect 90% of agreement with the consensus. Note that “competence” is not a judgmental term: these scores are just measures of individual agreement with the consensus (Ross 2004)¹⁸⁰.

Another output, after determination of a single consensus, is the answer key, which reflects the group’s responses (Berges 2006) (what Romney, Weller and Batchelder (1986) and Weller (2007) call the “culturally correct” responses). These are estimated by weighting each informant’s responses by their competence scores and aggregating the responses across people (Weller 2007)¹⁸¹. The responses of the informants with whom more informants agree with are given more weight. In discourse analysis, this is equivalent to looking at which ideas are expressed most frequently (Garro 1988). However, the group responses (answer key) are *not* the cultural model: it can only be inferred that the informants are drawing from a shared model of the domain when answering questions (Dressler 2000).

As Boster (1986) has pointed out, “there is more to culture than consensus”. Critiqued for its unrealistic assumptions and reliance on essentialized views of culture (see Handwerker 2002), the CCM has since made major contributions to the study of intracultural variation (e.g. Atran & Medin 2008; Atran et al 1999; Atran et

¹⁸⁰ Personally, I find the term “competence” misleading. Experts, for example, might show low “competence” because of possessing specialized knowledge that is not shared by the more numerous non-experts within a given population.

¹⁸¹ The competences scores are used to weight the responses of each individual (by multiplication) and then are summed together (Weller 2007).

al 2002; Atran et al 2005; Berges et al 2006; Dressler 2000; Garro 2000; Medin et al 2007; Medin et al 2006) and temporal, inter-generational change in cultural models (e.g. Ross 2002). Within and across populations, exploring patterns of agreement among informants reveals who “knows” what. This helps understand the processes underlying differences and change in models (Atran et al 2005; Ross 2002; Ross 2004). For Ross (2002: 125), “intracultural differences open new insights into basic processes of knowledge formation and transmission in changing contexts, such as globalization”.

Lack of consensus is also instructive: it might suggest that informants are drawing from more than one cultural model; that there are multiple consensuses held by different subsets of individuals within the same population (Kempton 1995). For instance, a great number of positive loadings and negative loadings on the first factor indicate two different cultures within one population (Handwerker 2002; Weller 2007).

Another situation is when there is consensus but also agreement that extends beyond the shared cultural model (e.g. Atran et al 2005; Berges et al 2006). This is explored by looking at the loadings on the second factor. A non-trivial second factor will capture agreement in addition to the overall cultural model, or submodels (Ross 2004).

To describe these types of variation (intracultural; subcultural) and explore its origins, first and second factor loadings can be used as dependent variables in further statistical analyses. The goal is to test whether the loadings correlate with socioeconomic and demographic variables, and thus to identify whether agreement

patterns relate to subgroups within the population. If this is the case, then a separate cultural consensus analysis can then be ran on each group (Berges et al 2006; Weller 2007).

In this analysis, I selected 32 questions with dichotomous answers (yes/no) out of the household interview guide. All the questions are related to the conceptual domain of human-wildlife relations. They ask about the conditions under which it is acceptable to kill wild animals; desirable solutions to human-wildlife conflicts; and beliefs, knowledge and feelings about wildlife (see Appendix 19). Derived from unstructured data collected during the fieldwork's first year, the questions reflect local concerns, ideas and values (e.g. the solutions to human-wildlife conflicts were all suggested by informants).

To prepare the data, I first dropped out of the database with 191 rows (informants) the rows with more than 10% of missing values and/or "I don't know" answers, thus reducing the number of rows to 99. I then filled the remaining empty cells with randomly generated 1s (yes) and 2s (no) (see Miller et al 2004; Weller 2007). I used Ucinet (Borgatti et al 2002) and the covariance model (true/false) to perform the analysis. Its outputs are a 99X99 informant correlation matrix, individual first and second factor loadings and the answer key (see Appendix 20). Finally, I combined methods (e.g. one-way ANOVA; regression and cluster analyses) to explore which personal attributes explain patterns of variation in agreement with the cultural model(s).

RESULTS

Below, following Ross's (2004) stress on the importance of explaining who one's informants are (which has consequences for result interpretation and theory building), I present information on the informants' socio-economic and demographic characteristics, followed by the findings from the discourse and cultural consensus analyses.

Informants' socioeconomic, demographic and cultural characteristics

A total of 191 interviews was carried out in 32 households in the Swamps (20.6% of the local households), 33 households in Emeshenani (33.3% of all the local households) and 31 in Osilalei (31.3% of the local households). Of the three study areas, the Swamps study area appears as the most "modern", a place where *maendeleo* activities (e.g. cultivation, businesses) are eagerly experimented with. Informants from this area are more educated (Table 3.2), practice a self-perceived more "modern" version of Christianity (mostly Protestantism) (interview data; see Table 3.3 and Appendix 16) and have a more diversified economy (Table 3.4) (i.e. employment in tourism/research/conservation; businesses; horticulture for the Nairobi, Mombasa and export markets). Most households are small (6.69 people on average), agropastoralist and sedentary (Table 3.4). In contrast, north of the park, Emeshenani is locally considered a more "traditional" area because of people's and livestock's mobility. Some households¹⁸² are agropastoralists (Table 3.4), cultivating plots in swamps and/or the Loitokitok highlands; the average level of education is

¹⁸² Average size: 12.88 people; In Osilalei: average size: 7.13 people.

low (Table 3.2) and the people who identify themselves as Christians (47.7%) practice Catholicism (Table 3.3)¹⁸³. This is the least economically diversified area (Table 3.4). Osilalei can be said to be at an intermediate level of “modernity”, in terms of education (Table 3.2), adherence to Christianity (Table 3.3) and economic diversification (Table 3.4). Interestingly, the Swamps and Osilalei areas are the poorest (Table 3.4).

Table 3.2. Education in the study areas. Numbers in parentheses are percentages.

<i>Study area</i>	<i>Education level*</i>		<i>Mean number of years of education[§]</i>
	<i>Uneducated</i>	<i>Educated</i>	
Swamps (n=64)	50 (78.1)	14 (21.9)	1.45
Emeshenani (n=65)	62 (95.4)	3 (4.6)	0.20
Osilalei (n=62)	51 (82.3)	11 (17.7)	0.84
Total (n=191)	163 (85.3)	28 (14.7)	0.83

* Differences in education level are significant: $\chi^2 = 8.376$; $df = 2$; $p = 0.015$;

[§] Differences in mean number of years of education is significant: $F = 5.407$; $df = 2$; $p = 0.005$.

Table 3.3. Religious affiliations in the study areas. Numbers in parentheses are percentages.

<i>Study area</i>	<i>Religious affiliation*</i>		
	<i>Catholics</i>	<i>Protestants</i>	<i>Traditional</i>
Swamps (n=64)	3 (4.7)	48 (75.0)	13 (20.3)
Emeshenani (n=65)	27 (41.5)	4 (6.2)	34 (52.3)
Osilalei (n=62)	2 (3.2)	32 (51.6)	28 (45.2)
Total (n=191)	32 (16.8)	84 (44.0)	75 (39.3)

* Differences in religious affiliation significant across study areas: $\chi^2 = 81.357$; $df = 4$; $p < 0.001$

¹⁸³ Besides the fact that Catholicism has been more respectful of Maasai culture, local Catholics are also maybe less committed to their faith than the “Saved” Protestants. This might, however, also be related to the harshest ecological conditions under which Emeshenani pastoralists live. A “Catholic” elder, when I asked him how often he went to mass: “Never this year; a few times last year [...]”. Going to church must not prevent you from going with the cows”. This attitude is prevalent among men, who, as I witnessed, rarely frequent the Sunday masses in Lenkise, as compared to women. Hodgson (2005) has described how Maasai women in Tanzania have disproportionately converted to Catholicism in comparison to men (in an attempt to reclaim the spiritual power they have lost since changes introduced, in part, by colonialism).

Table 3.4. Distribution of households according to land use types, economic activities and wealth ranking. Numbers in parentheses are percentages.

<i>Attributes</i>	<i>Study area</i>		
	<i>Swamps (n=32)</i>	<i>Emeshenani (n=33)</i>	<i>Osilalei (n=31)</i>
<i>Land use</i>			
Livestock only (n=26)	4 (12.5)	18 (54.5)	4 (12.9)
Livestock + cultivation (n=70)	28 (87.5)	15 (45.5)	27 (87.1)
<i>Economic activities</i>			
Livestock only (n=13)	1 (3.1)	10 (30.3)	2 (6.5)
Livestock + cultivation (n=13)	0 (0.0)	3 (9.1)	10 (32.3)
Livestock + other (n=13)	3 (9.4)	8 (24.2)	2 (6.5)
Livestock + cultivation + other (n=57)	28 (87.5)	12 (36.4)	17 (54.8)
<i>Wealth ranking</i>¹⁸⁴			
Poor (n= 46)	20 (62.5)	7 (21.2)	19 (61.3)
Medium (n=23)	8 (25.0)	7 (21.2)	8 (25.8)
Rich (n=27)	4 (12.5)	19 (57.6)	4 (12.9)

In terms of gender, the sample was relatively balanced, with 109 men (57.1%) and 82 women (42.9%). Six household heads were widows (two in the Swamps; four in Osilalei). Although not significantly, there were more formally educated men (18.3%) than women (9.8%) ($\chi^2=2.762$; $df=1$; $p=0.097$). Household heads were distributed across age-sets as follows: 30.2% of the “Young Elders” were of the Ilkimunyak age-set¹⁸⁵; 17.7% were Ilkishimu; Ilkiponi household heads (already junior elders in Matapato) were 2.1%. Among the “Old Elders”, 29.2% were Iseuri, 18.8% were Ilnyankusi. Only two were Ilterito (2.1%). Among the dependants were five girls (uncircumcised; 8-12 years old), seven boys (uncircumcised; 11-16 years old), 10 *ilmurran* (15-22 years old) and 71 adult women (15-80+ years old).

¹⁸⁴ Wealth ranking (Grandin 1988) is a method to determine household wealth that relies on intra-community definitions of wealth.

¹⁸⁵ See Appendix 1 (age-sets and age-categories of informants) and Chapter 2 for an explanation of the sampling strategy according to age.

Discourse analysis results: the content of cultural models

In this section, I present what has emerged out of the discourse analysis as two contrasting cognitive models (and one possible “submodel”) of human-wildlife relationships among Amboseli Maasai. The existence of competing cultural models, which was manifest during fieldwork, was also evident while exploring and coding the qualitative data: in the midst of great variability and complexity in answers, some informants consistently gave answers and explanations that fell within a similar range of ideas about wildlife, while others provided answers consistently in opposition to these. This pattern was corroborated by the discourse analysis.

For the sake of simplicity, while I strive to highlight the complexities and ambiguities contained in the data¹⁸⁶, I follow Roy D’Andrade (2005) and present two cultural models in parallel and as a series of consequent propositions. Propositions are assertions made by the analyst of the way informants represent something based on their understanding about it (which is implicit in how they talk about it) (D’Andrade 1995). I identified the central ideas of each model, grouped the corresponding propositions and use informants’ quotes to illustrate them¹⁸⁷. While I tend to present the most “colorful” quotes (without altering the English), I do so only if they are representative of the speech of a large number of informants. For each proposition, I indicate the number of interviews and number of passages that are coded at the corresponding NVivo node. This gives an idea of the prevalence of the respective ideas in people’s speech.

¹⁸⁶ See Strauss (2005) and her discussion on how people can hold contradictory models.

¹⁸⁷ In my NVivo node structure, each proposition became a node at which all the data representative of that proposition are “coded”.

Below, in a series of propositions and sub-propositions, which I mix with quotes, simple statistical data¹⁸⁸ and explanations, I present the “traditional” cultural model of how Amboseli Maasai talk (and think) about the relationship between livestock, people and wildlife. I then explore and analyze the “modern” model of these relationships.

The “traditional” model: people, livestock and wildlife “staying together”

Everything belongs to God: the land, the people, the grass, the wild animals...
(Ilnyankusi elder, Emeshenani)

In Maasai cosmology, people and wildlife do not exist in a vacuum. Therefore, before presenting the cultural models relating to people-wildlife relationships, I offer contextual information on the local meaning(s) of “environment” because these understanding(s) inform the cultural models¹⁸⁹. In Maa, there is no word for “the environment”. The closest to it, as explained by educated key informants and my research assistants, is “the land” (*enkop*, pl. *inkuapi*). *Enkop* includes wild animals, people, livestock, trees, mountains, as well as such “modern things” as schools, hospitals, roads, cities, and the government. Truly, in Maasai culture, the land is “everything that God has put on top of the land” and all these elements are part of “God’s creation” (*Enkai naitayuo*). This contrasts with the western vision of “nature” as a “wild” and “pristine” space, of which humans are not part and which has driven European conservation efforts in Africa (Adams & McShane 1992). Maasai culture does not emphasize the western nature/culture divide. Maasai do, however, distinguish between the realm of “the bush” (*osero* or *angata*) and the

¹⁸⁸ Percentages of informants having answered structured questions in the interviews.

¹⁸⁹ Here, I combine data from my fieldwork and the literature. Unless authors are specified, the information in this section comes from interviews.

domestic realm (*ang*: home)¹⁹⁰. Still, humans are considered such an integral part of “the land” that, for instance, a “good land” (*enkop sidai*) is essentially a land where people have respect (*enkanyit*) for each other, live in peace and cooperate. It is also a land that “likes cows” (*enyor inkishu*) by providing water and grass (when *Enkai* “rains” on it).

As we saw, traditionally, the land belongs to *Enkai* and is used communally¹⁹¹. The concept of private land ownership, although now desirable locally, is sometimes not deeply internalized¹⁹². This is true even where land has been privatized and among “progressive people”, such as this Evangelical elder from the Swamps, for whom “[the land belongs to] *Enkai* but She lets us Maasai use it”. This ethic is still so strong that people believed to have sold land have been cursed¹⁹³. For others, the view of land as a commodity is interpreted by likening it to a cow¹⁹⁴. For instance, for this traditional¹⁹⁵ Iseuri elder from the Swamps, “[Before subdivision], the land used to be God’s spouse. [Now], it is still God’s, but it is as if a father gave a cow to a son”. For others, though, like this Iseuri elder from Osilalei,

¹⁹⁰ However, boundaries between these two domains are, as I show below, porous and negotiable (interview data; see also Goldman 2006).

¹⁹¹ Among my informants, 61.1% believe that “the land belongs to God” (n=190).

¹⁹² Motivations for subdividing the GRs and “good things of subdivision” (prospective and actual) include, among the most frequently mentioned, fear of land grabbing by politicians, desire for land tenure security and for autonomy, promoting equality in use of resources, using the title as a loan collateral and a wish for a more settled “modern” existence.

¹⁹³ See Chapter 2 on how GR leaders accused of having sold GR land for tourism and conservation died as a result of curses. An Iseuri elder from the Swamps explains: “If you sell land, you’ll be cursed; you’ll never be successful with your life. [...] Now we realize that it is just naturally bad to sell land... We’ve seen that many people who got land at Loitokitok and sold it, they are not normal, they don’t do things right, they became very poor and they don’t take care of their families properly. They’re useless.”

¹⁹⁴ As I show below, the “cow” is so central to Maasai culture and lifestyle that it is used as a metaphor to conceptualize and speak about widely different aspects of life. For instance, as new sources of income, cultivated plots and businesses are also “cows”. This is hardly an exclusively Maasai characteristic. See Coote (1992) on the centrality of cattle in other Nilotic cultures and associated metaphors.

¹⁹⁵ Here, I use “traditional” as reflecting adherence to the traditional Maasai religion.

God is now out of the picture: “[now] you own land properly, so you count it as your property, just like your cows.”

The “traditional” model of human-wildlife relationships is made up of three main propositions, which in turn present several sub-propositions, which I detail below. The main propositions of this model are:

1. Wild animals are not cows;
2. People and wildlife were created together by God; people and wildlife have always stayed together;
3. “Conservation” is about people and cows.

Proposition 1: “Wild animals are not cows”

In the “traditional” model, people fundamentally distinguish between domestic and wild animals, the latter being perceived as *not* being what “cows” are¹⁹⁶. As I will show repeatedly, Maasai draw on what I call the “cow frame” and associated metaphors to think through and speak about their relationship with wildlife (or lack thereof). In the Maasai “cow frame”, the cow (understood as livestock in general) is “everything” in people’s lives and livelihoods: it provides food (milk, meat, blood), medicine (fat) and cash; affection and beauty; a source of pride and social status; the ability to build friendships, arrange marriages and contribute to ceremonies; it is also an endless cause of worry. In this strongly reciprocal relationship, people depend on cows and cows depend on people. Cows

¹⁹⁶ See also Turton (1987) for a similar situation among the Mursi pastoralists of the lower Omo Valley Ethiopia.

are “Maasai life”; they are “our hearts” (*oltau*), “like children” and “our bank account”. Below I show how, in this model, wild animals do not fulfill these roles.

1.1. Wild animals are not at home and they are not taken care of¹⁹⁷

First, wild animals are those animals “who do not stay at home” (*nemenya ang*): they “stay in the bush” (*etii osero/angata*) - a fundamental difference with “cows”, which “stay at home” with people. This is both explicitly stated by informants and linguistically encoded in Maasai taxonomy. As we saw above there is no word for “animal” in Maa¹⁹⁸. Instead, several words are used that reflect the distinction between livestock and wildlife. The former, generically called “cows” (*inkishu*)¹⁹⁹, are also known as *eramatare* (“the ones that are taken care of”). The other animals, the ones that “stay in the bush”, present two categories: the aggressive wild animals (*inguesi*) and the “polite” ones (*ilchangit*). As a young Emeshenani woman simply explains, “[animals from the bush are] all *inguesi* because they are not cows and they are not people”. Donkeys, although of the same “family” as zebra, are not *inguesi* because “they belong to home” [sic]. And “this is why”, says this elder, an Ilnyankusi from Emeshenani, “you don’t see [*inguesi*] in my boma: I’m not rearing them”. Wild animals are “things of the bush” (*intokitin eangata*) and “they do not have a shepherd” (*meata olchekut*).

Reflecting this perceived distance between “home” and “the bush” people state that they are ignorant about wildlife: “We don’t know [the wild animals]

¹⁹⁷ In NVivo, 71 interviews and 98 passages are coded at this node.

¹⁹⁸ See Morris (1998) and Turton (1987) for similar situations in Malawi and Ethiopia, respectively. Furthermore, for Maasai, people are not “animals”: they are “people” (*iltunganak*).

¹⁹⁹ This is not to say that Maasai do not linguistically distinguish between the different livestock species and the various ages and types: these distinctions are extremely fine and there is a name for each.

because they don't wait for us to know them"²⁰⁰ (Ilkimunyak elder, Osilalei). People do not know these animals' families and ancestries (while they know their cows' genealogies) or their health condition (which makes them risky to eat); they do not feed them, treat them or see them give birth; they do not give them names, as is the case with cows²⁰¹ and do not get affectively attached to them. The fact that others, such as the government or scientists, "take care of wild animals" (*eramat inguesi*) is puzzling: "I don't know why people take care of wild animals because, us Maasai, we know that it's only cows that need to be taken care of" (Ilnyankusi elder, Osilalei). Ultimately it is *Enkai* who takes care of wild animals, by making them give birth and providing them with food (grass; preys).

However, even though distinctions between "animals at home" and "animals in the bush" are many and clear in people's minds, these boundaries are repeatedly blurred and crossed, both conceptually and physically²⁰². Some animals are closer to "home" than others. Typically, these include the herbivores that peacefully mix with the livestock when grazing and are said to be "cows/goats that went to the bush"²⁰³.

²⁰⁰ Interestingly, of course, this declaration of ignorance about wildlife could also be interpreted as a public discourse on Maasai identity as people of cattle who pride themselves on not subsisting on wildlife, as opposed to poor people or the Dorobos (hunters) who do. Actually, Maasai have a deep and sophisticated knowledge of wildlife behavior and ecology (interview data; Goldman 2006).

²⁰¹ An exception to this assertion that wild animals do not have names is the notorious Kimana crop raiding elephant who was named Osama (as in Osama Bin Laden), for being "destructive and a coward". However, note that this is the case in a especially "modern", urbanized and ethnically mixed area. Other instances where wild animals are given names, which are then adopted in the Maasai communities, result from zoological research in the area, with western researchers giving names, usually of people, to lions and elephants. Also, some Maasai employees of western researchers and conservationists have expressed their puzzlement at witnessing the strong emotional attachment that Westerners have with individual wild animals.

²⁰² See also Goldman (2006) on the flexible bush/home boundary.

²⁰³ In a locally widely known story, these animals were originally the "cattle of women". However, because of women's careless management, these animals escaped and "went to and stayed in the bush". And this is how women lost their cattle and became dependents of men (interview data; Kipuri 1983). However, as Goldman (2006) argues, this narrative can also be read as a comment on how close wildlife are to humans.

Some, such as wildebeests, even “come home with the cows”, mixed with the cattle herd. This is a source of pride for elders, since it signals the ownership of a large herd. In other cases, calves follow giraffes or wildebeests into the bush, putting them at risk of being killed by predators. Maasai have also long observed that zebras and wildebeests enjoy the proximity of human settlements for predator protection.

In general, these “polite” animals physically and behaviorally resemble livestock: gazelles and giraffes both look like and graze like goats; zebras are “cousins of donkeys”; and the eland would be a perfect cow if only it could be domesticated, a wish repeatedly expressed in interviews and put in practice by one informant’s father who had raised a young eland in the hope of crossing it with his cows²⁰⁴. Attempts at domesticating wildebeests have been reported (Hinde & Hinde 1901); I saw one domesticated ostrich (Figure 3.8) and an Osilalei informant reported that he had two ostriches living inside his houses and “staying with [his] cows”. Still, in general, it is in the “mean” nature of wild animals not to let themselves be “taken care of”: “We cannot stay with wild animals because they don’t wait for us to milk them or slaughter them peacefully” (Iseuri elder, Osilalei).

²⁰⁴ The “experiment” was aborted by an overzealous moran who killed the eland when he saw it inside a cattle herd.



Figure 3.8. Domesticated ostrich, at a *boma* on Eselenkei GR (March 2002). Note goats in the background.

1. 2. Wild animals are useless²⁰⁵

Since they are not cows, wild animals are declared to be useless: they do *not* “take care of” (*aramat*) people, as cows do. They are not a resource. As one surprised Osilalei Ilnyankusi elder asked: “Is there any animal that I don’t milk, that I don’t eat, that I don’t take home, without any benefit, which can please me?” Another Osilalei elder (Ilnyankusi age-set) answers: “No, there’s none that I can make a cow of or make it useful to me”.

Some wild animals have important uses, as we saw above. However, when probed about these, people would specify that they do not depend on wildlife for

²⁰⁵ NVivo: 52 passages and 43 interviews coded at this node/proposition.

them: they are more like occasional “bonuses” that they get “by accident”²⁰⁶. Finally, of course, in contrast with cows, which incarnate everything that is “good”, some wild animals are not just useless, they are also plainly “bad”, with behaviors that negatively affect people’s safety and livelihoods (see Chapter 2, on human-wildlife conflicts).

1.3. Wild animals belong to God, not to people²⁰⁷

A final characteristic distinguishing livestock from wildlife in people’s minds is that people do not own wild animals as they do cows: wild animals belong to God only (*era inguesi inEnkai ake*) (a view shared by 52.6% of the informants; n=190):

[Wild animals belong to] God... God protects them so much: [even though] they don’t have a shepherd and a home [...] God still protects them... They belong to God because nobody can go and graze them or take them to their home... (Woman, Swamps)

“After God”, another owner of wildlife is the government (17.9%): wild animals are now “the government’s cows” and the government is “milking” them (profiting from them)²⁰⁸. For some, however, like this Iseuri elder from Emeshenani, the government is “cheating itself” that wild animals belong to them: “To us Maasai

²⁰⁶ An important difference in the relationship with wildlife across the Kisonko and Matapato sections is the perception of wildlife as food or non-food (see Murcott 1999). In contrast with the Kisonko who strongly shun the use of wildlife as food except under the direst of circumstances, Matapato residents readily acknowledge that they eat wild animals (even zebra, one of the most tabooed of wild animals!), that they enjoy doing it and even go out hunting for that reason. In Osilalei (Matapato section) as many as 59.0% of the informants agree that it is acceptable to kill wild animals for food (this is probably an underestimation since it is illegal to kill wildlife), while only 21.3% of the Kisonko informants think so ($\chi^2 = 32.300$; $p < 0.001$). However, interestingly, Matapato refuse to acknowledge this as a benefit: they specify that they do not depend on that source of food; that they mostly get it “by chance”. Although wildlife as food or non-food is an important dimension of Maasai-wildlife relationships, here I only give it a superficial treatment, reserving a deeper analysis for a later publication.

²⁰⁷ NVivo: 51 interviews and 54 passages are coded at this node.

²⁰⁸ And “the government’s cows are eating our cows!” exclaimed an angry Iseuri elder from the Swamps, speaking about the predation problem.

wild animals belong to God”; for a young *olmurrani* from Emeshenani, “the government only takes care of them: God is the rightful owner”.

Proposition 2: We were created together by God; we have always been staying together

“Staying together” (*Kiriamunye*; or *Kiboita* “we are together”) is the most recurrent expression in people’s speech about their relationship with wildlife, thus making it *the* key-expression²⁰⁹. It expresses the idea that people, livestock and wildlife have always coexisted and co-exist on the same land by virtue of being part of God’s creation (*Enkai naitayuo*): “[People and wild animals] stay together, because wild animals also have their mothers and fathers here” (Inyankusi elder, Emeshenani); “Wild animals are fine to stay with me... When I was growing up, I found them here and they’re God’s creation. So I agree to stay with them” (Ilkimunyak elder, Emeshenani). Thus, as conceptually distant as wildlife might be from cows (and thus from people), wild animals, livestock and people are seen as part of a joint creation by God. And in the same way that “togetherness” is a desirable feature of human relationships, so it is in this “traditional” model of human-wildlife relationships. Below, I deconstruct this general idea of “togetherness with wildlife”.

²⁰⁹ NVivo: 116 interviews and 212 passages are coded at this node.

2.1. Wild animals have the same right as people and cows to live here

A majority (70.3%; n=185) expressed that wild animals have the same right as people and cows to be on the land²¹⁰. Mostly, this is because they are considered a part of God's creation, as much as people and cows (40.5%)²¹¹. The creation of humans is not distinguished from the rest of God's creation: "[wild animals] are also like human beings and cows... They are God's creation, so they have the right to be on this land" (Ilkimunyak elder, Swamps) and "God made wild animals just like [people]" (woman, Emeshenani); "They're all God's creation, just like us..." (Ilkishimu elder, Osilalei). Other reasons include the related ideas that "wild animals have always been here", "they were born here" and "they have nowhere else to go" (23.2%).

2.2. Wild animals do what God created them to do²¹²

For some informants, the right to live on the land extends to harmful wild animals. When wild animals conflict with human livelihoods (by killing livestock and competing for resources), they are seen as doing what God created them for: "Although we don't like them, [wild animals] were also created to eat and drink on top of this land. Whether we like them or not, they have the right to be here." (Ilkimunyak elder, Emeshenani). *Enkai* created grass for "everything that eats grass": [competition for grass] is not a big deal because grass comes from God and it's all for cows and wild animals" (Iseuri elder, Swamps). And even if predators "eat

²¹⁰ NVivo: 120 interviews and 126 passages are coded at this node.

²¹¹ NVivo: 51 interviews and 54 passages are coded at this node.

²¹² NVivo: 27 interviews and 36 passages are coded at this node.

cows by force”, they also eat other wild animals, “just being fed by God”²¹³

(Ilkishimu elder, Emeshenani). And although this Ilnyankusi elder from Emeshenani

might be exaggerating, here is how he feels about depredations by lions:

We don't count cows killed by lions because lions are hungry. For lion, it's ok because it's going for its own food. I will try to kill the lion. But if I don't manage to kill it, it was just lucky, it's ok.”²¹⁴

Some of this tolerance towards problematic behaviors by wildlife is

predicated on the view of wild animal as individuals:

I don't hate any [wild animal] except the one that causes problems to me like destroying my *esilanke* [dam] or my *shamba* [cultivated plot]... I don't hate all the wildebeests: I just hate the one that wronged me²¹⁵ (Ilkimunyak elder, Osilalei).

2.3. Maasai do not kill wild animals for nothing²¹⁶

Because they “belong to God” (as part of God's creation), “innocent” (*ebor*)

wild animals should never be killed “for nothing” (*pesho*): 97.3% rejected this as a

valid reason to kill them (n=188). According to this Ilkimunyak elder in Osilalei,

Wild animals belong to God and not to the government or to you. So if you kill them for nothing throughout your land, you will be cursed²¹⁷.

On the other hand, and although there is some tolerance for wild animals that

do what God created them for, this tolerance is not absolute, especially towards

predators: “For us, Maasai, the enemies of our cows are our enemies”. In this case,

any wild animal that has attacked a person or a cow must be eliminated:

Maasai [...] don't kill wild animals anyhowly [sic]: they only kill the problematic ones. If a wild animal kills a cow, then that animal will die automatically because it

²¹³ Some creations of God elicit puzzlement, such as the crocodile (“God just created something that we don't know what it is, just an animal put inside the water”) and the snake (“I just don't know how God created it”). And the hyena is almost pitied because “the way it is made, the way its stands and its colors... God just didn't favor it”.

²¹⁴ See Chapter 2 for a discussion of “not counting” (children; cows; killed cows etc) in Maasai culture.

²¹⁵ Wildebeests transmit Malignant Catarrhal fever (MCF), a disease that is deadly to cows.

²¹⁶ NVivo: 40 interviews and 60 passages coded.

²¹⁷ In the sense of being punished.

has touched a cow, which is Maasai life. But if you see a zebra, a giraffe, an ostrich, or a gazelle, you just pass them, you don't touch them. (Iseuri elder, swamps)

It is not us protecting wild animals: we were all created by the same God and put on the same land so we just agreed to stay together. But if an animal causes a problem to a Maasai, then the Maasai also kills it, the lion for example. Others like gazelles, they're polite [*supati*] and they just run away if you scare them a little. (Iseuri elder, Swamps)

The “guilty” predator will be tracked for as long as necessary until it is killed.

The rationale is to prevent it from coming back and doing it again. For instance, as an Ilkishimu elder from Emeshenani explains, in the event of a lion killing one of his cows, “I would gather the morans, follow the lion and make sure we kill it so it never comes back again. Now that killing wild animals is forbidden”, however, “that lion will just go and maybe the next day it will eat another cow”.

This distinction between “innocent” and “guilty” animals and the notion of animals as individuals reflects recognition that wild animals have subjectivity, agency and personality²¹⁸. “Staying together” is predicated on managing the relationship between people, livestock and predators by “teaching them” to keep their distance from humans and cows. Thus, to “stay together” with wildlife means sharing the same land, tolerating the “innocent” wild animals while establishing some distance between people and some animals by scaring away and killing the “guilty” ones²¹⁹.

2.4. In the past, the relationship between people and wildlife was better²²⁰

²¹⁸ This is also reflected in how species or individual animals are perceived as having human personality traits. Some species are greedy, gentle, clever etc...

²¹⁹ At *olamayio*, non-guilty dangerous animals (e.g. elephants, rhinos) are also killed by the morans (for fun, prestige etc). However, the result is still that those animals are “taught” to stay away from people and livestock and their population decreased.

²²⁰ NVivo: 36 interviews and 41 passages coded.

Killing guilty wild animals is seen as crucial to maintaining a good relationship between people and wildlife. In the past²²¹, when killing was allowed, this relationship was better:

The problem with wild animals was less in the past because wild animals used to fear people... Because if a lion killed a cow, morans went and killed it; if an elephant tried to cause problems, morans would go and kill it; if a buffalo troubled people, it was followed until it was killed. So, animals were fearing people and they were not causing as many problems as they do now. (Iseuri elder, Emeshenani)

People and wild animals are now “fighting” more as a result of the prohibition to kill wild animals and the creation of “places only for wild animals” (parks, sanctuaries) (see below). Now, wild animals “know” that they will not be killed and fear people less: “They’re aware that they are protected so they’re very brave and can fight you and kill you very easily” (Ilkimunyak elder, Emeshenani); according to a woman from Emeshenani “They boast because the government is protecting them”. They have even become more aggressive:

Because they are not being killed anymore, the problem [of wildlife attacking people] has increased: we’re not used to each other anymore. So, the moment we meet, we are enemies. Even before, the lion didn’t eat people that much [...]. It was believed that if you were eaten by lion for nothing (rather than at olamayio) it meant that you have been cursed. (Elderly woman, Swamps)

In this way, conservation has disrupted a previously “peaceful relationship”:

Wild animals were taken by the government and then they have become more aggressive. Before, they used to graze with the cows and they didn’t cause any problems... The moment the wild animals were snatched from us, they have become

²²¹ I phrased this question as “Comparing today’s situation and what you have heard of the past (for example when your grand parents were children) or seen (when you were a child), how do you see the way in which people at that time stayed with wild animals compared to the way in which people stay with wild animals nowadays?”

really wild [...] Wild animals now hate us and are very annoyed with the Maasai. (Iseuri elder, Emeshenani)²²²

Before, [wild animals and us] stayed together more nicely because by then people would kill wild animals without any problem [...]. Now, people and wild animals hate each other, I don't know why. (Ilanyankusi elder, Osilalei)

Socioeconomic changes are also recognized as affecting this relationship:

[The relationship between people and wild animals] was better before because wild animals were cowards, they just ran away from people. Now, they're really killing people because people are not killing them. So, they're really taking advantage of people and cows and killing... [Why are wild animals not killed anymore?] Because before, the morans went to the bush and ate meat. When they came out of the meat camps, they were very strong and wanted something to kill. Nowadays, morans don't go and eat meat, so they cannot do anything... Now, even if we ask them to kill a lion that has killed a person, I don't think they will kill it [Why are not morans eating meat nowadays?] Because now people are selling their cows instead of giving them to the morans to eat²²³. (Ilkimunyak elder, Emeshenani)

So, somehow paradoxically for Western sensitivities, to Maasai killing wild animals is essential to maintaining a healthy relationship with wildlife.

2.5. As part of God's creation, people and wildlife are meant to stay together.

Through the creation of ANP and other protected areas, conservation policy and tourism have both spatially "separated" places for people and places for wildlife

²²² Again, note how this expresses the idea of animals as *actors*. Elephants, in particular, are seen as having become extremely aggressive. Around ANP, where they come into frequent contact with people and cows, they are now killing "for nothing": "the elephant has become a lion *tukul* [completely]! Not like before when it used to be very polite" (Ilanyankusi elder, Emeshenani). Among tragic incidents that occurred during fieldwork, one informant had lost a wife, the mother of an infant. This was a traumatizing event that locally generated deep resentment against the park, elephants and conservationists (see Chapter 2). It is all the more traumatizing because, compared to other animals who are doing what God created them to do (to eat), there is no logical explanation for an elephant killing a cow or an innocent person, since it does not eat it (see also Esikuri (1998). Incidentally, research has suggested that East African elephants are suffering from post-traumatic stress resulting from poaching incidents (Bradshaw et al. 2005).

²²³ "Going to the bush and eating meat" refers to the *olpul*, or "meat camp", a place in the bush away from settlements where *ilmurran* assemble to bond, feast on meat for several days and nights, as well as drink herbal "soups" that build up their strength and make them "trance" (interview data; pers. obs.)

and contributed to increasing the “aggressiveness” of wild animals. They have upset the “togetherness” of people and wildlife:

After wild animals have known that they are protected, inside [the park], they just come to kill cows and then they go back to the park. Because there was a time when we were just grazing together... We were not seeing this problem. (Iseuri elder, Emeshenani)

[In the past], the relationship was closer because people and wildlife were staying together most of the times and people were moving together with the wild animals²²⁴. But nowadays they are protected and kept away from people... So, they have forgotten about people, and so they have become more aggressive. (Woman, Swamps).

And this “separation” is bad because, ultimately, wild animals and people, as part of God’s creation, should not be separated; they are meant to be together:

God has created the cows, people, and wildlife and God has said for all of us to stay together. But now some people are trying to put wildlife apart, which is not good. They should have let us stay like that without trying to separate us. We should just stay together. So it is good for those areas [protected and non-protected areas] to be one and we should just kill a lion when it eats cows [...]. (Ilkishimu elder, Swamps)

An elder logically argues that it is impossible to separate what God has created:

I think [fencing all the wild animals inside ANP] is not possible because these things have been tried for many years and have never worked.... After my investigation, I think that Amboseli is suitable for both livestock and wild animals: this is God’s plan and this is why it was never possible to fence the park completely. [This is] also why the government has failed to provide us with water [outside of the park] so that we stay out of the park. Water is taken all the way to Nairobi [without any problem], while this water is only a short distance [and its provision has failed] and it is the same government? So, this shows that it is God’s plan for wild animals and cows to mix inside the park²²⁵ (Ilanyankusi elder, Emeshenani)

²²⁴ This is what Western (1973) describes a complementary and compatible ecologies of people, livestock and wildlife, which used to have similar seasonal movement patterns across the Amboseli landscape (congregating in the swamps at the core of the ecosystem in the dry season and dispersing out of the swamps onto more nutritious pastures in the rainy season).

²²⁵ This elder is mentioning the water provision system implemented upon the park’s creation as a compensation for Maasai moving out of the swamps now inside the park. It has been mostly inoperative over the years since then (see Chapter 2).

This unbalanced, “separated” situation where wild animals use areas that were made off-limits to livestock but still come to people’s land is seen as unnatural and unfair:

Elephants... Lions... Zebra... And all kinds of wild animals... In the past, we were just staying together, and none of us got finished, neither people nor wild animals. But now we have a double loss: we are still suffering the costs of wildlife killing people – and that happens by accident - but now we are not eating our grass, which was reserved for them²²⁶. In the past, even if wild animals killed people and cows once in a while, at least we were grazing in our land. (Iseuri elder, Swamps)

This situation affects tolerance towards wildlife:

[The government] is not serious. They should do one of two things: either let us stay together like God created us or lock the wild animals seriously. To have a place only for wildlife without knowing that most wild animals are with the cows does not make sense! So, either lock them inside completely and do not let them come out; or let us share everything all together, the park, the grass, the water... (Ilkishimu elder, Swamps).

Some informants (44.3%; n=191) agreed that people, wildlife and livestock “staying together” would be a solution to human-wildlife conflicts and 13.1% cited it as the best solution:

I like for us to stay together the way we have always been doing. It’s really hard to chase the wild animals. So it is better to stay together because we found them on this land. It is much better if we stay in the way God made us all (Inyankusi elder, Emeshenani)

“Staying together” thus reflects the idea that wildlife is part of a whole, which is God’s creation. People’s sense of unity with wild animals (as well as their aesthetic appreciation; see Chapter 4), despite (big) problems caused by some species, is strong: “I like seeing the wild animals... My heart just likes it” (young woman, Emeshenani); “wild animals are like colors that God put on the land to decorate it” (elderly woman, Swamps); “the land would appear bare without them” (young woman, Swamps) and “people would be bored without them” (non-

²²⁶ By “reserved”, this elder means that livestock are not allowed to graze inside the national park.

practicing moran, Swamps); “If all of them disappeared, we would be lonely because we are used to seeing them around” (moran, Emeshenani).

Asked whether, given the choice, he would live in a land without wildlife, a puzzled Ilkimunyak elder from Emeshenani replies “Is there a land without wild animals? There is no land without wild animals”.

Proposition 3: “Conservation” is about children and cows.

As I was interested in local definitions of “conservation”, as well as in how the western concept of “conservation” is understood (and whether/how it relates to wildlife in people’s minds), I asked formally educated key informants how they would translate “conservation”. It was rendered as *eramata enkop*, which signifies “the land is taken care of”. It is derived from *aramat*, which means to herd, to care for, to look after, to tend, to take care of (Mol 1996). I then asked all the informants to free list what “*eramata enkop*” evoked for them.

First and foremost, “to take care of the land” is “to take care of children and cows”²²⁷. This, in turn, is done by ensuring that cows have enough grazing, thus guaranteeing that people have food and prosper:

We conserve the land by conserving grass, that’s the main point. [...] We conserve grass, so that cows eat the grass so nicely, so that they increase in numbers. Then, we sell those cows for daily needs or to pay bride price and so people increase in numbers.

This is achieved through social cooperation and careful grazing conservation and management²²⁸:

²²⁷ “Taking care of people” NVivo node: 44 interviews and 46 passages (includes “taking care of children”: 18 interviews; 19 passages); “Taking care of cows”: 55 interviews and 55 passages coded;

²²⁸ NVivo node: 47 interviews and 62 passages coded.

["Taking care of the land"] is what we did yesterday: we brought back those two elders' cows and the cows of [that other elder] that were [illegally] in the dry season grazing area so that all the cows start [grazing] from the same point so that nobody is cheating. Like this, care is taken of the Maasai... Because "taking care of the land" is done to take care of the cows so that cows take care of the Maasai... Because we don't have any other bank account except for our cows (Iseuri elder, Emeshenani)

Enkai (God) also "takes care of the land" by blessing it with rain²²⁹: "Only *Enkai* can take care of the land because only Enkai is able to rain on the land²³⁰. That's the "conservation"" (Iseuri elder, Swamps). For this elderly woman in the Swamps, "conservation" is God's responsibility: "I don't know... That is God's work. I don't think human beings can do that..." To ensure Enkai's blessings (and thus rain), people will strive to maintain harmony among them, as well as pray and offer Her sacrifices:

I only know what taking care of the land is from the past when my fathers were the elders and used to do sacrifices to God and the land was blessed and there was use for iloibonok who used to do lots of things: they would give certain orders such as "slaughter a certain cow of a certain color". And God received the blessings and people all over the land were blessed. Then the land was really conserved. (Iseuri elder, Emeshenani)

In a "modern" twist of these ideas, the government, by providing health services and education, roads and maintaining law and order, is also "taking care of the land"²³¹:

[The government is conserving the land] by giving people free education. That's really good conservation! Also relief food sometimes... And hospitals are built so that a sick person gets healed. It also settles disputes between people. That's conserving the land. (Iseuri elder, Swamps)

In this model, then, "conservation" is cow- and people-oriented, and it does *not* include protecting wild animals: as we saw above, only God takes care of wild

²²⁹ In Maasai culture, a form of blessing, which symbolizes rain and fertility, takes the form of gentle spitting on someone's face or hands. NVivo node: 13 interviews and 14 passages coded.

²³⁰ *Enkai* (God) is synonymous with "rain". *Eeou Enkai*, which literally means "God is coming" is used when "rain is coming" (about to rain).

²³¹ NVivo node: 46 interviews and 49 passages.

animals²³². Asked about Maasai role in “taking care of” wildlife, most informants thought that Maasai did not “take care of” wildlife, neither in the past (85.9%) nor now (62.9%). As this elderly woman explains, “mostly, [Maasai] didn’t kill wild animals... But they didn’t protect them either: they were just there, they never minded them. Or as an elder argues:

Some people can tell you during your interviews that we’re really protecting these animals. That is not true because the truth is that we grew up together with these wild animals... It’s God who put us all together, so we just stayed together (Iseuri elder, Swamps)

Some, however, recognize that if Maasai did not actively “take care of” wildlife, their way of life has benefited the animals. It was “not organized [...] but the way we were staying with wildlife allowed wildlife to increase” (Ilkimunyak elder, Swamps):

We were not killing them and not eating their meat because it looked beautiful for wild animals and cows to graze together... Maasai could finish all the wild animals in one year if they wanted to! We did not do much to protect: we were just not eating them and not killing them for nothing. That’s why you see the government coming to Maasailand to take the wild animals. So even if we haven’t done much, at least we have known how to stay with them. The only species that is gone is the rhino, because it was too aggressive. It’s not the Maasai’s fault: the rhino was finishing the people first, so we had to finish it first. (Illyankusi elder, Emeshenani)

For this reason, 47.1% of the informants (n=153) stated that there would still be wild animals in Maasailand even without the government’s protection:

There would still be wild animals here even without the government’s protection because Maasai were born together with these wild animals on our land and we are still staying with them. We’ve been staying with them all this time and they are only found in Maasailand... The government doesn’t have wild animals and those people have finished their own wild animals. (Iseuri elder, Swamps)

²³² The perception that Maasai are not “conservationists” extends to trees: “Maasai don’t know how to take care of (*aramat*) trees” (Iseuri elder, Osilalei).

To summarize, this “traditional” model of human-wildlife relationships has three major propositions:

1. Wild animals are not cows;
2. People and wild animals were created together and should “stay together”;
3. “Conservation” is about cows and people; it is *not* about wildlife.

Even though Maasai have no reason to “love” wild animals and do not have with them the reciprocal relationship that they have with cows, the recent development whereby people and wild animals are “separated” because of conservation policies (which have turned people and wild animals into “enemies”), is deplored. “Staying together” is what God has intended for the Maasai, their cows and the wild animals. Maasai who hold this model do not think of themselves as “conservationists”. Only God (or nowadays the government) takes care of wildlife.

Below, I present the “modern” model of human-wildlife relationships in the GAE.

The “modern” model: “Let’s be separated”

If it was possible for them to just stay in their protected areas, then we’ll stay together in peace: them in their areas and us in our areas (Iseuri elder, Swamps).

As I explain below, some of the ideas in this model find their origin in or reflect recent socio-economic changes, which Maasai themselves associate with “modernity”. I thus call this model of wildlife-human relationships the “modern” model. It has three main propositions (with sub-propositions):

1. Wild animals *are* cows;
2. People and wild animals should be spatially separated;

3. “Conservation” is about wild animals and trees.

Proposition 1: “Wild animals are cows”

1.1. Wild animals are taken care of: “they have shepherds”²³³

Again, the cow frame and associated metaphors are deployed here to make sense of what wild animals have become in people’s livelihoods as a result of socio-economic changes. Their new roles are reinterpreted in light of the traditional role of people as caretakers of cows and the role of cows as providers of subsistence and income.

In this model, wild animals have “shepherds” (*eata olchekut*):

Elephants are the best because they are having someone who is herding them [aramat], they have a shepherd... So many people around here are taking care of the elephants [and that is good] because all are employed to do that²³⁴ (Ilkimunyak elder, Emeshenani)

In this way, by attracting tourism, employment and other economic benefits, wildlife are “taking care of” people and thus are to be “taken care of”: “I don’t hate [elephants] because I’m now eating [from them] indirectly... If it wasn’t for the problems [they cause], I’d love them very much; I could even treat a sick one!” (Ilkishimu elder, Swamps).

People now “take care of” wild animals by refraining from killing them (even in cases of predation) and preventing others from doing it. Now, even dangerous animals are “taken care of” because they are also “cows”: “[If we had a tourism project set up by the GR members], we would not be minding if a wild animal kills a

²³³ Nvivo: 53 interviews and 94 passages coded.

²³⁴ Salaried employment with the Amboseli Elephant Trust (scouts; research assistants; researchers).

cow because it would be a cow killing a cow” (Ilkimunyak elder, Emeshenani). Even the lion, the quintessential enemy of cows, is now a “cow”: “[the lion hunt is bad] because lions are like our livestock”. One difference with cows, though, is that wild animals do not stay “at home”: they are “taken care of” at their own “enclosures” (*olale*): the protected areas, which are known as “enclosures for wild animals” (*olale loonguesi*)²³⁵ (see below).

1.2. Wild animals are useful²³⁶

How have people come to see themselves as “shepherds of wild animals”? Because, now providing income and other benefits, wild animals are perceived as being useful: “Before, people didn’t care for wild animals. Now, they are taking care of them like cows because people are getting some profit out of them” (Ilkishimu elder, Swamps). Metaphorically, wild animals are being “milked”: “[they] are cows; we are milking them like the ones we have in the bomas [...]: some of our children are educated thanks to these wild animals”²³⁷ (Ilkimunyak elder, Emeshenani).

Wild animals have become commodities: they are being “sold” (to game cropping companies, to tourists, to tour operators who lease GR land etc)²³⁸:

“Before, [wild animals] had no meaning. Nowadays, they have a meaning: we’re selling them as our cows” (Ilkimunyak elder, Swamps). The government “has opened [people’s] eyes that wildlife can be protected, taken care of and sold, just

²³⁵ Also known as *olale loonguesi leserikali*: “enclosure for the wild animals of the government” An *olale* is a calf pen outside the *boma*.

²³⁶ Nvivo: 64 interviews and 131 passages coded.

²³⁷ He is referring to school bursaries provided by KWS and the Maasailand Preservation Trust (see Chapter 2).

²³⁸ See Chapter 2 for the list of economic benefits provided by wildlife in the study area.

like cows" (Ilkishimu elder, Swamps). This is a "message" that is heard in school, as this primary school teacher in Imbirikani GR explains:

About the tourism industry, we teach students that wild animals are very important, just like our own cows. [I tell them] maybe you have heard that your brothers and sisters in secondary school are being paid; some have their school fees paid by KWS money... So generally, we teach them the [economic] benefits accrued from wildlife.

Also, the influence of wildlife management theory and practice is evident in people's speech. Here, an elder's discourse reflects the scientific view that wildlife are economically superior to livestock as a form of land use²³⁹:

We're getting love for these wild animals... We think we can conserve them... [After we subdivide our GR] twenty people can unite and decide to set aside a piece of land to conserve wild animals. [The objective] is to have economic benefits... We realize that rearing wild animals is easier than rearing cows: there is no need to hire somebody to go out with them; no need to buy medicine and spray them; you just release them. Then, someone comes to take pictures and pays us. (Ilkishimu elder, Swamps)

In free lists of "good things" of wild animals, economic benefits were the most frequently mentioned (by 30.5% of 190 informants). In the words of an Iseuri elder from the Swamps: "It is not good to kill the wild animals because now there is hope that wildlife will benefit people..."

1.3. Wild animals are "my cows"

Associated with this process of commodification of wildlife is the idea of wild animals as property of the GR members: "I heard there is some money accrued [to GR members] from wildlife [...] Some people are going to school because of it. So wild animals are also our properties like cows". (Ilkishimu elder, Swamps)

²³⁹ See, e.g., Prins et al. (2000) and Talbot (1972).

Wildlife commodification is also associated with land privatization and the idea of “natural resources” as private property. In Imbirikani, people look forward to the GRs subdivision and to “owning” those wild animals on their piece of land:

[After I get my own ranch], the wild animals on my ranch, I will take care of them because they will be mine... They will be like my cows. If I have an order from people who want to crop them, I will sell them; if tourists want their pictures, I will make them pay... That is why I want to take care of them. For example, these stones... If we subdivide the GR, they will be my property: if someone wants to use them for construction, they will buy them from me. (Ilkishimu elder, Swamps)

Some see GR subdivision - which is feared by conservationists - as the only way to come to benefit from wildlife. This motivates support for it:

I heard that money in the GR comes from wild animals [...]. But I am not eating any money from them [although others are]. Now, tell me, if they don't give you money, what else is there? I cannot milk them, they don't carry my luggage, they don't help me in my shamba... They even eat it! So, if I don't get money from them, what is their help to me? [...] That's why I want subdivision. Then I will have my own money from my wild animals, on my ranch. (Ilkishimu elder, Swamps)

In Osilalei, subdivision is a reality and “everything on the land” is now seen as “property”:

I don't hate zebras because they're food²⁴⁰. They're my cows! [...]. I don't hate wildebeests either because they all belong to me... They stay together with the zebras [...] I don't hate anything. Everything within my ranch is my property. If anyone tries to kill an animal within my ranch, I will report them. It's just like these trees: they're all my properties. (Iseuri elder, Osilalei)

The idea of wildlife as private property is, however, a misconception since all wildlife in Kenya, independently of land tenure, is owned by the state.

Proposition 2: People and wild animals should be separated

In contrast with the strong “staying together” ethic of the “traditional model”, a predominant idea in this model is the spatial separation of people and wildlife. It has several dimensions that I analyze below as separate sub-propositions.

²⁴⁰ This elder is from the Matapato section. Conceiving of zebra as food is utterly unthinkable in the Kisonko section.

2.1. Wild animals have their own places²⁴¹

That wild animals have “their own places” (their “enclosures” or their “bomas”), which are off-limits to people and livestock most of the time²⁴², is both a fact (existing protected and conservation areas) and a belief, sometimes “colored” by limited knowledge:

[ANP] is near Loitokitok, as I hear. I know it is where the government has put wildlife for *wazungu* to come and see them and then pay money (*Olmurrani*, *Osilalei*)

For this elder, the reason why there are less wild animals in *Osilalei*, where land has been privatized, is because...

The government has taken [the wild animals] to their places [...] Usually, the government comes in planes and takes them to their places. [Where are their places?] *Oltukai* [ANP] and *Lenkitem* [*Eselenkei* Conservation Area] [who owns these places?] The government. [What is special about these places?] I don't know... The government knows that. But cows don't step there. The government doesn't want... It doesn't allow that. (*Ilkishimu* elder, *Osilalei*)

Some informants even suppose that these places are partially fenced, such as this woman from the Swamps who would like “the government to increase its protection of wild animals by fencing them completely”; or like another woman from the same area who presumes that tourists would not be coming here if wild animals had not all been “fenced in one place”. For others, the wild animals have in the meantime been left out again:

Before subdivision [of *Osilalei* GR], all the wild animals were locked in enclosures for wild animals (*olale loonguesi*). But now they were released (*Ilanyankusi* elder, *Osilalei*)

²⁴¹ NVivo: 29 interviews and 34 passages are coded at this node.

²⁴² During droughts, certain tour operators and Amboseli NP will sometimes, officially or unofficially, allow livestock inside for grazing.

Another belief is that wild animals *will* be fenced in one place once subdivision of Imbirikani GR happens: [when subdivision happens] I think the game scouts who protect them will fence them in one place too (Woman, Swamps).

2.2. Maasai as enemies of wild animals.

In this model, Maasai see themselves as enemies of wildlife, either now or in the past. Any killing of wildlife, even in retaliation or for cultural reasons, is interpreted as evidence that Maasai were or are unable to live with wild animals. Killing is especially looked down upon now that wild animals, especially the most harmful ones (which are perceived as attractive to tourists) are lucrative.

[I don't want people, cows and wild animals to stay together as they did in the past]: I think they must be taken care of, just like cows. Otherwise, they will end up being killed by people. (Ilkimunyak elder, Swamps)

[I don't want people, cows and wild animals to stay together as they did in the past] because, we will finish them, us the Maasai (Iseuri elder, Swamps)

Many do not trust themselves and would rather have the government take care of wildlife because "[Maasai] are so harsh with the wild animals" (non-practicing *olmurrani*, Swamps);

[How do you feel about the government giving Maasai the authority to manage the wild animals on their land?] To the Maasai? No! Because we don't know how to manage wildlife... We only know how to kill them! (Elderly woman, Swamps)

Reflecting this perception, as many as 55.3% of the informants reject the idea of the government giving Maasai the authority to manage the wildlife on their land as a viable solution to human-wildlife conflict (n=179).

2.3. People's relationship with wild animals is better now²⁴³

Reflecting the above proposition, the relationship is seen as being better now than it was in the past, since people are killing wild animals less (or saying that they do so). People and wild animals are "reconciled":

It's funny because, in the past, people were staying with wild animals: Maasai used to be together with the wild animals: we moved together, we came back together to grazing areas [...]. The relationship, then, was not very good because we were fighting. Now, if a wild animal comes and tries to trouble these bomas, people will go to the top of the hill to leave the wild animal alone. They will not kill it. So, now, we are so much reconciled with these wild animals, because we're not fighting. It's only them that are still trying to harass us. But we don't bother them. This shows that the relationship is much better now. (Ilkishimu elder, Swamps)

Nowadays, people stay well with wildlife because they are protected by the government and people are also protected because their *shambas* have electric fences. (Young woman, Swamps) ²⁴⁴

Past killings of wildlife by Maasai are seen as evidence of a "bad"

relationship between Maasai and wild animals:

[I don't want people and wildlife to stay together as in the past] because, before, people were harassing the wild animals and they were harming people and nobody was bringing them together to reconcile. (Ilkimunyak elder, Swamps)

2.4. People and wildlife should be separated

The fact and belief that wild animals have "their own places" reinforces a expectation that they should be circumscribed there ("only the land was taken: the wild animals are still roaming around", according to a young disappointed woman in the Swamps who was referring to the creation of ANP) and, thus, a decreased tolerance for their presence: "Wild animals' land has been set aside for them... So now they have no right to be here and graze with our cows" (Iseuri elder, Emeshenani)... because "there are

²⁴³ Nvivo: 88 interviews and 110 passages coded.

²⁴⁴ She is mentioning the anti-wildlife electric fence around the Namelok shambas.

limitations for our cows and no limitations for the wild animals; there are places that a cow cannot step on and there is nowhere that a wild animal cannot step on..." (Illyankusi elder, Emeshenani). So, after Imbirikani GR subdivision, this woman says that "[she] will chase them all to their protected areas because [she is] also not allowed to go into the park". Also, if "staying together" is no longer possible because people are not allowed to defend themselves and their cows anymore, then the "government's cows" should be locked away: "If [the government does not] want to [let us kill wild animals], then it should take them to their land" (Elderly woman, Osilalei).

Also, because of the conflicts between people and wildlife, complete separation between people, livestock and wildlife is desired: "The best is to fence all the wild animals in their protected areas and put an electric fence around where they stay. So, there will be no more problems between people and wildlife" (Ilkimunyak elder, Swamps)²⁴⁵. In this way "we all stay in peace: wild animals in peace and our shambas in peace" (Ilkimunyak elder, Swamps). Very logically, and displaying the type of ecological reasoning that, in general, characterizes Maasai discourse about their relationships with wildlife²⁴⁶, this Ilkishimu elder from Emeshenani declared that he "wanted all the predators fenced inside ANP so that they stay together with the wildebeests and eat them all!".

²⁴⁵ There are several mentions to "electrically fence" (sic) wild animals in their own places. This is inspired by the fact that, in Namelok, the cultivated plots are surrounded by an anti-elephant electric fence (which is regularly out of service because elephants have apparently learned how to "short" it).

²⁴⁶ I did not explore in-depth this aspect in this study because this seems to be a cognitive characteristic that is present in both models. See Medin et al. (2006) and Atran et al. (2008) for the importance of awareness of ecological connections in cultural models of nature for sustainable practices.

As a solution to human-wildlife conflict, the majority of informants (66.7%) agrees with the idea of fencing *all* the wild animals inside protected areas; and 25.7% consider it as the best solution, ahead of other proposed solutions (e.g. economic compensation: 14.9%; people, livestock and wildlife “staying together” as in the past: 13.1%). Since the 1990’s, when Kangwana (1993) asked similar questions around ANP, this desire to separate people from wildlife (in order to protect people against wildlife, to protect wildlife against people and for people’s economic benefit) has increased²⁴⁷.

Other reasons for the desired separation between people and wildlife include land privatization, such as for this Ilkimunyak elder from Emeshenani: “I like to have them around because they also belong to God. But I don’t want them on my ranch”. Others see in “separation” a way to benefit economically from wildlife without having to bear the costs associated with their presence: “I want them to be fenced. But in different places so that benefits get scattered... not all fenced in one place only. I’d like them fenced but close to me” (Ilkishimu elder, Swamps). An Ilkishimu elder from Osilalei disagrees with the idea of people, wild animals and livestock “staying together” as it used to be in the past since “already people are benefited by the wild animals so it is better to keep them separated... When I was living near Oldurko [Eselenkei Conservation Area]²⁴⁸, people were saying that people there were getting some money out of the wild animals...”

²⁴⁷ Asked whether wild animals should be all removed from the area, more than half of Kangwana’s (1993) informants were opposed to the idea; only 25.3% wanted wildlife confined to the park (n=175).

²⁴⁸ Tour operation/conservation area located on Eselenkei GR (see Chapter 2; Rutten 2002).

Finally, “separation” of people and wild animals is seen as having educational value:

It is not good for children not to see wild animals.... It's good to have a place where they are “stored” so whoever wants to see them can go and see. It's good for children to see all the kinds of animals, so that they know the kinds of animals that are here and their importance. So that whoever is clever can know and learn that it's through such animals that we get some benefits. (Ilkimunyak elder, Emeshenani)

I don't want [my children and grand-children] to see [a rhino] because it's just a killer. Or I'd like them to see it in a very small fenced place. I just want my children to see rhinos in pictures, so that when they see rhinos they can say “our father used to tell us that these things are very aggressive, so let's go away”. Or to see a very well fenced one. (Iseuri elder, Emeshenani)

Finally, for others, “staying together with wild animals” even has undesirable connotations of backwardness, as expressed by a Protestant woman from Osilalei:

[I don't want people, cows and wild animals to stay together as in the past] because we cannot go back to the old life where people used to live like animals.

Proposition 3: “Conservation” is about wild animals and trees

In this section, again, I explore local meanings of “conservation”, with a focus on wildlife. In this model, “taking care of the land” (*eramatata enkop*) includes “taking care of” trees and not killing wild animals, two western conservation preoccupations that are evident in some informants' discourse.

[Taking care of the land] is not cutting trees... See how I am conserving this place? I don't cut these trees [...] I started to do it recently... Because I think it is good, it has profit: we've heard through other people that a bare place without trees doesn't get rain. Ilashumpa [white people]²⁴⁹ told us that (Iseuri elder, Swamps).

[Taking care of the land] is protecting the wild animals for the *wazungu*²⁵⁰ to come and see and protecting the livestock (Young woman, Emeshenani)²⁵¹

²⁴⁹ *Olashumpai*, pl. *ilashumpa*: white people (Maa)

²⁵⁰ *Mzungu*, pl. *wazungu*: white people (Swahili)

²⁵¹ An interesting quote comes from this Ilkimunyak elder from Emeshenani who associates conservation and wildlife in a counter-intuitive way that actually reflects the “traditional” model and its focus on both cow's and people's welfare, and social harmony: “Avoiding morans to kill wild animals is part of nature conservation... Because if we are asked not to kill wild animals but let the morans go and kill them, then we fight with the government and we will not be conserving the land because then our cows will not be given water in the park and our people will be chased every now

In this model, both sedentarization and land privatization are seen as conditions to “properly conserve the land”:

Nowadays, conservation of the land has become more real with the development of permanent settlements (*imparnati*). Before, people just used to move randomly, in all directions. With the development of *imparnati*, there are restrictions on livestock movement, which conserves the land (Iseuri elder, Swamps)

[In the past Maasai did not take care of the land] because they didn't have *imparnati*. I would live here, kill all the trees to fence my *boma* then move. But now we're developing permanent settlements, we don't move, so we conserve the land (Iseuri elder, Swamps)

I don't know exactly [what taking care of the land is] because so far we're not in personal land: we are on a land called "ours" ... (Ilkishimu elder, Swamps)

[In the past, taking care of the land] was not done because nobody was owning a piece of land permanently... (Iseuri elder, Ošilalei)

[Taking care of the land is] to do subdivision of the group ranch so that people will conserve properly the things on their land because you know they are yours (Ilkishimu elder, Swamps)

The idea of land use zoning, present in the speech of conservationists and NGOs and disseminated at community meetings, is also present:

[For land to be properly taken care of], people should have different areas for cultivation, grazing and wildlife conservation (Ilkishimu elder, Swamps)

[In order to take care of the land], it is good to put wildlife in their own areas and people and cows in their own areas; shambas should be set aside and grazing should also be set aside. And trees should not be cut down and should be reared [...]. (Ilkimunyak elder, Swamps)

To compare, here is a comment by an expatriate local tour operator/conservationist:

[GR] Subdivision is inevitable. The question is how can it happen in the most positive form? The best case-scenario would be to identify different zones according to their importance for wildlife and keep open sectors to be accessed by wildlife and fence the irrigated farms. We need to identify wildlife migration corridors and the wet and dry season grazing areas. We could then have a land easement program: an agreement with the communities about which activities are allowed to take place on

and then out of the park. But if we ourselves avoid morans killing wild animals, everything will be smooth and we'll be conserving our land. Just this."

particular pieces of land. People would be paid not to live in certain areas and not to engage in certain activities there.

Thus, in this model, "taking care of the land" approximates (somewhat outdated) western notions of conservation²⁵². Table 3.5 summarizes these two cultural models.

²⁵² As I discuss below, and privatization and sedentarization are no longer seen by non-Maasai conservationists as necessarily having conservation value in the Amboseli context.

Table 3.5. Summary of the “traditional” and “modern” cultural models of human-wildlife relationships in the GAE.

<i>Cultural models propositions and sub-propositions</i>	The “traditional” model: people, livestock and wildlife “staying together”	The “modern” model: “Let’s be separated”
Proposition 1.	Wild animals are not cows Wild animals are not at home and they are not taken care of Wild animals are useless Wild animals belong to God, not to people	Wild animals are cows Wild animals are taken care of: “they have shepherds” Wild animals are useful Wild animals are “my cows”
Proposition 2.	We were created together by God; we have always been staying together Wild animals have the same right as people and cows to live here Wild animals do what God created them to do Maasai do not kill wild animals for nothing The relationship between people and wildlife was better in the past As part of God’s creation, people and wildlife are meant to stay together.	People and wild animals should be spatially separated Wild animals have their own places Maasai are enemies of wild animals People’s relationship with wild animals is better now People and wildlife should be spatially separated
Proposition 3.	“Conservation” is about children and cows. It is not about wildlife.	“Conservation” is about wild animals and trees

I now turn to a set of ideas that is expressed by a specific group of informants, the Protestant Evangelical Maasai.

The Protestant submodel

Within the range of ideas that belong in the “modern” model, there appear to be distinctive elements of Christian (more particularly Protestant) origin. Given the strong identity of local Evangelical/Pentecostal Christians and the fact that Protestants (both mainline and Evangelical) represent 43.2% of my informants²⁵³, for simplicity and emphasis, I assembled these ideas into a common “Protestant” submodel of the “modern” model of human-wildlife relationships. The propositions in this model are:

1. People are a special creation of God;
2. God created everything to be used by people, for people’s benefit;
3. God’s creation is to be taken care of;
4. To kill wild animals “for nothing” is a sin.

Proposition 1. People are a special creation of God²⁵⁴

In this model, people see themselves as a special creation of God, which is above and separated from God’s other creatures. Paraphrasing the Biblical Genesis account²⁵⁵, the pastor of the Kenya Assemblies of God (KAG) in Kalesirua (Swamps), a Pentecostal church, explains:

²⁵³ See Appendix 13 for information on local denominations and church membership.

²⁵⁴ Nvivo: 4 interviews and 4 passages coded.

²⁵⁵ Genesis 1 (New International version).

God created the earth and the heavens and everything... And God said "let it be"... Let it be everything on top of the earth... God also said "it is good to have someone to take care of the earth"... So He created Man in his own likeness.

Other KAG congregants explain:

In church, I hear that God created the earth and the heavens and everything on it... The trees, the people, the livestock, the wild animals... They are all God's creation. God created Man in His own image. But the other things, He just said "Let it be"... Let it be water... Let it be wild animals... Let it be livestock... Let it be day... Let it be night... [...] These other things, He just said "Let it be..." (Ilkimunyak elder, Swamps)

A person is more important than an animal: a person was created by God personally... While for animals, God has just said "Let them be on earth". So, they were not created by God in the same way as the human beings and the value of a human being is much bigger than the value of an animal. (Ilkimunyak elder, Swamps)

Proposition 2. God created everything to be used by people, for people's benefit²⁵⁶

As a corollary of the previous concept is the idea of dominion over God's creation and of its use for people's benefit:

It is good to be allowed to eat the edible wild animals because God gave us authority over all the things on earth. (Young man, Lutheran, Osilalei)²⁵⁷

[Wild animals have the right to live on this land] because the reason why God created them was to benefit people. When God created everything, Man was given power over everything. So, even wild animals are part of what God wants Man to use. (Elderly woman, KAG, Swamps)

[It is] good for wildlife to be reared like cows because everything created by God has benefits and is useful. (Ilkimunyak elder, KAG, Swamps)

Since everything was created by God for the benefit of people, then wild animals can be killed if they are going to be eaten:

[We hear in church that] God has given Man power to use everything on top of the land. If you want to kill a wild animal to eat, that is good, it is not a sin. But if you kill for nothing, that's a sin, that is very bad [...] (Ilkimunyak elder, KAG, Swamps)

²⁵⁶ Nvivo: 15 interviews and 21 passages coded.

²⁵⁷ This is a young man of the *olmurrani* age-grade, who has not engaged in moranhood.

According to the Kalesirua KAG pastor himself:

I tell people that wild animals are also God's creation and people agree with that. That means that they must not kill the polite animals just for nothing. But to kill for food, in order to eat, that is not killing for nothing²⁵⁸.

Christianity, by promoting the idea of God's creation for human benefit thus reinforces commodification of wildlife and contributes to a shift in perceptions of wild animals from "non-cows" to "cows". Interestingly, almost only Protestants (13.4% vs. 1% of Traditional/Catholic Maasai) mentioned provision of economic benefits as giving wildlife the right to live on the land.

Proposition 3. God's creation is to be taken care of²⁵⁹

However, in parallel with the idea of dominion, the notion of stewardship of God's creation is also expressed. According to this KAG congregant (an Ilkimunyak elder, from the Swamps), "In church, the pastor tells us to take good care of God's creation by planting trees and taking good care of God's livestock and wild animals." For another elder (Ilkishimu; KAG, Swamps): "The land belongs to God. But when God created it, He had a purpose for it. God gave the land to a person and the person is protecting everything on the land". We saw above that the KAG pastor explained that God created Man to "take care of the earth".

²⁵⁸ However, killing wild animals for food, although permitted (in contradiction with Maasai traditional taboos against eating wildlife), is not unproblematic for these Evangelical/Pentecostal Maasai. In order to be acceptable as food, animals need to be slaughtered in a proper way: the blood (life) needs to be collected and for this, the animal's neck must be cut while the animal is alive. In practice, this makes animals found dead (both livestock and wildlife; including when snared) off-limits. One case I heard where a wild animal was eaten in "a proper way" by Christians is that of a live giraffe that broke its legs in an irrigation ditch. It was then properly slaughtered and consumed (Kalesirua swamp).

²⁵⁹ Nvivo: 4 interviews and 4 passages coded.

Proposition 4. To kill wild animals “for nothing” is a sin²⁶⁰

Morans killing dangerous animals at *olamayio* or recently circumcised youth (*ilaibartak*) killing birds is no longer acceptable. It is now considered as “killing for nothing”, which is a sin. This might reflect the idea that God’s creation is only to be killed if it is to be used (for food). But it might also reflect the Protestant condemnation and rejection of traditional culture in general²⁶¹. Indeed, Evangelical “salvation” is incompatible with the practice of Maasai traditional customs. Thus, killing wild animals in a cultural context is now possibly discouraged by local churches that frame it negatively as “killing for nothing”.

Also, the Protestant emphasis on formal education and other “productive” modern activities implies that there is both less respect for traditional beliefs and less engagement in activities related to wildlife among “Saved” families. Killing lions and birds is now despised for being foolish and “unproductive”. Especially frowned upon is the practice of male initiates (*ilaibartak*) killing birds and wearing them as headdresses, a clear sign of backwardness for Saved Maasai:

Newly circumcised boys killing birds for their headdresses [...] only happens in the interior of Maasailand, very far away from towns, in the bush completely [...]. You'll be surprised because, there, they're really practicing the old Maasai culture! They'll even call us Ilmeek! Even children will run away from us, Saved Maasai, because we are wearing [western] clothes. They will only speak to you if you speak Maa... (Elderly woman, KAG, Swamps)

It is even more a sin because these birds are not eaten; they are ‘killed for nothing’:

[In Osilalei], *ilaibartak* are not killing birds: they're just putting beads around their heads... My younger sons did not put on birds on their heads and they will not put. My family used to put on birds. But now we just put on beads because people don't

²⁶⁰ Nvivo: 20 interviews and 21 passages coded.

²⁶¹ See also Amster (2008) and Hodgson (2005).

want to kill birds... And because boys go to school, they have no time to kill birds. People are saying that it's bad to kill birds for nothing; it is a curse (*engoki*; sin). To kill and to eat is ok... But just to kill and not to eat, that is taking [the bird's] life for nothing [...] This is because of school... Because the boys who don't go to school put on birds. My older sons have put on birds but the younger ones go to school and they said "We don't want to put birds". So, I decided to change and have them use beads instead of birds²⁶² (Iseuri elder, Osilalei)²⁶³ (see Figure 3.9)



Figure 3.9. Initiate (*olaihartoni*) with beaded headdress (instead of stuffed birds) (May 2004, Osilalei). Compare with the traditional attire of *ilaibartak* in Figures 3.1 and 3.2.

Similarly, moranhood (*emurrano*) and the lion hunt are rejected by

Protestants:

[The practice of moranhood has decreased] because Maasai have come to know school and people are getting Saved... Those who've known God do not participate in it (Elderly woman, KAG, Swamps).

²⁶² Incidentally, this beaded ornament is called "birds" (*ilmotonyi*). The practice of using beads as a replacement of real birds was prevalent in Matapato section and non-existent in the Kisonko section (Emeshenani and Swamps). For some elders, another reason for their forbidding their sons to kill birds is that, since they own their own ranch, they want to have birds on their land because they "enjoy their music". This is an interesting conservationist twist of land privatization.

²⁶³ The school mentioned by this elder is the Emashini primary School, which is sponsored by and associated with the Lutheran church.

Nowadays, I don't like moranhood [...]. The importance of moranhood is to kill wildlife... If morans don't do the proper thing [to kill wildlife] then they should go to church. The only good morans are the ones going to church. (Iseuri elder, Swamps)

The following illustrates how this attitude can be, partly, linked to religious conversion. At a Catholic mass in Lenkiseem (Olgulului-Lolarrash GR), I met a tall and skinny teenager, who was clad in a primary school uniform, which, composed of shirt and shorts, made him look childish. Besides being a student and a Catholic, he was also a *olmurrani* and “the owner of a lion” (*olopeny olowaru*). For this, his mates awarded him the name of Olaitotioni²⁶⁴, one of several prestigious “lion names” (*enkarna olowaru*)²⁶⁵. On another occasion, at the Isinet market (Swamps study area), I met another “warrior” who was also wearing a primary school uniform. When I asked him whether he was a “moran”, he replied, in English, “Yes, I am a moran for Jesus”. Even though he was of the *ilmurran* age-grade, he was not practicing “moranhood” (*emurrano*) because he was attending school and was “Saved”. In the swamps, among Born-again Christians, being “Saved” and/or attending/having attended school precludes practicing moranhood activities²⁶⁶.

Finally, associated with this rejection of elements of Maasai culture by Protestants, is a also lesser cognizance of (or lesser willingness to report) traditional prohibitions on killing certain wild species. Although not significantly, more Protestants answered “I don't know” to the question of whether there are certain species that should never be killed (68.4%); less answered “yes” (41.6%) compared to Traditional/catholic informants (58.4%) ($\chi^2 = 5.28$; $df = 2$; $p = 0.071$).

²⁶⁴ The name was changed.

²⁶⁵ See Appendix 15 for a list of “lion-names”.

²⁶⁶ Indeed, these two variables are correlated and there are significantly more educated Protestant (26.2%) than educated Traditional/Catholic Maasai (5.6%) ($\chi^2 = 15.936$; $df = 1$; $p < 0.001$; $n = 190$).

In the Protestant framework, respect for these taboos on killing species is rejected as idolatry²⁶⁷:

There before, Maasai believed the ostrich was good. That is why it is called *esidai*²⁶⁸. And so people wanted to have its feathers so that newly circumcised boys would have good luck. So the ostrich was like a small god for the Maasai. That is why the ostrich was not killed. Now, people have gone to school; they don't see the importance of the headdress... And some have gone to church and have abandoned the culture. (Elderly woman, KAG, Swamps)

As a final characteristic in this model, it is worth mentioning that more Protestant Maasai than other Maasai invoked the law as a reason not to kill wild animals (and not to cut trees)²⁶⁹. This possibly reflects the strong respect for the “laws of the land” (secular political power) that generally characterizes members of Evangelical churches (Droz 2001; Woodberry 2006)²⁷⁰. This could represent a synergy of Evangelism with wildlife conservation through a heightened respect for the rule of law (here, the government’s prohibition to kill wildlife).

Discussion of the cultural models

In this section I compare the cultural models’ main features and discuss the processes possibly underlying differences between the models and changes thereof. Two points strongly stand out: the “traditional” model is relational and Maasai do not see themselves as “conservationists”; the “modern” model is oppositional and the Maasai frame themselves as “conservationists”.

²⁶⁷ See Deuteronomy 13 (New International Version). Similarly, for the KAG pastor in Kalesirua, drinking blood and consulting *iloibonok* is akin to “worshipping other gods” (even though traditional Maasai are monotheistic). I thank Steve Main, CSU Anthropology alumnus, for helping me trace the biblical connections of these Maasai statements.

²⁶⁸ *Esidai*: “the good, beautiful one” (ostrich).

²⁶⁹ Twenty one interviews of Protestants mention this concern vs. only two by Traditional or Catholic Maasai.

²⁷⁰ As a congregant of the Kenya Assemblies of God puts it, “Everything is good about what the government does”.

In the traditional cultural model, people perceive themselves, wildlife and livestock as equally part of God's creation. Humans, wildlife and cows have always "stayed together" and are meant to stay so. This model tends to reflect a relational ontology (see Bird-David 1999; Bird-David & Naveh 2008; Castree 2003; Ingold 2000; Ingold 2006; Neves-Graca 2005), whereby the natural environment is understood in non-dualistic and holistic ways. Maasai religious beliefs and associated practices, indeed, reflect recognition of the interdependence between people and other forms of life. For Maasai, who see "everything on top of the land" as part of God's creation, humans do not stand apart and above "nature", as is the case in the Western worldview (Descola & Palsson 1996b; Pickering & Jewell 2008; Snodgrass & Tiedje 2008). They lack the Western nature/culture dichotomy. Relational ontologies and recognition of the existence of complex ecological connectedness have been linked to reverence for nature and/or possible sustainable use of natural resources among indigenous peoples (Atran & Medin 2008; Medin et al 2006).

A related characteristic is that this model recognizes subjectivity in wild animals²⁷¹ (see Nadasdy 2007; Watson & Huntington 2008): they are seen as individuals with agency and personality who respond to human purposeful action. Recognizing that animals can be "taught" to stay away from people and livestock translates into strategies of management of the human-wildlife relationship. As we saw, "togetherness" with wild animals is predicated on killing wild animals (either "guilty" ones; or "innocent" ones, preemptively). In Amboseli, Kangwana (1993)

²⁷¹ The subjectivity aspect is a good example of an implicit meaning that I derived from discourse analysis, since I did not ask directly about this (I did not have a reason to do so).

interprets Maasai spearing of elephants (which has reduced encounters between people and elephants) as an example of local management of wildlife²⁷². For traditional Maasai, forbidding to kill wild animals can only have negative consequences for their relationship with humans, which they see as being worse nowadays: because wild animals know that they are protected and/or because they have become less used to people (as a result of “being separated” in their “enclosures”), they have become more aggressive. On the other hand, believing that lions consciously protect women, translates into, as we saw, acts of gratitude towards (and, ultimately, some protection of) lions.

Together, the Maasai relational ontology and the associated perception of wild animals as subjects, approximate what is described as “animism” (Bird-David 1999; Hornborg 2006; Snodgrass & Tiedje 2008). Animistic cosmologies are characterized by absence of boundaries between humans and non-humans and by dialogical ways of interacting with the world. Animals, material objects and features of landscapes are treated as “communicative subjects”, who can be related to as subjects rather than as inanimate objects; human mentalities and abilities are projected onto the natural world. All of this challenges ideas of human exceptionalism (Snodgrass 2008; see also Nadasdy 2007). While Maasai religion and relationship with the environment are not strictly animistic – as far as I could ascertain, Maasai do not see the environment as inhabited by “other-than-human

²⁷² Another strategy was reported once to me by an elderly woman from Osilalei: as children herding goats, if they saw a big group of elephants, they would “hold the tail of a goat very strongly and when the goat made a strong sound, the elephants would disappear and not come back again”.

persons” and do not see wild animals as kin (see Snodgrass & Tiedje 2008)²⁷³ – they have a relationship with the natural world that is somewhat reciprocal and they consider animals as subjects. In addition, Maasai do not consider humans to be in control of nature: people’s destinies are subordinated to *Enkai’s* will, which manifests itself in natural events (i.e. droughts, diseases etc).

As a result of this sense of lack of power over nature (and also because wild animals are “not cows”, since they lack the economic, social and affective value of cows), Maasai do not frame themselves as “conservationists” (in the western sense). Conceptually, the traditional model illustrates the case of epiphenomenal conservation, whereby elements of the natural environment (wildlife in this case) are conserved and sustainably managed as side effects of cultural or social aspects rather than through consciously designed “conservation” strategies (Hunn 1982; Smith & Wishnie 2000). Managing and “taking care of” resources (grazing) is aimed at benefiting livestock and humans. This, in turn, has incidental positive ecological consequences for wildlife²⁷⁴.

We have also seen that there is respect for certain species for religious reasons, as well as a general ethic that refrains from “killing for nothing”; some tolerance is shown for animals that are seen as doing what God created them to do, even as they conflict with human interests; and some species are protected because

²⁷³ However, there are especially strong relationships between the members of certain Maasai clans and subclans and certain wild species (particularly snakes).

²⁷⁴ See Ruttan and Borgerhoff Mulder (1999) for a related discussion of the Tanzanian Barabaig pastoralists.

of a fear of curses²⁷⁵. These beliefs and practices might have some conservation value for wildlife. But this is not something that the Maasai holding this model acknowledge. Indeed, asked whether Maasai have ever protected (“taken care of”) wild animals or are doing it now, for most people this idea is ludicrous because “wild animals are not cows”. God is the only “shepherd of wild animals”. Similar situations were described for Christian fishermen of the Chesapeake Bay (USA) by Paolisso (2002) and for Lacandon Maya (Mexico) by Ross (2002). In these cases, it is God who takes care of nature; human action is seen as having no effect. Paraphrasing Paolisso (2002), it could be said that for Maasai “[conserving wildlife] is an oxymoron”. Frequently portrayed as “custodians of wildlife” (e.g. Asiema & Situma 1994; Matampash 1993), traditional Maasai do *not* see themselves as such. It is thus ironic that precisely those people whose traditional pastoral practices grant them the reputation of “stewards” of wildlife negate any conscious action on their part that would benefit those animals. The popular description of Maasai as “natural conservationists” does not reflect what some Maasai think of themselves.

Below, I discuss the characteristics of the modern model and discuss possible sources in current socioeconomic and cultural changes of three major differences in comparison with the traditional model – namely, a desire to separate wild animals and people; and how wild animals have come to be seen as both commodities and in need of people’s “protection”.

²⁷⁵ In traditional contexts, these taboos are not respected by everyone and great individual variation exists, as Snodgrass (2008) reminds us. For example, uncircumcised Maasai boys kill even those species that are protected by taboos because “boys can kill anything!”

A major transformation in the human-wildlife relationship model is the shift away from the concept of “togetherness” with wildlife. In contrast with the traditional model, the modern model stresses conceptual and physical separation between humans and wildlife; and between human and livestock occupied spaces and spaces for wildlife. In the modern model (and most strongly among Protestants), people are seen as apart from wildlife, as a special creation of God. Dominant perceptions of human-wildlife relationships are of separation and antagonism: Maasai are enemies of wildlife; wildlife must be protected against people; and wild animals are hazardous to people. So, for all these reasons, people and wildlife should be spatially separated and this model can be described as being oppositional.

This shift from a relational ontology to a dualistic one that stresses opposition and separation can possibly be traced to, in part, changes in use and tenure of the land and conservation policy, which have delimited areas for certain land uses, while increasing human-wildlife competition and conflict. An obvious influence is the creation of Amboseli NP. Preventing people and livestock from accessing the swamps has disrupted the synchronized seasonal movements of people and wildlife in and out of these key dry season grazing areas (Western 1973) and thus some of their ecological “togetherness”. This has also created an asymmetrical and unfair situation that has exacerbated resentment, human-wildlife conflict and the desire to have wildlife physically kept “in their areas”. Similarly, both land privatization (in Osilalei) and sedentarization (in the Swamps), by reducing livestock mobility, have strained the sharing of resources that existed

under communal pastoralism. Also, adoption of cultivation in both areas has introduced wildlife crop raiding, which is especially critical for poor families who rely on crops for food.

Cognitively too, the delimitation of protected areas and changes in land use have created the expectation that spatial separation between people and wildlife is or should be the norm. Conservationists and NGOs, in the context of local land use planning, have disseminated the idea of zonation (see Croze et al 2006) with the demarcation of areas for exclusive land uses. Finally, the conceptual separation of people and wildlife can also be traced to conversion to certain brands of Christianity and their view of “Man as a special creation of God”.

In this way, the “modern” model held by some Maasai is close to the Western dualistic ideas embodied in western culture in general and in mainstream conservation thought and practice in particular.

In addition, even though my data on this are sparser, there is some suggestion that, in contrast with the traditional relational model, the modern model tends to deny subjectivity to animals. This also reflects a greater conceptual separation between humans and wildlife (see also Nadasdy 2007; Watson & Huntington 2008). This was implied in the reaction of the Pentecostal woman who denied agency to lions as protectors of women and children, and deserves further investigation²⁷⁶.

²⁷⁶ For instance, a NVivo matrix intersection search to compare Protestants vs. traditional and Catholic Maasai on numbers of mentions of subjectivity and agency in animals shows Protestants doing it less: 32 interviews of Protestants were coded under “animal subjectivity” vs. 54 for Traditional/Catholic Maasai.

Finally, in contrast with the traditional model, Maasai holding the “modern” model see themselves as “conservationists, as “shepherds of wild animals”. Partly, this is an outcome of the process of commodification of wildlife, with wild animals traditionally seen as “non-cows” reconfigured as “cows” and thus economically worth “taking care of”.

Commodification of wildlife itself results from separate processes or combinations thereof. In part, increasing participation in the market economy and general commodification of aspects of Maasai livelihoods is possibly contributing to it. Wildlife conservation discourse and practice, under the guise of community-based conservation, also heavily promote this process of commodification: people holding the modern model have internalized the concept of wild animals as resources and providers of economic benefits (independently of whether they have experienced them or not; see Chapter 2)²⁷⁷. Information about these benefits is transmitted at community meetings that are convened by leaders and conservationists²⁷⁸ and during which people are urged not to kill wild animals, not to let children do it and to denounce people who do. Another factor contributing to commodification of wildlife is land privatization (expected or actual), which entails the idea that “everything on my land” is or will be “property”²⁷⁹. A final influence is

²⁷⁷ Also, tourism fuels an illegal trade in wild animal products. For instance, seeing me as a “tourist”, one of my assistants’ niece tried to sell me an ostrich egg (although the ostrich is the most “culturally protected” animal) “because other white people also buy them”.

²⁷⁸ My own feedback workshops contributed to this: Osilalei residents were extremely surprised by and interested in my preliminary data on the economic benefits from wildlife existing in the other two GRs (See Chapter 2, table 5).

²⁷⁹ Regarding the impact of land subdivision on human-wildlife relationships, there is a distinction to be made between Imbirikani GR (where subdivision has not occurred) and Osilalei former-GR. In Imbirikani, where only irrigated areas had been formally subdivided at the time of fieldwork, prospective land privatization feeds the illusion of future private ownership of wildlife (a

formal education's focus on national parks as primarily sources of revenue for the country (Ali 2002; 2006)²⁸⁰.

Also, Maasai seeing themselves or saying that they see themselves as "conservationists" can result from their having internalized the discourse of some conservationists about the Maasai (and their purported harmonious relationship with wildlife), as well as Maasai appropriation of such ideas (for instrumental purposes or not) (see Pfeffer et al 2001; Snodgrass et al 2008)²⁸¹. Interestingly, the expressed self-perception that Maasai are *now* conservationists presupposes that Maasai were once "enemies of wildlife" and environmentally destructive. This is close to some colonial and early conservationists' representations of Maasai and of pastoralists in general.

Lastly, the role of Christianity in this regard should not be neglected. By promoting the idea of the usefulness and of the stewardship of God's creation, as well as the idea of respect for the government's laws, Protestantism possibly encourages the concept of people as "shepherds of wild animals", while reinforcing wildlife commodification. This could also be a reflection of its embracing of modern values and rejection of Maasai traditional values. Additionally, it might be linked to the spatial correlation between formal education, being an Evangelical Christian and

misconception) and the possibility of benefiting economically from wildlife on an individual basis (thus bypassing capture of wildlife-based economic benefits by the GR leaders; see Chapter 2).

²⁸⁰ Also in primary school teachers' interviews.

²⁸¹ An incongruous vision at the Kimana Wildlife Sanctuary was to see a domesticated baby wildebeest follow its Maasai caretaker (dressed "traditionally"), for the joy of the surrounding tourists. In the romantic words of the white South African manager of this tourism operation, "this Maasai man really likes his job. The love that Maasai have for wild animals is the same love that they have for cows. They have a natural love for animals".

living on Imbirikani GR where exposure to and participation in community-based conservation benefits is the greatest.

To conclude, there seems to be substantial qualitative evidence suggesting that people in the GAE think about their relationship with wild animals in highly contrasting ways, which can be organized in two distinct cultural models. However, these two models should be seen as simplifications that are useful in highlighting local ideas about wildlife in their relationship with people rather than as defining strict boundaries “around” the cognitions of two local well-defined groups of people (with one group strictly adhering to traditional understandings of wildlife and the other holding perceptions influenced by modernity). Presumably, there is a range of models in between, with people possibly holding elements of both models as part of their personal model. More realistically, it could be said that the two models are partially overlapping and that most people find themselves in between these two more extreme models. As Strauss (2005) explains, people can be on a continuum between ideal types rather than neatly within one. As an example of this apparent ambiguity and complexity, here is a quote from a Pentecostal man (from the Kenyan Assemblies of God) who, nevertheless, sees God as a mother (*Enkai*) rather than as Christianity’s patriarchal figure (*Olaitoriani*: the Lord):

Wild animals and us were all created together by the same God. It is making God happy to see us staying together because we’re all from the same mother and we’ve been staying together in the past. That is why you see a lion eating a cow and that is fine. That is why people sometimes eat wild animals and that is fine. Because we are all sharing each other. (Iseuri elder; KAG; Swamps)

Also, for instance, as we saw above, for the majority (70.3%; n= 185), wild animals have the same right as people and livestock to live on the same land, and

being equally part of God's creation is the most frequently cited justification for this (40.5%). As we will see below, this concept is shared by both Protestants and Catholic/Traditional Maasai. This shows a convergence, or perhaps even a synergy, between traditional and modern beliefs that promotes some tolerance for wildlife as part of God's creation, independently of which God is considered (whether the Christian God or Enkai²⁸²).

Thus, for all the differences that I described between these two models, their limits are not always well defined and there possibly are convergences between them. So, how can we confidently know whether the distinctions found through discourse analysis describe real boundaries between two groups of people holding two different models? Who are the members of these groups? Can variation in the models be explained by differences in informants' demographic characteristics or changes in their socioeconomic circumstances? Do these differences reflect temporal changes in cultural models? What are the processes behind the existence and emergence of these contrasting models?

In the next section, I attempt to answer these questions by using a statistical technique, the cultural consensus model (Romney et al 1986). This approach helps to assess how agreement with these two models or with versions thereof, is distributed in the overall population, and within and across groups in the population. Thus, it will help avoid preconceived notions of who the people are who hold these models (see Handwerker 2002).

²⁸² When I asked an elder which God he was talking about during a conversation, he philosophically answered "But it's the same God anyway, my child".

Cultural models distribution: cultural consensus analysis results

In this section, I use cultural consensus analysis to investigate the extent to which the informants share (or do not share) ideas and beliefs about human-wildlife relationships; whether there are patterns of variation in the agreement with these ideas and beliefs; and what are the processes underlying these patterns.

The cultural consensus analysis produced a single-factor solution: the ratio of the first eigenvalue to the second is 4.23 and 36.2% of the variance in the data is explained by the first factor²⁸³. This is evidence of consensus, or overall agreement, among all the informants. In other words, they share a similar pattern of answers. This, in turn, suggests that they are drawing from a single cultural model relating to wildlife-human relationships when answering the structured questions on human-wildlife relationships (see Ucinet output in Appendix 20).

Some relevant features of this consensual model, as suggested by the answer key (see Appendix 20), are that:

- People, livestock and wild animals have the same right to live on the land;
- There would be wildlife in Maasailand even without the government's protection;
- Maasai have never protected and are not protecting wild animals;
- The only two acceptable reasons to kill a wild animal are in self-defense and after they caused a problem (not to make money; not for food, fun, no reason or prestige);

²⁸³ The first seven components explain the majority of the variance.

- The best solutions to human-wildlife conflicts are to enclose all the wild animals in their own areas, for Maasai to start their own wildlife tourism project, and for the government to pay compensation for wildlife-caused problems.

In general, with its focus on separating people and livestock from wildlife and expectation of economic compensation, this statistically demonstrated consensus more closely approximates the “modern” model than the “traditional” model, as described by the discourse analysis. However, it also includes elements from the Maasai “traditional” model (e.g. Maasai have never protected wild animals; there are some species that should never be killed). This suggests that the consensus is weak. This is supported by evidence of intracultural variation that is visible in:

- 1) Two negative competence scores;
- 2) A low mean competence score (i.e. a low average agreement: 0.577 ± 0.182), which is close to the 0.5 lack of consensus threshold (Weller 2007);
- 3) A broad range of competence scores (-0.1156 to 0.8176);
- 4) A broad range of second factor loadings (-0.6881 to 0.7165);
- 5) The fact that the second factor also explains some of the variance (8.6%).

A scatter plot of the first factor loadings (competence scores) by the second factor loadings further illustrates this fragile consensus (Figure 3.10)²⁸⁴: the clustering is loose, with several low and negative first factor loadings and a wide range of second factor loadings (including negative loadings) (see Handwerker 2002).

²⁸⁴ The x axis measures how close each individual is to the overall consensus. The y axis reflects the greatest remaining differences among informants that are not explained by the first factor (Kempton et al 1995).

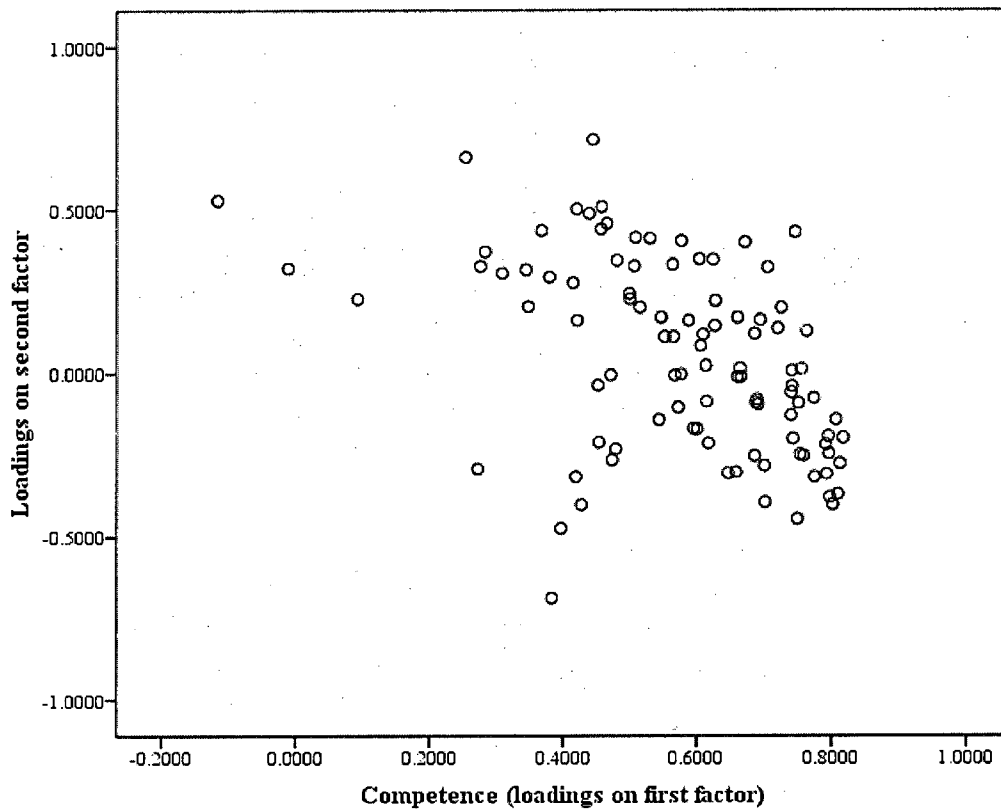


Figure 3.10. Scatter plot of informant loadings on first factor by informant loadings on second factor.

So, in general, informants agree with each other (they share a similar pattern of answers), and the consensual model is actually a mix of elements from what I previously described as two distinct models (the “traditional” and the “modern” model). However, as shown by the spreads of the first and second factor loadings, there is both intracultural variation and agreement beyond the consensus (subcultural variation). Below, I explore these patterns and their possible origins.

Variation and change in the cultural models

To explore patterns of agreement and disagreement with the consensus and to identify demographic and socioeconomic variables that underlie these patterns, I

used the first and second factor loadings as dependent variables in analyses of variance (ANOVA) and regression analyses (see Berges et al 2006; Handwerker 2002; Ross 2002; Weller 2007).

First, I compared mean competence scores (first factor loadings) and mean second factor loadings across groups of informants that are defined by socioeconomic and demographic characteristics (e.g. economic benefits from wildlife in the household; land tenure; land use; economic activity; study area; human-wildlife level; religion²⁸⁵; gender; age; education level; wealth). Then I included the significant variables in a general linear model (GLM) univariate procedure.

The one-way ANOVA on the competence scores shows that the informants with significantly higher average competence scores are males (mean: 0.61 ± 0.195 ; $F = 5.334$; $p = 0.023$); GR residents (mean: 0.60 ± 0.176 ; $F = 7.422$; $p = 0.008$); and informants from households economically benefited by wildlife (mean: 0.66 ± 0.139 ; $F = 7.353$; $p = 0.008$). In other words, members of these groups agree more strongly with the consensus; they more strongly share the cultural model among themselves than do women (mean competence: 0.52 ± 0.145), private ranch residents (mean: 0.49 ± 0.175) and informants from households not economically benefited by wildlife (mean: 0.55 ± 0.186) do.

²⁸⁵ To compare with the findings from the discourse analysis, here I compare Protestants versus Catholic and Traditional Maasai, which I joined in the same group. As I explained above, local Catholics are essentially “traditional” in their beliefs and practices. Protestant (“Saved”) Maasai, on the other hand, are a distinctive group with self-ascribed “modern” and progressive characteristics. This, I think, justifies this grouping.

Also, mean competence was higher in the Swamps (0.605 ± 0.162) than in Emeshenani (0.602 ± 0.188) and Osilalei (0.489 ± 0.175) ($F = 3.676$; $df = 2$; $p = 0.0029$). Although differences according to age are not significant, they are close enough to significance that I included age in the subsequent regression analysis ($F = 3.784$; $p = 0.055$). In the ANOVA of the second factor loadings, the significant variables are economically benefited household ($F = 9.658$; $p = 0.002$); land tenure ($F = 12.936$; $p = 0.001$); and religious affiliation ($F = 6.214$; $p = 0.014$).

I further explore the association between informants' attributes and agreement with regression analyses (GLM univariate; main effects) in which the independent variables are the variables previously shown to be significant (i.e. gender; land tenure; economic benefits from wildlife; study area). I used the backward and forward model selection methods, and obtained identical results. Study area, although significant, was not included because it is correlated with all the other variables²⁸⁶.

The GLM analysis confirms land tenure, gender and age as predictors of differences in individual competences scores (Table 3.6).

²⁸⁶ χ^2 tests. Household benefits: $p < 0.001$; land tenure: $p < 0.001$; religious affiliation: $p < 0.001$; land use: $p < 0.001$; education: $p = 0.0015$; clan: $p < 0.001$; economic activity: $p < 0.001$; wealth: $p < 0.001$.

Table 3.6. GLM Univariate analysis (main effects) (n=99). Dependent variable: competence scores (first factor loadings). β = regression coefficient, SE = standard error, p = significance. $R^2 = 0.156$.

<i>Parameter</i>	<i>Parameter Estimates</i>					
	β	SE	t	Sig.	95% Confidence Interval	
					<i>Lower Bound</i>	<i>Upper Bound</i>
Intercept	0.501	0.049	10.267	0.000	0.404	0.597
Land tenure (Communal)	0.120	0.041	2.900	0.005	0.038	0.202
Gender (Male)	0.072	0.036	2.009	0.047	0.001	0.143
Age (Young)	-0.083	0.038	-2.198	0.030	-0.158	-0.008

Older people, men and GR residents are more likely to have higher competence scores (which means that they agree more strongly with each other and with the consensual model) than younger people, women and private ranch residents. Thus, these three variables have an effect, although subtle ($R^2 = 0.156$), on competence scores. A subsequent GLM analysis taking interactions between these variables into account showed no effect of interactions (all p values > 0.5) and only a slight improvement in R^2 (0.188).

Turning to subcultural variation, according to the regression on the second factor loadings, we see that land tenure and religious affiliation are predictors of second factor loadings (Table 3.7).

Table 3.7. GLM Univariate analysis (main effects) (n=99). Dependent variable: second factor loadings. β = regression coefficient, SE = standard error, p = significance. $R^2 = 0.184$

<i>Parameter</i>	<i>Parameter Estimates</i>					
	β	SE	t	p	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	0.290	0.061	4.795	0.000	0.170	0.410
Land tenure (Communal)	-0.242	0.064	-3.814	0.000	-0.369	0.116
Religion (Protestant)	-0.153	0.055	-2.791	0.006	-0.261	0.044

A subsequent regression looking at interactions between these two variables confirms that the interaction between religious affiliation and land tenure is significant in explaining second factor loadings. The R^2 improved to 0.221.

This suggests that there is some agreement across the subgroups defined by religion and land tenure beyond the agreement captured in the overall pattern. While mostly agreeing with the consensus (drawing from that common model), members of these sub-groups hold specific cultural models. This warrants that one look at what the specific models held by these groups are. So, next, I ran a separate consensus analysis on each of these four different groups of informants (GR vs. private ranch; Protestants vs. Traditional/Catholics) to assess the agreement within each group, to determine their respective answer keys and compare their response patterns.

Protestant vs. Traditional/Catholic

I compared the agreement patterns of Protestants (n=40) and Traditional/Catholics (n=59). The Protestants fit the consensus model well (eigenvalue ratio: 3.604; no negative competence score). The Traditional/Catholic

informants show consensus (eigenvalue ratio: 4.821), but also some evidence of intracultural variation (2 negative competences). Both groups show similar average competences (Protestants: 0.57 ± 0.159 ; Traditional/Catholics: 0.58 ± 0.19).

Comparing their respective answer keys shows that although both groups agree on most of the items (see full answer keys in Appendix 21), they differ in three highly relevant items (Table 3.8).

Table 3.8. Comparison of answer keys of Protestants and Catholic/Traditional Maasai.

<i>Model propositions</i>	<i>Traditional/ Catholics (n=59)</i>	<i>Protestants (n=40)</i>
Maasai are protecting the wild animals now	No	Yes
Problematic animals should be killed	Yes	No
People, livestock and wildlife should stay together	Yes	No

The Protestant informants differ from the consensus in that they see themselves as protecting the wild animals now and believe that even problematic wild animals should not be killed. The Traditional/Catholic informants, as a group, differ in one very significant way from the consensus: they agree with each other that one solution to human-wildlife conflict is for people, livestock and wild animals to “stay together” (to live on the same land without being separated in different areas). They also believe that the Maasai do not protect wild animals and that problematic wild animals should be killed. This conforms to the “traditional” Maasai model, as analyzed with discourse analysis, and shows how close the Traditional/Catholic group is to the “traditional” model.

One item with which both Protestants and Traditional/Catholics agree is that wild animals have the same right as people and livestock to live on the land. In both cases, being part of God's creation was mentioned as the main reason (respectively 54.9% and 29.1%; $n=185$; $\chi^2 = 12.560$; $df = 1$; $p < 0.001$).

Group ranch vs. private ranch

Both GR residents (Swamps, Emeshenani) and private ranch residents (Osilalei) show consensus among themselves (respective eigenvalue ratios: 5.186 and 3.078). GR residents show a stronger consensus than private ranch residents do (respective mean competences: 0.60 and 0.49) (see Ucinet output in Appendix 22).

The answer keys of these two groups are quite different (Table 3.9).

Table 3.9. Comparison of answer keys of GR and private ranch residents.

<i>Model propositions</i>	<i>Private land (n=23)</i>	<i>Communal land (n=76)</i>
Is it bad that killing wild animals is against the law?	Yes	No
Maasai protect wild animals now	No	Yes
It is acceptable to kill wild animals for food	Yes	No
Wild animals have good things	No	Yes
Problem animals should be killed	Yes	No
People should start their own wildlife tourism project for economic benefits	No	Yes

In Osilalei (private land), informants agree that it is regrettable that animals cannot legally be killed and that problem animals should be killed; they disagree with the perception that Maasai protect wild animals now, that they have good

things and that people should start their own tourism projects. In contrast, GR residents typically agree with ideas that belong in the “modern” model, namely that wild animals (even the problematic ones) should not be killed, that it is a good thing that killing them is illegal, that Maasai are now protecting them and that people should start or expand tourism projects in order to benefit from wildlife. In this, they reflect the fact that they have had exposure to community-based conservation rhetoric and practice, which has not happened for Osilalei residents, because of a lack of development of tourism and conservation in the area²⁸⁷.

Cluster analysis

In the next exploratory step, I carried out a hierarchical cluster analysis (Euclidean distance; average linkage) on the informant by informant correlation matrix²⁸⁸. The objective is to visually explore whether informants with similar answer patterns cluster together, both spatially and non-spatially, and how these clusters might reflect the possession by informants of specific socioeconomic or demographic characteristics. Aided by spatial mapping of the clusters (Figure 3.11), visual sorting of informants into clusters according to their answer patterns (Figure 3.12) and cross-tabulations, I explored the number of clusters that yielded the most meaningful patterns. Six was the best number and the socioeconomic and demographic characteristics of the members of the clusters are shown in Table 3.10.

²⁸⁷ An interesting difference here is how, differing from the consensus, private ranch residents find it acceptable to kill wild animals for food. This is an artifact of the correlation between Maasai section and land tenure and shows how geographical distinctions in Maasai culture influence cultural models. All the private ranch residents are from the Matapato section, whose members are known as “the Eaters of Rhinos” because of their weaker taboos against eating wild meat.

²⁸⁸ I thank Dr. Randall Boone (NREL) for suggesting this approach. See Appendix 23 for the cluster analysis dendrogram.

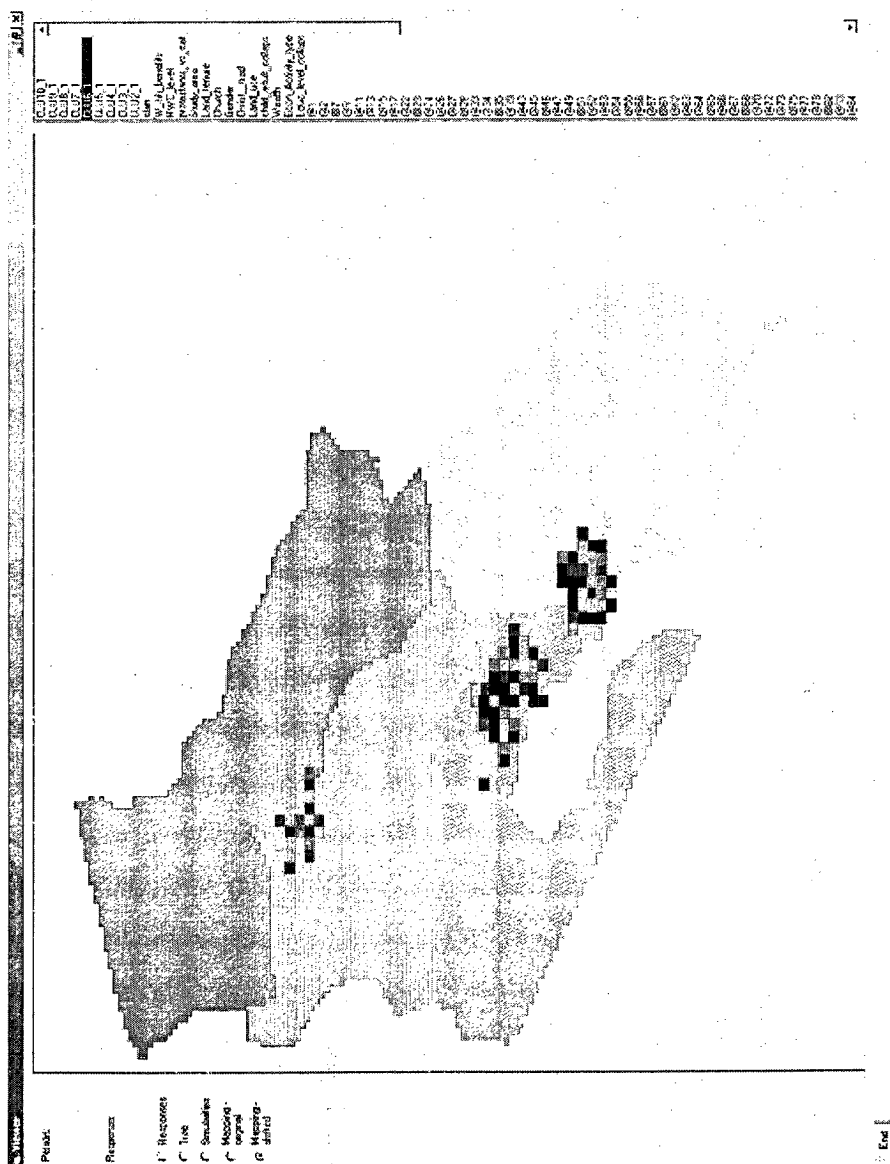


Figure 3.11. Mapping of the six clusters. Each color is a cluster; each pixel is an informant.

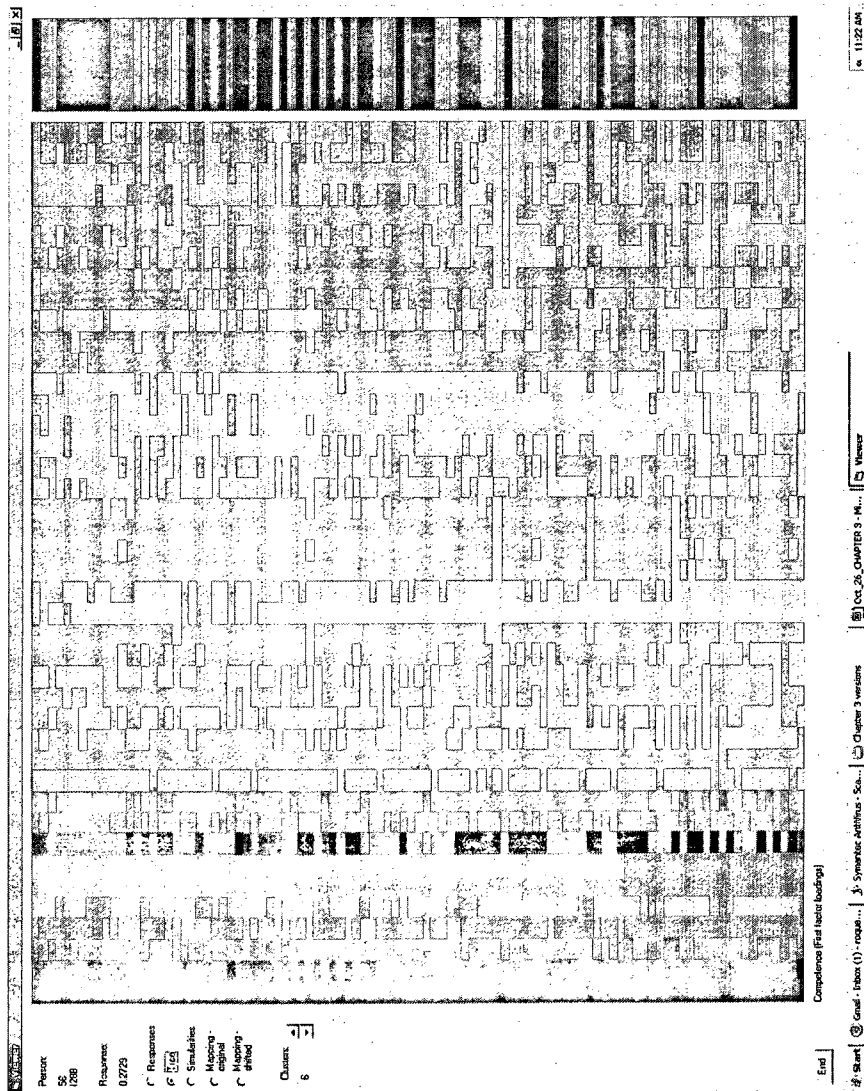


Figure 3.12. Overall informants' patterns of responses to the cultural consensus analysis' dichotomous questions. The blue columns are competence scores and second factor loadings; each red column represents one demographic/socioeconomic independent variable; each green column represents one question in the cultural consensus survey (light green is answer "yes"; dark green is "no"). Cluster membership according to answer pattern is shown in the last multicolored column (six clusters are shown; each color is one cluster). It is visible, from the two shades of green, how informants with similar answer patterns across all questions cluster together.

Table 3.10. Informant cluster membership according to personal attributes and competence scores. Values are percentages of informants included in the clusters.

<i>Clustering variables</i>	<i>Cluster number</i>					
	<i>1</i> <i>(n=38)</i>	<i>2</i> <i>(n=5)</i>	<i>3</i> <i>(n=32)</i>	<i>4</i> <i>(n=15)</i>	<i>5</i> <i>(n=7)</i>	<i>6</i> <i>(n=2)</i>
<i>Land tenure</i>						
Communal (GR)	89.5	100.0	71.9	60.0	57.1	50.0
Private	10.5	0.0	28.1	40.0	42.9	50.0
<i>Study area</i>						
Swamps	42.1	100.0	28.1	26.7	0.0	0.0
Emeshenani	47.4	0.0	43.8	33.3	57.1	50.0
Osilalei	10.5	0.0	28.1	40.0	42.9	50.0
<i>Land use</i>						
Livestock only	34.2	20.0	31.2	33.3	57.1	0.0
Livestock + cultivation	65.8	80.0	68.8	66.7	42.9	100.0
<i>Economic activity</i>						
Livestock only	10.5	0.0	9.4	26.7	14.3	0.0
Livestock + cultivation	10.5	0.0	28.1	6.7	14.3	50.0
Livestock + other	18.4	20.0	12.5	6.7	42.9	0.0
Livestock + cultivation + other	60.5	80.0	50.0	60.0	28.6	50.0
<i>Economic benefits from wildlife in household</i>						
Yes	36.8	20.0	21.9	6.7	14.3	0.0
No	63.2	80.0	78.1	93.3	85.7	100.0
<i>Wealth</i>						
Poor	42.1	40.0	43.8	73.3	42.9	100.0
Medium	21.1	20.0	25.0	6.7	14.3	0.0
Rich	36.8	40.0	31.2	20.0	42.9	0.0
<i>Gender</i>						
Male	84.2	0.0	53.1	46.7	42.9	100.0
Female	15.8	100.0	46.9	53.3	57.1	0.0
<i>Religious affiliation</i>						
Traditional/Catholic	55.3	0.0	68.8	53.3	85.7	100.0
Protestant	44.7	100.0	31.2	46.6	14.3	0.0
<i>Religious affiliation (detailed)</i>						
Traditional	31.6	0.0	40.6	26.7	71.4	100.0
Catholic	23.7	0.0	28.1	26.7	14.3	0.0
Protestant (Mainline)	2.6	0.0	6.2	20.0	14.3	0.0
Protestant (Evangelical)	42.1	100.0	25.0	26.7	0.0	0.0
<i>Competence scores</i>	0.4528 to 0.8176	0.2729 to 0.4282	0.4216 to 0.7632	0.0929 to 0.5001	0.3265 to 0.4044	-0.0102 to - 0.1156

In the table above and in the following description of the clusters, I removed age and education as explaining variables as these were not associated with any interesting pattern: young and uneducated informants were evenly distributed across all clusters.

The largest cluster (#1) has the highest percentage of communal land (GR) residents (89.5%), most of whom are agropastoralists (65.8%) from the Swamps and Emeshenani (see Table 3.10). It is also the most economically diversified cluster and the only one with a more than negligible number of households with economic benefits from wildlife (36.8%). Most members are poor (42.1%), men (84.2%), in their majority Protestant (44.7%; mostly Evangelical/Pentecostal: 42.1%). The combined characteristics of this cluster's members fit the image of the person locally defined as "modern" and who would typically hold the "modern" cultural model of human-wildlife relationships: a Protestant agropastoralist from the Swamps, which is the area that has been the most exposed to the practice and discourse of CBC and thus the concept of economic value of wildlife. Indeed, this is the cluster with the highest competences scores, i.e. the highest agreements with the consensual model, which is, as we saw, closer to the qualitatively defined "modern" model than to the "traditional" model. On the factor loadings scatter plot (Figure 3.13), this cluster (dark blue) is situated to the right of the figure, where competence scores are the highest.

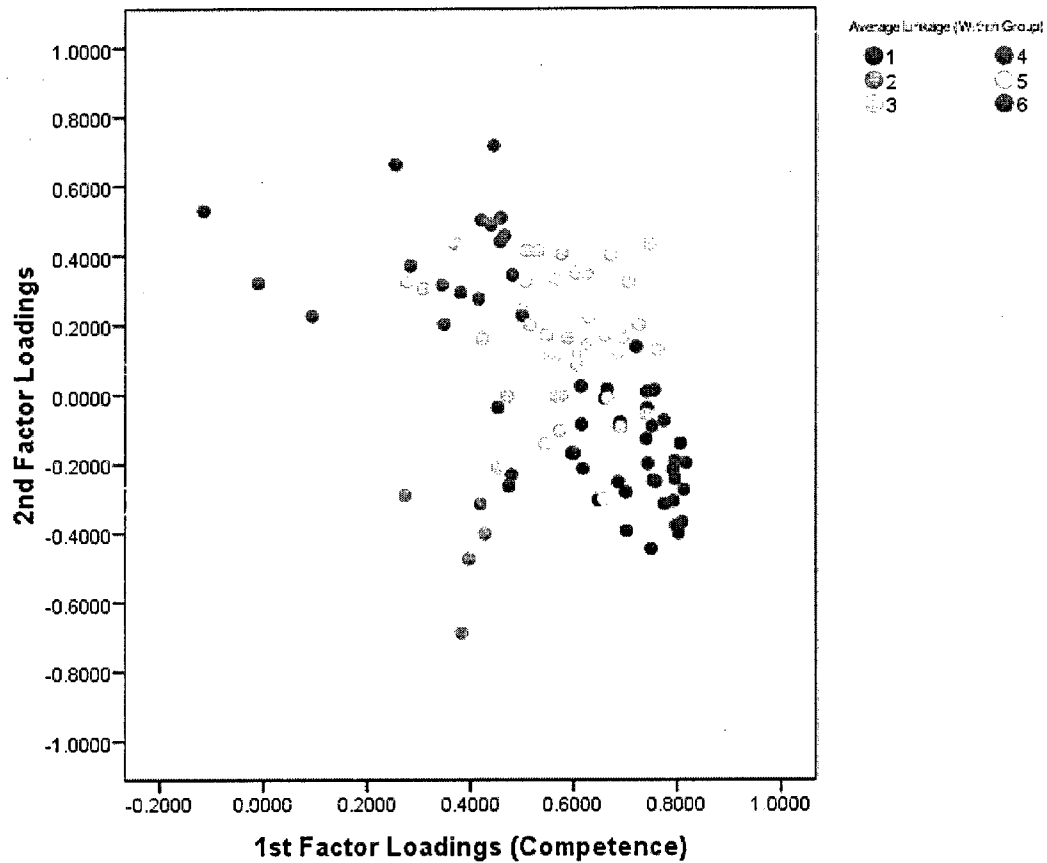


Figure 3.13. Scatter plot of clusters based on the informant correlation matrix.

Cluster 2 (in green) is a very small cluster (n=5) with distinctive characteristics: all of its members are women from the Swamps (communal land), most are from agropastoralist households, and all are Pentecostal Christians who attend two churches (KAG and Fountain of Life). Their low competence scores (below 0.5) reflect less than 50% agreement with the consensus.

Cluster 3 (in orange) is slightly dominated by informants from Emeshenani and who live on communal land. Most members are from agropastoralist, poor and economically diversified households, with no benefits from wildlife. It is gender

balanced and, in terms of religion, it is the most traditional cluster (40.6%), as well as the most catholic (28.1%). Individual competences scores are quite high (second highest), which could be explained by informants' exposure to wildlife tourism/conservation by virtue of living on GRs.

In Cluster 4 (in pink), the prevailing land tenure is communal. Most informants come from poor, agropastoralist and economically diversified households, with few being economically benefited from wildlife. Most are women and Traditional or Catholic. They also have the lowest positive competence scores.

Cluster 5 (light blue) is a small cluster with no member from the Swamps. Although dominated by informants from communal land, it has the highest number of private ranch residents. This is the richest and least economically diversified cluster, with a majority of pastoralists. Most informants are women (57.1%) and traditional/Catholic (71.4%): there is not one Evangelical Christian among its members. Most competence scores are intermediate to low.

Cluster 6 (red) is the cluster comprising the two individuals with the negative competences. Both are poor and uneducated agropastoralist men, who follow the traditional religion. One lives in Emeshenani (communal land), the other in Osilalei (private land). Reading their interviews revealed nothing notable except the fact that they answered "yes" to all the questions on the acceptability of killing wild animals under different scenarios, thus strikingly disagreeing with the consensus (whereby killing wild animals should only happen in self-defense or if the animal has caused a loss).

In general, these patterns of agreement reflected in the clustering pattern confirm the effect of gender and of where one lives (with respective local church and land tenure, which in turn conditions presence and absence of conservation initiatives) in underlying differences in cultural models of human-wildlife relationships.

Discussion of the cultural consensus analysis

The cultural consensus analysis revealed the existence of an overall consensus among the informants. This is not surprising since all of them belong to the same “culture”, or ethnic group, and live in the same general area. As Ross (2004) explains, some agreement among people who share a physical and temporal space is to be expected.

This consensus, however, is relatively weak: comparing competence scores (first factor loadings) across demographic and socioeconomic subgroups shows that the cultural model was not equally shared across them: men, GR residents, Swamps residents, and informants from households economically benefited by wildlife had the highest mean competence scores, which means that they agreed strongly among themselves and formed the consensus. This pattern was confirmed by the regression analyses.

Discourse analysis had already suggested that living on a GR (where people have opportunities to both learn about and take advantage of economic benefits from wildlife) is influential. Cultural consensus analysis confirms the influence of land tenure (which can be read as a proxy for presence/absence of tourism/conservation and of economic benefits from wildlife) on the cultural

models. Also, as we saw, the Swamps (communal land) is the study area with the highest mean competence scores and it thus most strongly represent the consensus. It is the area where people have been the most exposed to local community-based conservation initiatives²⁸⁹ and where the highest number of households have economically benefited from them or have witnessed wildlife providing peers with employment and other benefits²⁹⁰. Then, here, Swamps residents “know” more about (have more strongly internalized) the idea of wildlife’s economic value than residents from the other two areas and private ranches. In contrast, no tourism is taking place in Osilalei (privatized land) and people have not been exposed to the concept of wildlife as economically valuable. Thus, where one lives and the correlated characteristics (exposure to and participation in CBC, as well as local churches and access to formal education) matter in determining which ideas about wildlife and conservation are internalized and expressed in cultural models.

The cultural consensus analysis introduced new information relatively to the discourse analysis by showing that age and gender explain variation in the agreement with the consensus. Men show higher mean competence than women. One explanation for this is that, besides women’s general lack of formal education, they less frequently attend meetings convened by leaders and conservationists to discuss affairs related to wildlife management on the GRs (see Chapter 2). So (except for the Swamps where many women, although not formally educated, belong to women’s self-help groups; which are sometimes linked to churches), the

²⁸⁹ See list in Chapter 2.

²⁹⁰ This information is also transmitted in school (school teachers’ interviews). However, formal education did not emerge as a significant variable.

lesser participation of women in the consensus seems to confirm the female economic and political marginalization and disenfranchisement that has accompanied colonial and post-colonial development initiatives in Maasailand see (Hodgson 1999a; 2000a; Hodgson 2001).

According to the regression analysis of competence scores, older people agree more with the consensus than younger people (higher “competences”). This contradicts the hypothesis of a “modernization”-induced temporal change in cultural models (with younger people hypothesized to be more “modern” than older people and thus holding a “modern” model of human-wildlife relationships). This unexpected result could, in part, be explained by the age categories chosen for the analysis. For sampling reasons, I aggregated the members of the six age-sets and their dependants into two very broad categories (young vs. old; see Chapter 2). These two categories are possibly too wide and thus insensitive to the hypothesized changes.

Viewed together, all these patterns suggest an evolution in cultural models of human-wildlife relationships as new information about wildlife and conservation (e.g. the economic value of wildlife; the need to “protect” them) gets introduced through different channels (conservation discourse and practice; formal education; churches) and spreads differentially within and across the communities.

Exploring the variables related to the second factor loadings (first with ANOVAs, then with regression analysis) revealed patterns of subcultural variation. We see deviations from the shared model that are patterned according to religious affiliation and land tenure type. Residents of private ranches and of GRs, Protestant

and Traditional/Catholic Maasai hold cultural models that are specific to each group. Hence, the combination of cultural consensus and regression analysis confirms findings from discourse analysis that religion and land tenure shape the models. However, the R^2 (0.184) is low, which shows that little variability is explained by these two variables.

Precisely how religion and land tenure exert that influence is more difficult to ascertain. Examining the answer key of Protestants and the one of Catholic/Traditional Maasai does not provide a clear answer as to whether the subcultural models result from ideological differences linked to the religions and/or from factors correlated with religious affiliation (area of residence; presence/absence of economic benefits from wildlife; exposure to community-based conservation; formal education).

Regarding the effect of land tenure, again, both answer keys make sense when interpreted in light of the constraints and opportunities associated with land tenure when it comes to costs and benefits of wildlife, as discussed above. They show that private land residents are closer to the “traditional” model, which does not recognize economic value in wild animals. Private land and the lack of development of tourism and conservation initiatives preclude both the realization of economic benefits from wildlife and the presence of the associated conservationist discourse that wild animals should be protected (because of their economic value or for other reasons). At the same time, an increase in competition for resources between people and wildlife in the private ranches might explain why the consensus

there is that problem animals should be killed and that wild animals “do not have good things”.

GENERAL DISCUSSION

God gave us cattle and grass; we do not separate the things which God has given us (Hollis 1905 (1970): 290).

In this study, I combined in-depth qualitative analysis of understandings of and of beliefs about human-wildlife relationships (discourse analysis) with quantitative assessments of informant patterns of agreement with these understandings (cultural consensus analysis). The goal was to provide a holistic interpretation of cultural models of human-wildlife relationships in the GAE. Combining these two methods addressed one criticism that has been leveled against the cultural consensus model, i.e. the lack of content analysis and description (see Ross 2004). Discourse analysis allowed me to identify the propositions embedded in two distinct cultural models of human-wildlife relationships. The cultural consensus analysis (combined with ANOVA's, and regression and cluster analyses) delineated the cultural models' “boundaries” and helped assess the quantitative significance of the consensual cultural model, as well as intra- and sub-cultural variations thereof, within the population, as well as within and across groups in the population. The two methods are complementary and should be used together for meaningful and nuanced interpretation of such results.

The qualitative finding that there are two cultural models, one reflecting possibly quintessentially Maasai “traditional” understandings (the “traditional” relational model) and a more “modern” model, presumably “less Maasai” (reflecting

commodification of wildlife, an oppositional ontology and internalization of western scientific and Christian understandings of nature), was not clearly quantitatively confirmed. Instead, the cultural consensus analysis shows that even though the consensus is not very strong, there is one overall consensual model throughout the study area that reflects a (differentially) shared pattern of answers to questions relating to human-wildlife relationships. The consensual model more closely approximates the “modern” model, as described by the discourse analysis.

However, the cultural consensus analysis also shows consistent intracultural and subcultural variation, which confirms insights of the discourse analysis and points at the origin of these variations in processes related with gender, age, land tenure (basically, where one lives and the characteristics of that place), religion and the presence/absence of community-based conservation initiatives. More specifically, the patterns of subcultural variation, with Protestants, Traditional/Catholic Maasai and private and GR residents holding specific cultural models, suggest that the qualitative distinction between a model of human-wildlife relationships informed by “traditional” Maasai culture and an emerging one that is influenced by “modernity” and western notions of “nature” is still warranted.

It is important to note that it might not be land tenure or religion *per se* that cause the emergence of different cultural models: several factors with which they are both correlated possibly constrain or amplify the transmission of new information and new concepts about wildlife. As we saw, people living in GRs have more access to information on local community-based conservation initiatives and the economic benefits thereof. Together, discourse analysis and cultural consensus

analysis suggest that Protestantism is at the origin of a specific subcultural model and that it reinforces some features of the “modern” model. However, the data are not precise enough to conclude whether these changes are directly linked to the Christian message itself; to how it is delivered (dominion over vs. stewardship of nature); to individual pastors perhaps sharing personal “greener” ethics with their congregations; to the work of Christian environmental NGOs in Maasailand; or to factors correlated with being Christian (e.g. Protestantism as a proxy for “modernity”).

These combined quantitative and qualitative analyses have shown the existence of clear patterns of intra- and sub-cultural variation, which offer important insights on the processes involved in the transformation and transmission of the cultural models. Below, I discuss the implications of the consensual model for wildlife conservation in the ecosystem. I then review limitations of this study and consider ways to extend it.

The consensual model and what it means for wildlife conservation in the Amboseli Ecosystem

What we see here is the transformation of a model in which wild animals have no economic value, do not “belong” in people’s livelihoods but are nevertheless respected and “managed” according to understandings of wild animals as part of God’s creation, to a predominant model where wild animals are economically “profitable”, to be “conserved”, and to be spatially separated from people. There are potentially profound implications for approaches to wildlife conservation in the ecosystem in this changing cultural model of human-wildlife relationships.

For African contexts, the concept of “fortress conservation” (enforced separation between “wild” spaces and human-inhabited spaces) is mostly out of favor in western conservation circles, where community-based conservation approaches are now privileged²⁹¹. However, as we saw, the “fortress” concept is part of the Maasai consensual cultural model of human-wildlife relationships in the GAE. The effort to separate people and nature that has characterized western conservation until the 1990’s has, ironically, been effective. Internalized by the majority of the Maasai informants in this study and especially by the most “westernized” of them, it is however fundamentally at odds with the vision that scientists and local conservationists currently have for the GAE²⁹²: one of open rangelands where wild herbivores and predators are free to roam over large spatial scales, as they share resources with people and their livestock.

Thus, as ecologically²⁹³ and logistically unrealistic as “completely separating” (“fencing”) people and wildlife is, this disconnect between Maasai and conservationists’ models sets the stage for conflict and resistance, as current conservation strategies try to discourage land privatization, fencing and expansion of cultivation in order to prevent landscape and resource fragmentation. This, on the conservationists’ part, could be interpreted as “enforcing primitivism” (see Neumann 1997), because it restricts locally desired land uses and livelihoods options. On the other hand, strategies to compensate people for “living with wildlife”

²⁹¹ But see a revival of preservationist approaches (e.g. Oates 1999; Terborgh 2004).

²⁹² Here, while I did not collect data to reconstruct conservationists’ cultural models of human-wildlife relationships in the GAE, a general idea of what these entail is implied in their aspirations for the ecosystem (namely, to keep land open for wildlife movements). My knowledge of this is based on interviews with park management and staff, local tour operators/conservationists, literature and examination of conservation NGOs’ websites (mentioned earlier).

²⁹³ See Western and Gichohi (1993).

(community-based conservation initiatives) have mostly led to expectations of economic benefits from wildlife and not much more (see Chapter 2). Thus, this Maasai underlying cultural model that stresses separation between people and wildlife is hardly conducive to harmonious relationships between Maasai aspirations and conservationist goals.

What this study shows then, is that, counter-intuitively, the most “modern” Maasai, even though they have internalized features of the community-based conservation paradigm (i.e., economic value of wildlife; protection of wild animals) and of western conservation in general, have aspirations that conflict with the conservationists’ goals. This mismatch would qualify as what Holt (2005) has termed a “conservation catch-22”: the Maasai who have been the most exposed to western conservationist ideas are not the ones who hold models that reflect concepts currently privileged by western conservationists. In other words, from the point of view of western science, the more “conservationist” Maasai are not the ones whose practices and aspirations are the most beneficial to wildlife.

The consensual model contrasts with the “traditional” Maasai cultural model in which wild animals, although devoid of economic value, are “meant” to share the land with people and livestock by virtue of being part of “God’s creation”. Thus, again, the traditional model is more aligned with western conservationists’ vision for the ecosystem and more desirable from a western conservation point of view. It would, thus, seem to confirm the “Maasai as natural conservationists” stereotype.

However, this is not to say that this model is necessarily and entirely “the best”. As argued by Snodgrass et al (2008) and Snodgrass and Tiedje (2008), among

indigenous peoples, traditional beliefs and cultural models of nature may both promote and hinder conservation. Aspects of traditional Maasai culture that promote conservation of wildlife from a western perspective would include the injunction not to kill wild animals “for nothing”; the “staying together” ethic (that promotes sharing of space and resources among people and wildlife); the relative tolerance for animals that do what God created them to do; the respect for tabooed species; the belief that land belongs to God; and communal pastoralism. From a stricter western conservationists’ point of view, among those that hinder conservation are the perceived necessity of killing “guilty” animals (usually conservation “flagship” species); cultural practices that entail killing wild animals (e.g. lions, birds); and the desirability of large livestock herds. This supports the above contention that, at any given time, “indigenous conservation” is not either/or.

Also, among the Maasai, a general ethic of not killing “innocent animals” that are part of God’s creation and taboos on specific species may have played a role in promoting pacific co-existence with some wild species. As we saw, however, such beliefs are becoming less relevant in a context that privileges the economic worth of wild animals to the detriment of their non-economic values. As seen in Chapter 2, economic benefits from wildlife might not be reliable and sustainable and, if expectations thereof are not fulfilled, they might backfire against wildlife. Community-based conservation initiatives and their almost exclusively economic emphasis ignore the complexities and ambiguities of human-wildlife relationships. In doing so, they can contribute to changes in cultural models that might have

detrimental consequences for how people relate to wildlife and thus for conservation.

Thus, as some authors have shown (e.g. Casagrande 2004; Medin et al 2006), differences in cultural models of natural resources can be the roots of conflicts between conservationists and local communities and make the goal of collaborative conservation and management within the CBC paradigm more elusive. Qualitatively and quantitatively studying cultural models allows identifying and appreciating some of the complexities of people's relationship with nature, and understanding why some well-intentioned conservation initiatives have not yielded the expected results.

Limitations of the study

Carrying out discourse analysis and cultural consensus analysis was a decision made after fieldwork. One limitation associated with this is that I believe the structured questions used in the cultural consensus analysis to be too broad to adequately capture the variability in agreement across the informants. It is possible that with more precise questions and additional data collection techniques (e.g. free lists), finer intra- and sub-cultural variation would have been captured. Indeed, these questions do not capture the many dimensions of the domain of Maasai conceptualizations of human-wildlife relationships that were apparent in the discourse analysis. There, I used a broader range of information to analyze and describe the models (i.e. key informant interviews, informal conversations, participant observation data etc.). I thus suspect that there is more variation in the cultural models than revealed by the cultural consensus analysis. Also, because of

the breadth of some of the CCA questions, some people may have given the same answer for different reasons (a phenomenon acknowledged by Garro 2000), thus not reflecting the same cultural reality. For instance, the “do not kill for nothing” ethic is present in both the “traditional” and the “modern” cultural models, albeit for different reasons: God’s creation is invoked in the traditional model; in the modern model, it is also a caution against depleting a now economically valuable resource. Fortunately, some questions required answers precise enough that some variation was captured. And combining discourse analysis, cultural consensus analysis and other statistical techniques helped overcome some limitations of the data and offered a nuanced picture.

An unexpected result was that land use was not shown statistically to influence the cultural models²⁹⁴. This could result from a problem with the definition of the land use types. The group I classified as agropastoralists includes both people who are “typical” agropastoralists (sedentary, small households, “modern”, fewer livestock, Christians; from the Swamps and Osilalei) and less typical agropastoralists, such as the families in Emeshenani who own irrigated plots in the highlands, but who in other aspects of their lives, are “traditional pastoralists” (semi-nomadic, large households and settlements, large herds, adherence to traditional beliefs and religion). Thus, possibly, Emeshenani agropastoralists do not think and behave as “farmers”, since, as I discuss in Ch.2, although they own cultivated plots, these are tended to by other people, far from their homes.

²⁹⁴ See Chapter 2 for a discussion of why land use did not emerge as a significant variable driving attitudes towards wildlife.

Ways to extend the study

This study's findings and limitations point at ways in which this study could be extended. First, comparing the cultural models of human-wildlife relationships held by Maasai and by local wildlife conservation professionals (e.g. scientists, tour operators, park staff and Maasai employed in conservation/tourism) would yield significant insights with application to conservation practice. Specially, it would precisely point at existing conflicts and at their roots. As Paolisso (2002) argues, a role for applied anthropology is to facilitate exchange of information and improve dialogue among stakeholder groups in conflict over how to use and manage natural resources. A cultural models approach enlarges the focus of discussion, offers a holistic picture, raises new questions and creates opportunities for stakeholders to learn about each other and their respective cognitive representations, aspirations and goals. Within the CBC paradigm that strives towards collaboration and co-management between wildlife conservation interests and local communities, mutual understanding of stakeholders' cultural models of natural resources is key to communicating about and solving conflicts.

Also, the intriguing results about the effect of conversion to Protestant Christianity in general, and to Evangelism/Pentecostalism in particular, on cultural models of Maasai-wildlife relationships, deserves to be specifically investigated. The interaction between world religions and perceptions of the environment is a growing field of enquiry with an increasingly recognized application value.

In this regard, the Maasai of Amboseli present an interesting case-study of the influence of Evangelism/Pentecostalism on cultural models of human-wildlife

relationships in a pastoral society in transition. It is difficult, so far, without further research, to pinpoint how exactly this influence plays out. Among potential future questions are whether the model held by Evangelical Maasai reflect a rejection of “tradition” because of “Salvation”; a correlation between Protestantism and “modernity”; the internalization of a conservationist ethic spread by locals churches in collaboration with international Christian conservation NGOs²⁹⁵; a spatial correlation between religious affiliation and opportunities to benefit economically from wildlife/exposure to CBC discourse; a sense of urgency that local pastors might have and preach about as they witness the strong environmental degradation taking places in the Swamps (forest clearing for cultivation); or varying combinations of these aspects. Understanding the roots of this strong influence, on both Maasai society in general, and on Maasai-wildlife relationships in particular, could be a first step towards incorporating pastors and preachers as allies of wildlife conservation in the Amboseli Ecosystem.

Interestingly, these questions about how Protestantism might influence cultural models gives an idea of the complexity involved in determining whether changes in models of nature in general are negative or positive for wildlife conservation. The Protestant model shows both elements that are conservationist (e.g. the stewardship message) and other that are not so (concept of dominion of nature; kill for food; rejection of traditional beliefs and practices).

²⁹⁵ The message of some Evangelical Christian conservation NGOs working in Kenya, based on the idea of stewardship of God’s creation, may have made its way to Amboseli according to Craig Sorley, director of Care of Creation Kenya (<http://www.careofcreation.org/home.cfm>). He explained to me that this NGO has had Maasai pastors attend their conferences and workshops on environmental stewardship. But he could not confirm which churches and locations they were from in Maasailand.

One additional exciting aspect to explore, following Strauss and Quinn (1994) and their stress on how emotions can also shape cultural models, would be the influence of emotion on cultural models of wildlife in Amboseli; for instance, how dramatic events of human-wildlife conflict and participation in cultural practices (e.g. lion hunt)²⁹⁶, which both are highly emotional, shape (negatively and positively) cultural models of human-wildlife relationships.

Social network analysis has been used in conjunction with cultural models theory (e.g. Atran & Medin 2008; Atran et al 2002; Atran et al 2005) to precisely identify the processes that drive the transmission and uptake of information, and hence, change in cultural models. Based on the distributional view of culture, this approach allows developing theories on how certain knowledges are distributed within a culture. It would certainly yield fruitful insights for the Amboseli context²⁹⁷.

Finally, a challenge in human-environmental relationship studies is to evaluate how ideas translate into behavior. According to Handwerker (2002: 120), this relationship is fraught with ambiguities: “[...] People can do the same thing for different reasons, can do different things for the same reasons, and can claim to think one way and act in other contradictory ways”. As Berges et al. (2006) acknowledge, a cultural model guides general expectations about what is appropriate but does not necessarily correspond to what an individual does. Ross (2004) also cautions us that correlation is not causation: does cognition cause our

²⁹⁶ In the course of interviews, I witnessed strong emotional displays elicited, for example, by informants looking at pictures of rhinos and lions in the wildlife guidebook. Elders, for instance, would go on to recall instances of brave “fights” with these animals; Some would even scream from seeing the animal in the book and call other people to come and see it.

²⁹⁷ In Maasailand, news and information certainly travel very fast, through “eating the news” (*anaisa ilomon*): sharing the news (see Goldman 2006 for an in-depth description and analysis of the process).

behavior? Or does behavior shape our way of thinking? The relationship might be one of 1) cause and consequence, 2) interdependence (informing each other) or 3) both are caused by a third factor. It is thus crucial to test the correspondence between agreement with (a) cultural model(s) and actual behavior(s). To answer these questions, analytical methods must be embedded in extensive and sensitive knowledge of the study's context in its historical, political economic and socio-cultural dimensions.

This study does not provide answers one way or another since I did not collect data on behavior. However, there is one interesting behavior that could be linked, somewhat counter-intuitively, to the “modern” cultural model of human-wildlife relationships. It is the phenomenon of political wildlife killings (Goldman et al In prep.). This involves the spearing by morans of charismatic wildlife species of high conservation and tourism values (e.g. elephants, lions). Spearings have initially been driven by resentment over the creation of ANP and related unfulfilled promises (Western & Sindiyo 1972)²⁹⁸. However, nowadays these killings could also be interpreted as consequences of the commodification of wildlife that results from local CBC approaches and the related understanding by Maasai of the economic value of protected areas and wildlife for the government, as well as their understanding of their emotional and aesthetic appeal to Westerners – scientists and tourists. They might also mirror how certain segments of Maasai society possibly use these killings as political leverage against other groups (e.g. morans vs.

²⁹⁸ Provision of piped water to arid areas outside of the park. The system broke down after three years. See Chapter 2.

elders). I will use two examples from my fieldwork to illustrate how wildlife is used as a political weapon by Amboseli Maasai. In April 2003, a party of eleven *ilmurran* came to our camp after an unsuccessful lion hunt in the surrounding area. This happened shortly after the start of a predator compensation program in that GR (whereby livestock killed by lions would be monetarily compensated, provided that no lion is killed in the area within a certain period after the occurrence and that good husbandry is practiced). To my question of why they were not respecting the agreement not to kill lions, the morans answered that they wanted to kill a lion so that the conservationists in charge of the program increased the monetary value of the compensation. In another instance, in 1996, morans and junior elders killed “17 elephants, 27 buffaloes and 12 hyenas” as a reaction to elephants killing the father of one of the morans. “From here”, elephant researchers started paying a “consolation” fee for each cow and person killed. In this way, wild animals are being reconceptualized from animals that “are just there” and mostly useless, to weapons of resistance and leverage against the government, conservationists and perceived corrupt leaders (See Chapter 2, Goldman et al In prep.).

CONCLUSION

Let us go back to the stories of women, lions and children and the belief (or fact?) that lions protect women and children. These were dismissed as false by the Pentecostal elderly woman from the Swamps. Was her reaction an assertion of the strength of her recently embraced Christian faith? Was it an idiosyncratic belief based perhaps on personal experience? Was it the manifestation of a shift in her

personal cognitive model of human-wildlife relationships? It is, of course, difficult to answer these questions precisely, both for her and for the people of Amboseli at large. Here, by exploring cultural models of human-wildlife relationships through a combination of qualitative and quantitative approaches, I have attempted to formalize what some local conservationists have anecdotally predicted: that, as local Maasai are “modernizing”, their relationship with wild animals would change, presumably by becoming worse. At the same time, participatory and community-based conservation interventions attempt to promote positive attitudes towards wildlife through imbuing them with economic value. As we saw above, the cultural models present a more nuanced and complex picture than these alternatives.

There is irony in the fact that global conservation discourse and practice partly contribute to changes in Maasai-wildlife relationship, and not exactly in the intended ways envisioned in the CBC framework. Amboseli Maasai have internalized aspects of community-based conservation, which in some ways make them more positive towards wildlife (since they expect to benefit economically from them); in other ways, however, people are less willing to coexist with wildlife and desire to be physically separated from them. It is paradoxical then that the people who hold the “modern” model and who have most strongly internalized past and current concepts of Western conservation are the ones that would least deserve the label of “indigenous conservationists”, as opposed to Maasai who hold the “traditional” relational model.

This paradox reflects the argument by Snodgrass and Tiedje (2008) that dichotomous representations of indigenous peoples as either conservationists or

environmental degraders are stereotypical. In all cultures, there is always great variation in commitment to cultural environmental ideals and models. Human-environmental relationships are multifaceted and complex, and nuanced analyses of these relationships should be case-by-case and take into account historical, cultural, political and economic factors. This research reflects strong variation both across and within Amboseli Maasai communities and shows that not only are local models of human relationships with wildlife complex and diverse, they are also in flux. As Holt (2005) has argued, conservation should not be seen as a state of being but as a social process that involves experience and learning, and leads to the development of institutions and arrangements. I hope my study was a contribution to this perspective.

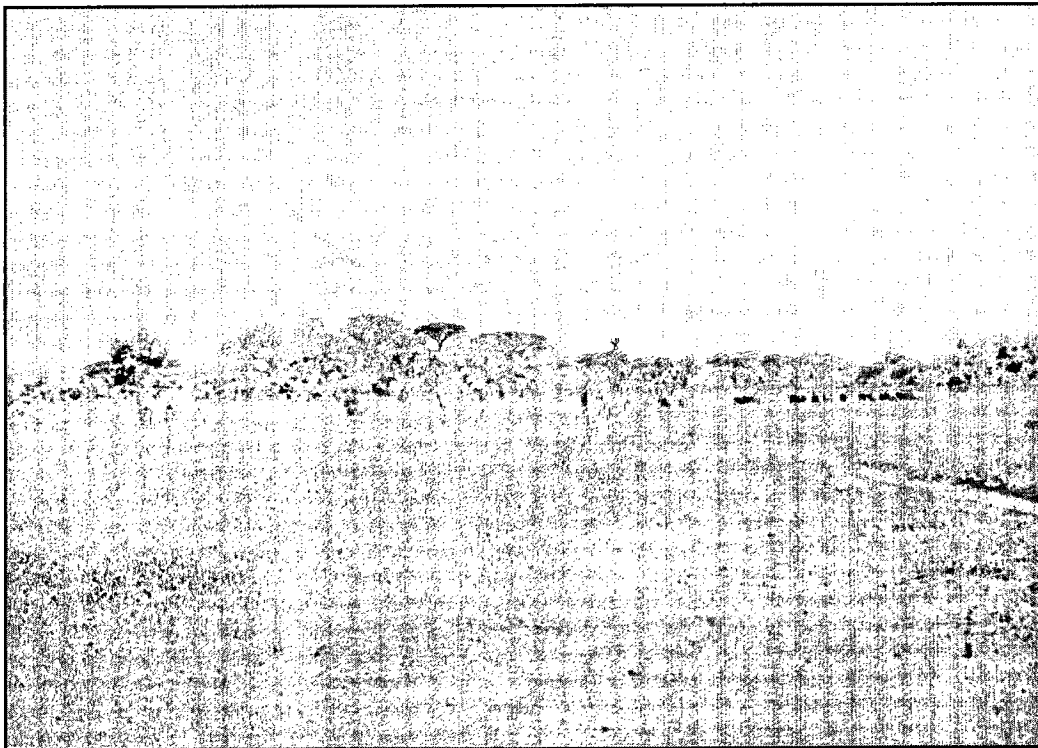


Figure 3.14. “Staying together” in practice: women, cows and a giraffe (near Namelok swamp irrigated area).

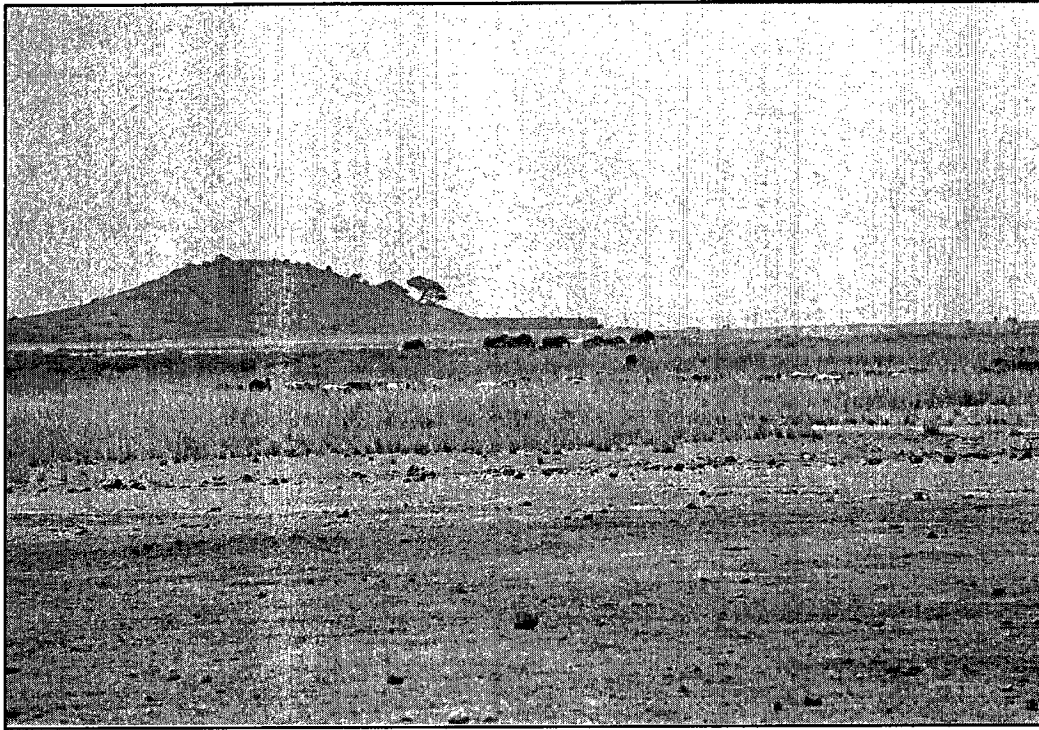


Figure 3.15. Cows and elephants.

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DISSERTATION

**“STAYING TOGETHER”: PEOPLE-WILDLIFE RELATIONSHIPS IN A
PASTORAL SOCIETY IN TRANSITION, AMBOSELI ECOSYSTEM,
SOUTHERN KENYA**

Submitted by

Maria Joana Ferreira de Lima Roque de Pinho

Graduate Degree Program in Ecology

**In partial fulfillment of the requirements
For the Degree of Doctor of Philosophy
Colorado State University
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Volume 2
Chapters 4, 5 and Appendix

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CHAPTER 4

“PLEASING THE EYE”: MAASAI AESTHETIC APPRECIATION OF WILDLIFE IN THE AMBOSELI ECOSYSTEM, SOUTHERN KENYA, AND IMPLICATIONS FOR CONSERVATION

INTRODUCTION

Beauty is a frequent subject of conversation among Maasai pastoralists and agropastoralists of southern Kenya. As other Nilotic pastoralists do (see, e.g., Abbink 2006; Almagor 1983; Coote 1992; Evans-Pritchard 1940; Infield et al 2003; Schneider 1956; Turton 1980), Maasai discuss and evaluate the beauty of each other's cattle (pers. obs.)¹. They also judge the aesthetic qualities of people, for instance teasing members of other clans or sections for their alleged ugliness (pers. obs.)². Maasai women debate at length the “beauty” (or “goodness”) of colorful clothes and beadwork³, while warriors spend a lot of time adorning themselves to

¹ In Ankole (Uganda) cattle are bred for beauty (Infield 2003), while among the Dinka, highly appreciated cattle coat colors and patterns appear randomly in the cattle population and are thus not selected for (Coote 1992).

² See previous chapters for an explanation of Maasai “section”. In the Amboseli ecosystem, members of the Ilaiserr and Ilatayiok clans compete about their respective beauty (pers. obs. of playful banter among my research assistants, and with children of other clans). I also noted how, as we worked throughout the Kisonko and Matapato Maasai sections, my Kisonko research assistants commented on the “ugliness” of Matapato Maasai and criticized some of their physical and adornment characteristics (e.g. Matapato women not shaving their heads, unlike Kisonko women).

³ For instance, how I daily combined the colors of my clothes was frequently commented upon by my research assistants and female friends.

be more attractive to women (Figure 4.1)⁴. Beauty and elegance matter in Maasailand, as is quickly obvious to any visitor to Maasailand.

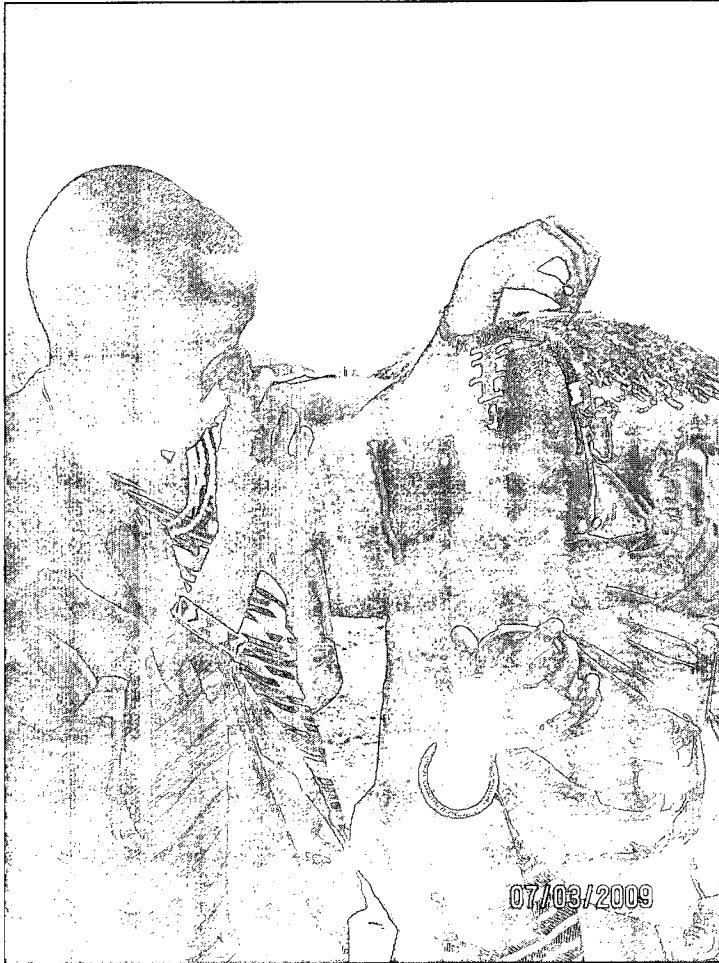


Figure 4.1. *Olmurrani* making himself “handsome”. Manyara, Tanzania. Photo by Mara J. Goldman (March 2009).

Interestingly, in the Greater Amboseli ecosystem of southern Kenya, where this research took place, I rarely heard the Maasai comment on the aesthetic qualities of the wild animals with which they share the landscape and resources. Not

⁴ Morans also use perfume to the same effect. They attach pieces of the odorant bark of a shrub to the back of their necklaces. The sweet fragrance derives from the coumarin molecule that is used in the perfume industry (Daphne Bugey, pers. com.).

hearing about it, however, does not mean that such an aesthetic appreciation does not exist. This would be especially peculiar of the Maasai, who have a highly developed aesthetic sense in other dimensions of their lives.

In this study, I am interested in exploring Amboseli Maasai concepts of beauty and ugliness as they apply, or not, to wildlife and processes of aesthetic judgment. With this approach, I seek to address two concerns. One concern is that, in western societies and within the field of inquiry known as environmental aesthetics (e.e. Brady 2002; Eaton 1998; Hettinger 2005; Thompson 1995), human aesthetic evaluation of the natural environment has been investigated. However, the subject has been largely ignored in non-western contexts. Specifically, such attention is lacking in studies of human-environmental relationships in Africa. Here, I address this gap by exploring how southern Kenya Maasai aesthetically appreciate wildlife.

The second concern relates to how, again, in the West, environmental aesthetics is seen as useful in guiding decision-making in conservation and management of natural environments. How people aesthetically value landscapes and animals is assumed, in part at least, to shape support for environmental conservation. However, this approach has not been followed in developing countries, where biodiversity conservation efforts have emphasized economic incentives (Infield 2001) and research has generally focused on the political economic variables that affect human-environmental relationships. In Amboseli, Kajiado District, current wildlife conservation initiatives are exclusively based on economic premises. The possibility that non-utilitarian values of wildlife, such as

their aesthetic value to local people, could contribute to conservation strategies, thus making them more culturally relevant and appropriate (Infield 2001), has not been contemplated. Further, to my knowledge, no study has focused on the aesthetics of wildlife and on how aesthetic appreciation of wildlife mediates human-environmental relationships in African rural communities (and even in non-western societies). Here, I explore whether knowledge of how Maasai value wildlife from an aesthetic point of view could inform local conservation strategies.

In this study, I first set out to examine how Amboseli Maasai frame beauty and ugliness in wildlife and explore local principles of aesthetic assessment by determining which species people consider “beautiful” and “ugly”, and the criteria that they use to make these judgments. Second, I investigate whether aesthetic judgment relates to attitudes toward individual species and support for their conservation. Third, I test whether support for species’ conservation can be predicted from their being perceived as beautiful. Finally, I discuss the research findings in light of their implications for wildlife conservation in the Amboseli Ecosystem.

I will show that Maasai aesthetically appreciate wildlife, that they value some species over others and that their judgments are based on sophisticated aesthetic standards. I will also demonstrate that perceiving some species as “beautiful” is a key motivation behind people wanting to conserve them. This is specially the case with dangerous, harmful species of high conservation status, such as the elephant and the lion.

In the next sections, I introduce the importance of non-economic values of nature for biodiversity conservation and present the field of environmental aesthetics. I then present the research questions and the theoretical framework.

Human values of nature and preferences

In our effort to conserve biodiversity, we must better understand the biodiversity preferences of humans, who will decide what to conserve (Stokes 2007: 361).

Values and preferences that humans bring to bear on their relationship with the natural environment potentially influence public support for environmental conservation and decision-making. Thus, knowledge of these is increasingly recognized as relevant in the design and implementation of environmental conservation strategies. For Stokes (2007: 361), it is imperative to be able to predict which elements of biodiversity will appeal to people. Understanding the values and benefits that people associate with animal species is considered important for mitigating human-wildlife conflict (Kellert 1986) and establishing conservation priorities (Czech et al 1998; Montgomery 2002). Kellert (1996) developed a typology of such values of nature. He defined these as utilitarian, naturalistic, ecologicistic-scientific, aesthetic, symbolic, dominionistic, humanistic, moralistic, and negativistic values. For him, these values are both rooted in human biology and evolutionary history, as well as shaped by the normative influence of experience, learning and culture.

In western contexts, the role that both economic and non-economic values (e.g. Brackney & McAndrew 2001; Czech et al 1998; Kellert 1985a; Kellert 1986; 1989; 1991; 1993; 1996; Kempton et al 1995; Knight 2008; Montgomery 2002) play

in shaping attitudes towards natural resources, animal species and environmental problems has been extensively researched.

In non-Western contexts, however, consideration of how people value wildlife and nature in non-economic ways has been more limited. Chardonnet et al (2002), for instance, review at length the values of wildlife worldwide. They dedicate most of their attention to wildlife's economic and nutritional values, while references to their socio-cultural values (e.g. religious and spiritual) are extremely brief. Barrett & Arcese (1995) and Gibson & Marks (1995), indeed, argue that the importance of non-pecuniary dimensions of people-wildlife relationships and of the non-economic benefits of natural elements has been insufficiently appreciated by conservation planners, who have left these dimensions out of the design of conservation projects (even when these are community-based). However, research on, for instance, African hunters has shown how the social and cultural importance of animals (through hunting) affects decision-making about their use and their conservation (Basset 2005; Gibson & Marks 1995). Some studies have identified non-utilitarian values attached to protected areas by neighboring residents in Tanzania, such as the protection of wildlife for future generations (Newmark et al 1993) and the pleasure of "see[ing] and know[ing] different kinds of animals" (Kangwana & Ole Mako 1998: 18). Non-economic dimensions of human-environment relationships have also been shown to shape the interactions of humans and wild animals. Knight (1999; 2003) and his contributors (Knight 2000) illuminate the strong symbolic dimension of human-wildlife conflicts, which should be analyzed to obtain a more complete understanding of the phenomenon. And

Infield (2001), Gadd (2005) and Kuriyan (2002) stress the importance of including cultural values of wildlife in conservation strategies.

Among the diverse traits thought to influence human preferences for animals, an important one appears to be their physical appearance or aesthetic quality (Kellert 1996). In the next section, I focus on aesthetic appreciation and valuation of nature, and review the literature for how its role in environmental conservation has been conceptualized.

Environmental aesthetics and conservation in the West

Our ability to perceive quality in nature begins, as in art, with the pretty (Leopold 1949).

In nature's power to invite [aesthetic] appreciation, we may find a prime reason why our environment should matter to us and be something to 'preserve' out of motives quite different from pragmatic or utilitarian ones, such as conserving resources for future use (Cooper 1998: 100).

Authors like Hettinger (2005) and Thompson (1995), as well as Holmes Rolston III and Aldo Leopold (both cited in Hettinger 2005) have put aesthetics at the centre of environmental concern. Cooper (1998) has also defended that, aside from utilitarian reasons, aesthetic value of nature should be one reason for humans to conserve and preserve the environment. For Thompson (1995: 304), "the aesthetic approach to the evaluation of nature does provide us with a way of arguing for the protection and preservation of some natural objects and environments". Cooper (1998: 100) calls the disappearance of natural landscapes and animal species "aesthetic depredations". To him (Cooper 1998: 111),

People without aesthetic appreciation of nature are stunted in spirit. I find it hard to think of a more important reason for cultivating concern for our natural environments.

Whether and how aesthetic appreciation of natural elements might lead to caring for the environment has been debated (Eaton 1998). The importance for environmental conservation decision-making of understanding people's aesthetic evaluation of the environment has been stressed (e.g. Thompson 1995). Concepts such as aesthetic integrity (Brady 2002) have been advanced as guiding principles for the decision-making process. And some scholars have proposed we approach conservation of biodiversity as we do art (Cooper 1998; Kiester 1997; Thompson 1995).

Broadly, these arguments are part of a subfield of philosophical aesthetics and environmental ethics called environmental aesthetics. A vibrant, eclectic, relatively recent field of study, it is concerned with what is "beauty" in "nature" and with how this knowledge can advance environmentalist goals and practices. It is also concerned with the philosophical implications of doing so (see Lee 1995).

Research has shown that aesthetic preferences influence public willingness to support conservation of landscapes and of certain species (e.g. Huddy & Gunnthorsdottir 2000; Kellert 1993; Stokes 2007; Ward et al 1998). Aesthetic value has also been shown to bias conservationists and ecologists in their decision-making over what and where to study and conserve (Eaton 1998; Johnson 1995; Kovacs et al 2006). Fire suppression is a case in point (Eaton 1998). However, there is still debate as to the actual influence of aesthetic value when compared to other criteria or values that mediate people-environmental interactions (see below).

For the most part, research on the aesthetics of nature has been more concerned with the "scenic beauty" of landscapes (e.g. Brady 2002; Lee 1995) than

with animal species. Parsons (2007), for instance, deplores that, from a philosophical point of view, contemporary aesthetic theory has not addressed the issue of the aesthetic value of animals. Pragmatically, however, some limited research has focused on how aesthetic appreciation of animals influences how people feel about them and as grounds for the conservation of wildlife. Two main goals have been pursued: determining 1) which species are preferred from an aesthetic point of view and which physical characteristics underlie these inclinations, and 2) whether positive aesthetic value leads to support for species conservation. In this study, I investigate these two aspects among Maasai communities of the GAE, in southern Kenya.

Preferences for species and aesthetic criteria

Regarding the first goal, it is intuitive that humans find some animals more appealing than others. In Western society, charismatic megavertebrates, such as pandas, elephants and lions are found attractive, while most invertebrates are not (Kellert 1993).

Animal physical traits that determine preferences for species include large size (Ward et al 1998), neotenic features⁵ - what Burghardt & Herzog (1980) call the “cuteness” response to describe human attraction to youthful features; and similarity to humans (Kellert 1986; 1989). Shape, type of locomotion, posture, surface texture and color are also important in defining an animal’s aesthetic value (Kellert 1986; 1989; 1996). According to Kellert (1993), bright colors are associated

⁵ Stokes (2007) investigated three indices of penguin neoteny (juvenile features): head length to body length ratio; beak length to head length ratio; and eye size. Neotenic features include large eyes, large head, and a flat face.

with preferences for certain invertebrates. Among the nine values of nature that Kellert (1996) defined, an aesthetic value orientation primarily focuses on larger, more colorful, mobile and diurnal animal species, particularly mammals and birds.

In one of the few detailed studies of aesthetic preferences for animals, Stokes (2007) explored which physical characteristics of penguins drive preferences for certain species. He did this by quantifying the representation of penguin species in large-format books of photographs instead of relying on a survey approach. Penguin species mostly differ in size, head and bill proportions, and colors and the author tested the effect of warm color, neotenic traits and size (body length) on preferences. Penguins are appropriate species with which to investigate aesthetic appeal because, living far from most people and being of little economic or cultural significance, measures of preferences based on images may be expected to isolate aesthetic appeal from other influences. In a multiple regression analysis, Stokes determined that the trait associated with amount of representation was percent of warm color. Size and neotenic features were not. Thus, the differential aesthetic appeal of distinct penguin species was best explained by amount of warm color. Stokes showed that human preferences discriminate at a very fine scale and cautioned conservationists to be aware of the potential for minor features of animals to influence preferences. In another study, of the relationship between body size of zoo animals and their popularity, Ward et al (1998) showed that size mattered, especially among younger visitors: there was a general marked preference for large animals.

As we see, there is only limited research on the aesthetic value of wild animals to humans and which physical characteristics and/or aesthetic standards underlie aesthetic preferences. Because there is so little, a tendency exists to generalize findings from western society to all humans (e.g. Stokes 2007; Kellert 1996).

Within the field of aesthetic appreciation of *art*, according to the universalist approach, there exist principles of aesthetic judgment that are neurophysiologically rooted and cut across cultural boundaries. For pieces of art and artifacts, these universal principles include symmetry, proportion/balance, complexity, clarity, contrast, smoothness, brightness, fineness and novelty (Van Damme 1996). However, aesthetic criteria and preferences are also strongly influenced by socio-cultural values. According to this relativist perspective, aesthetic preference is culture-bound and therefore relative. Standards determining what is aesthetically pleasing vary from culture to culture (Van Damme 1996). I would argue that the same caveat applies to the study of the aesthetic appreciation of animals. Exporting generalizations of what makes animals attractive (and worthy of conservation) from western culture to non-western societies needs to be carefully considered. The same attention to cultural variation in aesthetic judgments that is given to the study of art should be given to the study of aesthetic appreciation of animals. Here, I will show that Maasai aesthetic preferences are based on principles that include both universal and culturally specific elements.

Aesthetics and wildlife conservation decision-making

Other goals in this line of research have been to determine whether and how preferences based on aesthetics affect public support for the conservation of animal species. This is pertinent information to have for conservation policy making. An understanding of aesthetic values held by the public can aid in the identification of species on which to focus public attention for their conservation (Stokes 2007) and in the allocation of economic resources (Czech et al 1998; Montgomery 2002).

In general, environmentalists have used to their advantage the power of animal physical attractiveness. Images of charismatic or “cute” species are extensively used in campaigns to promote public support for conservation. We are all familiar with, and find it difficult to resist pictures of adorable baby seals, friendly pandas and imposing lions. Huddy & Gunnthorsdottir (2000) investigated the emotionally based-appeal of such images. They used pictures of “cute” and “ugly” animals to assess the impact of emotive visual imagery on political behavior and attitude change as related to an anti- or pro-environment stance. They found that participants were more likely to feel positive about an organization, agree with its goals and arguments and take action on its behalf when it was protecting a “cute” animal, rather than an “ugly” one. This effect was independent of the animal’s potential biological importance⁶.

⁶ Also, in this same study, a cute mammal was just as effective as a cute insect in promoting organizational support; an ugly mammal was just as likely as an ugly insect to undercut support.

In the US, Knight (2008) investigated how fear of endangered species and their aesthetic value relates to public support for their conservation. Pictures of ten protected and endangered species, which differed in “cuteness”, ugliness, and potential dangerousness were shown to the respondents and their answers rated on a 1 to 5 scale. In regression analyses (controlling for other factors), aesthetic value was positively related to support for governmental protection of species, while fear was negatively associated with it. These studies confirm Stokes’ argument (2007) that aesthetic appeal is a powerful motivator for biodiversity conservation.

Other studies have shown that human preferences have biased the allocation of resources towards the conservation of large charismatic species and more “attractive” vertebrate groups, such as fishes, birds and mammals (Czech et al 1998). According to Coursey (1998), US conservation policy is consistent with preferences for charismatic megafauna. For Stokes (2007), this bias should be acknowledged and conservationists should promote the conservation of less physically attractive but ecologically important, taxa.

There are direct applications of the finding that aesthetic judgment influences conservation decision-making and public support for biodiversity conservation. Based on their observation that zoo animal popularity reflects a preference for larger species, Ward et al. (1998) recommend that exhibits of larger animals be maintained despite their higher costs. Stokes (2007) suggests that an understanding of aesthetics may be used to reveal to the public the appealing qualities of poorly known species (for example, through microphotography of invertebrates).

However, whether and how beauty of animals influences support for their conservation is still not clearly understood. Some studies have found, instead, that aesthetics is *not* the main motivation behind support for conservation. It has been shown to rank lower than other reasons or arguments for support, such as ecological importance and rarity (Czech et al 1998). Montgomery (2002) also found that among benefits associated with biodiversity and wildlife, ecological functions and commodity-based benefits were predominant, while recreation, aesthetic and symbolic values were less important. Similarly, Brackney & McAndrew's (2001) informants found arguments for wildlife conservation based on morality, ethics, and ecological importance of species to be more persuasive than arguments based on aesthetics. These studies also support the idea that knowledge and critical thinking about ecosystem dynamics and ethical considerations may be more effective at shaping attitudes towards the environment than emotional appeals stressing appreciation of beauty in nature. Montgomery (2002) suggests that the predominance of aesthetic value over ecological importance that was found in other studies results from survey design⁷. Johnson (1995), on the other hand, argues that low rankings given to aesthetic value could reflect a public perception that aesthetic appreciation is elitist and immoral, and thus respondents cite "nobler" reasons for support. For him, aesthetic appreciation of the environment is due for rehabilitation.

In summary, together with relatively limited research on this topic, there seems to be no consensus as to whether and how aesthetic appreciation shapes preferences and attitudes towards animals. But, as Stokes argues (2007), along with

⁷ Respondents were asked to rank species about which they may have had little ecological knowledge, thus citing more obvious characteristics, such as beauty, as reasons for their support.

other biodiversity values, aesthetic value still must be better understood so that it can be incorporated into conservation priorities.

One thing that this literature review clearly shows is that in Western societies thought has been given to how aesthetic value might influence conservationist attitudes and behaviors. As I show below, the same attention has not been dispensed to non-western human-environmental relationships in developing countries. The underlying narrative seems to be that enjoyment of nature for non-utilitarian purposes is the prerogative of citizens of western countries.

Aesthetic values of the environment in non-Western contexts

When it comes to human preferences for wild animals in non-western contexts, economic motivations and the religious, spiritual or mythical dimensions of human-animal relationships have been described as (or assumed to be) preponderant. Research focusing on the aesthetic value of nature and its potential role for environmental conservation is, to my knowledge, lacking in non-western contexts.

Kellert (1996), as we saw above, shows that western citizens display nine values of nature. On the other hand, he (1986: 62) asserts that, in developing countries, people only ascribe two types of values to wildlife: 1) an economic, material, utilitarian value; and/or 2) a mythical, religious, spiritual value. To support this contention, Kellert (1996) cites and discusses a study by Mordi (1991) on attitudes towards wildlife in Botswana⁸. According to this study, for most Bostwanans, wildlife possesses mostly magical and/or utilitarian significance.

⁸ Mordi, R. 1991. *Attitudes towards Wildlife in Botswana*. New York: Garland.

Utilitarian and theistic (nature and wildlife seen as beyond the control and direct experience of humans) values are predominant. The Botswanans who expressed aesthetic preferences for animals were more affluent, better educated and urban (and, thus, more westernized) citizens. Mordi concludes by recommending that nature protection in Botswana should thus be based on economic and utilitarian premises (i.e., wildlife utilization, ecotourism etc.).

As I have discussed in previous chapters and above, conservation strategies in developing countries rely on assumptions about the economic importance of natural resources for local people. While this importance is real, I would also argue that the predominance of economic arguments reflects a western bias against seeing non-western people as imbued with aesthetic sensitivity towards nature. As Van Damme (1996) shows, a similar preconceived idea has been widespread in the study of aesthetic appreciation of art by non-western peoples. Non-western objects have until quite recently (i.e., the beginning of last century) been seen as functional vehicles for meaning and/or utilitarian artifacts that did not involve aesthetic consciousness from the point of view of their makers and users. It was also commonly assumed that, if an aesthetic dimension existed, non-western people lacked the capacity to verbalize and articulate it (Van Damme 1996). I believe a similar bias exists within the field of conservation biology, even if it is increasingly paying attention to the cultural, social and political economic dimensions of conservation: the literature is silent on whether non-western people appreciate wild animals for aesthetic reasons.

Conceiving of human-environmental relationships in developing countries in mostly economic and utilitarian terms denies the existence of enjoyment of nature for its sake. It is as if poverty and the need to rely on natural resources for subsistence precluded an aesthetic appreciation of nature. With its exclusive focus on natural resources and wildlife as sources of income, the community-based approach to conservation in Africa is an embodiment of this prejudice. The prevalent narrative presents rural Africans as engaging in a daily struggle for survival and, thus, oblivious to beauty in nature. Instead, they are described as only valuing wild animals as meat or providers of tourism dollars. An illustration of this is the oft cited idea that in Swahili, *nyama* means both meat and wildlife (Peterson 2003). While this holds in some languages (Morris 1998), it is not the rule across the continent⁹.

In other words, while citizens of developed, Western countries afford the luxury of looking at wild animals without necessarily seeing food and of enjoying landscapes for their scenic and recreational benefits, this is denied to purportedly starving citizens of developing countries. However, how plausible is it that aesthetic appreciation of nature is non-existent in developing countries?

Rare studies have indirectly and briefly touched upon the aesthetic dimension of human-environmental relationships in rural Africa. Ranger (2000), for instance, argues against a dominant view that rural Africans, before colonization and the imposition of a European aesthetic, lacked both aesthetic appreciation of

⁹ The Maasai are a case in point: there is no relationship between the word for meat (*inkiri*) and the two words used for “wild animals” (*inguesi* and *ilchangit*. See Chapters 2 and 3).

their landscapes and clear preferences for landscape types. Other studies, which did not specifically focus on aesthetic aspects, have showed that Africans aesthetically appreciate wildlife species. Hill (1998) studied attitudes towards elephants in Uganda and found an aesthetic basis to them. “Elephants are good to be seen”, “they are God’s beauty” and “it makes us happy to see them” were given as reasons to conserve them. In another study of attitudes towards elephants, in Laikipia’s pastoralist communities (northern Kenya), Gadd (2005) found that, after tourism benefits, *pleasure to see* elephants was the second most important benefit that people recognized in these animals. Gillingham and Lee (1999) also found aesthetic value of wildlife to be one benefit that residents around the Selous Game reserve in Tanzania recognized in wildlife in general (coming after economic benefits). None of these studies, though, investigated in-depth and specifically the aesthetic value of wildlife to local people. I start to address this gap by exploring Amboseli Maasai aesthetic appreciation of wildlife and how local aesthetic judgment of wild species underlies human preferences for wild species and support for their conservation.

As an aside, it is interesting that even Father Frans Mol, a Dutch Catholic priest and a Nilotic languages scholar¹⁰, who has worked in Maasailand for decades and whom Amboseli Maasai consider “a Maasai and a half” in recognition of his deep knowledge of Maasai culture, once commented to me that the Maasai do not express an aesthetic appreciation of nature in general and of wildlife in particular (Father

¹⁰ The instructor of the intensive Maasai language course I attended in February-March 2002 at the Lenkiseem Catholic Mission.

Mol, pers. comm., Lenkise Mission, Feb. 2002)¹¹. However, while I said above that I have never heard the Maasai comment on the beauty of wildlife, I have witnessed enchantment at the sight of certain landscapes. In one instance, the relative of one of my assistants, an elderly, very traditional Maasai woman¹², remarked that some characteristically shaped boulders at a place where we stopped for lunch were so “smart” (she used the Swahili word *maridadi*; “*Maridadi naleng isoitok!*”: these rocks are very beautiful/smart!)¹³. Her grand-daughter commented: “Today my grand-mother is also a tourist!”

RESEARCH QUESTIONS AND OBJECTIVES

In this chapter, I seek to answer two broad questions. First, do Maasai apply notions of beauty and ugliness to their appreciation of wild animals? And what do these concepts entail? Second, is there a link between perceived aesthetic qualities of individual species (“beauty” and lack thereof), attitudes towards them and support for their conservation? I will then discuss what answers to these questions imply for wildlife conservation in the GAE.

I approach the first question of the existence of a Maasai aesthetic appreciation of wildlife by investigating if “beauty” is one benefit that Maasai recognize in wildlife, in general; by determining which species are considered beautiful and ugly; and by exploring which criteria are used to make these aesthetic

¹¹ I had the privilege to learn Maa with Father Mol during a five-week intensive course held at Lenkise Catholic Mission, Kajiado District. Father Mol is the author of several books on Maasai language and culture (Mol 1978; 1995; 1996).

¹² Simayo’s grand-mother and baby-sitter of her baby (see introduction chapter).

¹³ I actually wrote in my field notes that, at the sight of this particular landscape, the lady seemed “ecstatic, as I have never seen her”. To me, this was one of my favorite spots, the one I considered the most beautiful in my whole study area. It is also a location favored by the managers of a local tourist lodge who would take their clients there for picnics and “sundowners”.

judgments. Answering these questions is important in the context of what I see as a Western bias that depicts Africans as devoid of aesthetic discriminatory abilities when it comes to nature. I choose to focus on the species' physical appearance as an expression of their aesthetic quality. However, as we will see, Maasai aesthetic concepts are quite inclusive and go beyond the mere physical or visual dimension of "beauty".

The second research question concerns the association between aesthetic judgment of animals, attitudes towards them and support for their conservation. Can we predict Maasai preferences for species ("likes" and "dislikes") based on their being considered "beautiful" or "ugly"? Similarly, can we predict local support for their conservation based on knowledge of aesthetic predilections? In this study, I will first test whether perceived beauty and perceived ugliness of species are related to their being "liked" and "disliked"; and then whether perceived beauty is associated with support for their conservation.

THEORETICAL FRAMEWORK

Theoretically, this study situates itself within two related fields of inquiry, which it brings together. One is the field of environmental aesthetics, which I discussed above. The other is ethnoaesthetics, a branch of cognitive anthropology. Ethnoaesthetics is the field that is "interested in discovering a people's understanding of aesthetic phenomena". Inquiries focus on indigenous categorization of artistic or aesthetic products and/or on people's aesthetic preferences or standards of judgment (Van Damme 1996).

In this study, we are not dealing with artistic production, which is the primary subject of ethnoaesthetics. Instead, the focus is on wildlife and the aesthetic appreciation thereof. My interest in wildlife fits with Van Damme's (1996) argument that for the concept of aesthetics to be applicable cross-culturally, it needs to be expanded to include domains and phenomena that are not conventionally considered as art from a western perspective. To Van Damme (1996), the concept of aesthetics can no longer be seen as pertaining only to the study of the visual perception of the beauty of a material object. It should take into account eye, ear, and also olfactory, tactile and gustatory experiences, as well as experiences of movement and combinations thereof (Van Damme 1996). For instance, Coote (1992) argues that among Nilotic pastoralists, cattle are the locus for aesthetic appreciation. Others (e.g. Cole 1979; Klumpp Pido 2001) argue that the beadwork of east African pastoralists is where aesthetic ideals are best expressed. And, as we saw above, the natural environment is also recognized as a proper avenue for the expression of aesthetic ideals.

A relevant concept to define here is "value". Throughout this chapter, I will use it rather loosely, alternating between "aesthetic value", "aesthetic appreciation" and "aesthetic judgment". According to D'Andrade (2008), *value* is a polysemous word that has at least several related senses. It can refer to *amount* or *quantity*. Secondly, value can refer to the *preference* for something. Thirdly, it can refer to *price*. Fourthly, the default or unmarked meaning of value involves a sense of *worth* – the *goodness* of something. And finally, it can refer to the degree to which

something is *morally right*. In this study, value is understood as preference, goodness/worth and as the degree to which something is morally right.

METHODS

Study areas

The general study area was the Greater Amboseli ecosystem (GAE) (Figure 4.2), a semi-arid savanna environment situated between the Oldoinyo Orok hills, the Ilaingarrunyoni hills to the west, the slopes of Mt Kilimanjaro to the south and the Chyulu hills to the east (Ole Katampoi et al 1990). The local rainfall pattern is bimodal ("long rains" from March to May; "short rains" from May to November), with strong spatial and temporal variation (Altmann et al 2002). The ecosystem covers approximately 8,500 km² in SE Kajiado District (BurnSilver & Worden 2007), Rift Valley Province, southern Kenya (De Leeuw et al 1991). Swamps and springs (which have been key dry season resource areas for people, livestock and wildlife) are located at the core of the ecosystem. Centered around these swamps lies the small (392km²) and unfenced Amboseli National Park (ANP). In the rainy season, wildlife disperse out of it onto nutritionally superior pastures that are located within the surrounding Maasai-owned land (Group Ranches and private ranches). The extent of this seasonal wildlife dispersal formally defines the ecosystem's boundaries (Western 1973; 1975). Imbirikani GR and Olgulului-Lolarrash GR, two of the GRs where this research took place, are considered crucial wildlife dispersal areas (Croze et al 2006).

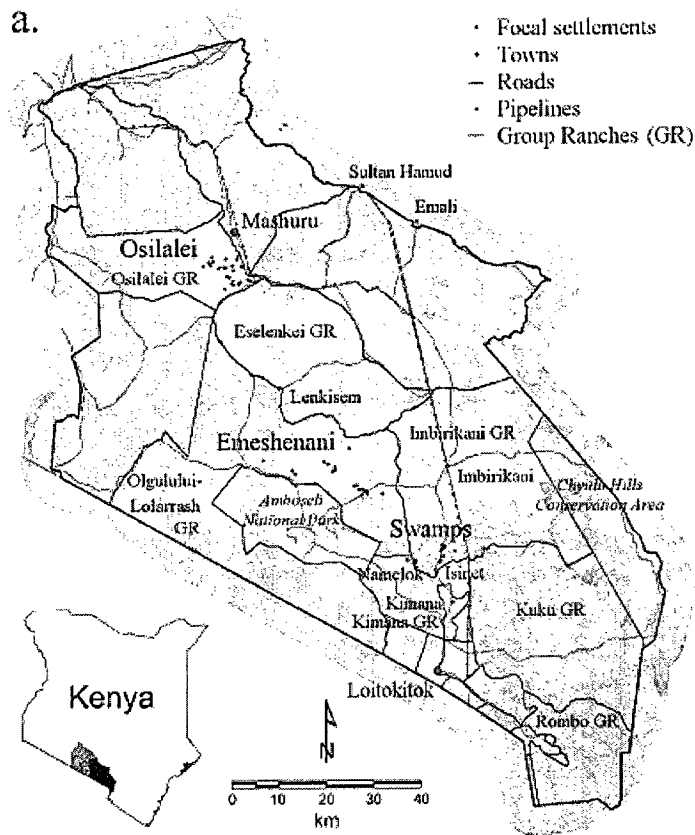


Figure 4.2. Study areas inside the Greater Amboseli Ecosystem. Dots are settlements where the interviews took place.

The research took place within the two GRs and a former GR (Osilalei) (April 2002-July 2004). I selected these areas along a gradient of land tenure/use situations, which also presents differences in access to tourism and conservation benefits. These areas, located at varying distances of ANP, are mostly inhabited by Maasai herders of cattle and small stock under conditions of increasing economic diversification (BurnSilver 2007). Increasingly, swamp areas are seeing their ethnic composition change with immigration of farmers (see Chapter 2) (Campbell et al 2000; Ntiati 2002; Southgate & Hulme 1996). The study areas' socioeconomic characteristics are shown in Table 4.1.

Table 4.1: Demographic and socioeconomic characteristics of the study areas, and of the sampled households and informants. Numbers in parentheses are percentages.

Study area	Swamps (n=64)	Emeshenani (n=65)	Osilalei (n=62)
Section	Kisonko	Kisonko	Matapato
Land tenure	Communal	Communal	Private
Group Ranch	Imbirikani	Olgulului-Lolarrash	Osilalei
Predominant land use	Sedentary pastoralism + irrigated cultivation	Extensive pastoralism	Sedentary pastoralism + rainfed cultivation
Infrastructure[#]	High	Low	High
Tourism & conservation initiatives	Yes	Yes	No
Households			
Average household size	6.69	12.88	7.13
Economic activities			
Livestock only	1 (3.1)	10 (30.3)	2 (6.5)
Livestock + cultivation:	0 (0.0)	3 (9.1)	10 (32.3)
Livestock + other*	3 (9.4)	8 (24.2)	2 (6.5)
Livestock + cultivation + other*	28 (87.5)	12 (36.4)	17 (54.8)
Wealth (wealth ranking)			
Poor	20 (62.5)	7 (21.2)	19 (61.3)
Medium	8 (25.0)	7 (21.1)	8 (25.8)
Rich	4 (12.5)	19 (57.6)	4 (12.9)
Sample composition			
Gender			
Men (n=109)	35 (54.7)	38 (58.5)	36 (58.1)
Women (n=82)	29 (45.3)	27 (41.5)	26 (41.9)
Age/gender categories			
Girl (n=5)	2 (3.1)	1 (1.5)	2 (3.2)
Boy (n=8)	1 (1.6)	1 (1.5)	6 (9.7)
Woman (n=76)	27 (42.2)	26 (40.0)	23 (37.1)
<i>Olimurrani</i> (n=11)	4 (6.3)	4 (6.2)	3 (4.8)
Elder (n=91)	30 (46.9)	33 (50.8)	28 (45.2)
Proportion of educated informants	14 (21.9)	3 (4.6)	11 (17.7)
Religious affiliation			
Christians (n=116)	51 (79.7)	31 (47.7)	34 (54.8)
Traditional (n=75)	13 (20.3)	34 (52.3)	28 (45.2)

From BurnsSilver (2007); * other: businesses, employment.

Located in the south of Imbirikani GR and close to the Kimana and Namelok swamps, as well as to ANP, the “Swamps” study area includes two settled and relatively urbanized areas that have substantial infrastructure development. These two areas, Kalesirua and Namelok townships (Figure 4.2), are located close to the Isinet and Namelok swamps, respectively. From the 1970’s onwards, these swamps have increasingly been drained for irrigated horticulture by non-Maasai farmers and Maasai agropastoralists. The Emeshenani study site is a semi-arid area within Olgulului-Lolarrash GR, which lies on a ridge north of ANP. Although some agropastoralist families own cultivated plots in the arable parts of the GR, extensive livestock herding is the major land use. Access to infrastructure, education and markets is limited. Finally, Osilalei study area, located in the north of the GAE and in the eastern part of the former Osilalei GR, is the furthest from ANP. Land tenure is private, with single households owning 100-120 acres parcels and combining livestock keeping with rain fed cultivation. Tourism and conservation initiatives are locally absent.

Data collection

Data were gathered through several methods. These included informal collection of information through everyday interactions and conversations; semi-structured and structured interviews (carried out with a variety of key-informants throughout the two years of fieldwork) and three focus-groups¹⁴. Finally, my research assistants and I conducted 191 semi-structured interviews with

¹⁴ These were held at the beginning of the fieldwork and included one with senior elders and one with women (both at Kalesirua, in the Swamps); and an impromptu one with herding boys (*ilayiok le shoo*), who visited our campsite in the north of Imbirikani GR.

informants of both genders and of the culturally defined age-categories. In each study area, we randomly selected 32 households and interviewed two informants per household (see Table 4.1 for informant demographic and socio-economic characteristics; Appendix 1 for the age/gender composition of the sample of informants).

The data that I analyze in this chapter were collected as answers to questions included in a larger guide to the semi-structured interviews. For the purposes of this study, the 191 informants were asked to provide free lists of all the “good things” that they perceived wild animals to have; to list the animal species they considered beautiful and the ones they saw as ugly; to list the species they “liked” (*anyor*) and the ones they “disliked” (*aiba*; also “to hate”); and to free list the species that, if given special powers by *Enkai* (God), they would rescue if these animals were disappearing from their land (see Appendix 24 for a list of these questions). Answers to this last question were interpreted as reflecting support for the conservation of these species, while answers to the questions about which species people liked and disliked were interpreted as reflecting, respectively, positive and negative attitudes towards those species.

In contrast with other studies that investigated preferences for wildlife species (e.g. Kaltenborn et al 2006), informants were not asked to comment on a fixed number of species. Neither were they shown pictures of species (as in, e.g., Knight 2008 and Huddy & Gunnthorsdottir 2000). By adopting a free list approach, I expected informants to comment on the species that were the most salient in their minds (Bernard 2002). This would presumably reflect the species they are the most

familiar with in the context of their daily lives. While this causes problems for data interpretation (since these data might also reflect the differences in local abundances of species, as I discuss below), this avoided informants having to comment on species that they do not know or have ever or only rarely seen (which was plausible given the difference in ecological conditions across the three study areas).

Finally, informants were asked to list and explain what about these species made them “beautiful”, “ugly”, “liked” and “disliked”. These data were intended to give clues as to which values and principles underlie people’s expressed aesthetic and general preferences for animal species. Finally, informants also ranked the species they named according to their perceived beauty, ugliness, and to how much they “liked” and “disliked” them. Having noticed the sometimes important geographical and individual variation in the Maasai names of the species¹⁵, during the interviews we visually verified their identity with the help of a guidebook to African wildlife (Alden et al 2001). Additional information on notions of beauty and ugliness, in general and as related to wildlife, was gathered in the course of daily conversations, participant observation and as part of answers to other questions that were aimed at collecting data unrelated to aesthetics.

As we have seen in the previous chapter, accurate translations are crucial when working with qualitative data. While I have no doubt that many important nuances have gotten lost in translation, my limited knowledge of Maa has helped.

¹⁵ See Appendix 25 for the Maasai and scientific names of all the species mentioned in this chapter.

“Beauty”, in Maa (*esidano* or *enkishiaa*)¹⁶, is a case in point. In the initial interviews, when I asked the informants which animals they found beautiful, my Maasai assistants framed the question as “which wild animals do you find *good*?” Indeed, in Maa, the word *sidai* is used for both “good” and “beautiful”¹⁷. This linguistic particularity, which reveals a conceptual association of physical beauty and moral goodness, is a common feature of some African languages and cultures (Ben-Amos 1989)¹⁸. This, in itself, is significant information in any discussion of aesthetics. And, as my results will show, it is indeed relevant for research on Maasai aesthetics.

However, I wanted to understand which wildlife species are considered beautiful and ugly from a narrower perspective that involves people enjoying, or not, the *sight* of different animals, for their physical appearance. In other words, I was interested in finding out about which animals are locally perceived as visually pleasant and which are not. Thus, after I noticed the shortcomings of using the adjective “*sidai*” (both “good” and “beautiful”) to ask questions about the *beauty* (understood narrowly as physical attractiveness) of wildlife, my assistants suggested we used the verb *atil*. According to Mol (1996: 387), *atil* means “to attract because of beauty, to feel attraction to, to admire”. For my assistants, *atil* denotes “something that really gets you”, “that you admire for the way it looks”. And “when you use the verb *atil*, the eyes are automatically used”. Thus, *atil* approximately translates as “to please one’s eye”. Using it in the question more accurately conveyed

¹⁶ *Esidano* and *enkishiaa* are synonyms and mean “beauty, goodness, good looks, handsomeness, and splendor” (Mol 1996).

¹⁷ *Sidai*, pl. *sidan*: good, fine, nice, beautiful, handsome; *Asidan*: to be good, to be nice, to be beautiful; *Esidai*, pl. *isidan*: “the-beautiful-one”, the ostrich (*Struthio camelus*) (Mol 1996: 370).

¹⁸ Schneider (1956) however shows that Pokot pastoralists of Northern Kenya linguistically distinguish between what is “good” (for utilitarian purposes) and what is “pretty”, “beautiful”.

my questions about appreciation of animal physical appearance. Conversely, the notion of “ugliness” (in the stricter visual sense) was initially translated as “*torrono*” (pl. *torrok*), which also means “bad”, “terrible” or “horrible”. It was later on more accurately put across by using “*torrono olkitaunei*”. This term translates as “of bad formation”; or something that is “badly created” or “made in a bad way”. Roughly, it is understood as “of bad physical appearance”. As we will see below, however, despite the linguistic effort to get information on how people assess the physical appearance of wildlife, in Maasailand there is more than meets the eye when it comes to “beauty”. And this also applies to wild animals.

Data analysis

To analyze the data collected in the field, I followed a mixed methods approach, with qualitative and quantitative data simultaneously and synergistically informing each step of the analysis. The qualitative data were transcribed, coded and analyzed with NVivo 2. The data were also entered in ACCESS, then quantified and analyzed with SPSS 17.0.

RESULTS

Exploring beauty and ugliness of wildlife

In this section, I draw from both quantitative and qualitative data to examine how Amboseli Maasai frame beauty and ugliness in wildlife. I do this by, first, investigating if Maasai recognize beauty as a “good thing” of wildlife. Second, I determine which animals Maasai find beautiful and which ones they perceive as ugly. Finally, I establish the criteria that underlie these aesthetic judgments.

Integrating these results provides a picture of the local concepts of beauty and ugliness as they apply to wildlife, and contribute to the limited existing scholarship on Maasai aesthetics (see Klumpp (Pido) 1989; Klumpp & Kratz 1993; Klumpp 1982; Klumpp Pido 2001).

Beauty as a “good thing” of wildlife

Here, I determine whether there exists a Maasai concept of “beauty” that applies to wildlife. To do so, I asked informants (n=190) whether wild animals had “good things” (*intokitin sidan*) and to provide a free list of those “good things”. Among those who thought that wild animals had “good things” (43.2%; n=82)¹⁹, “beauty” comes fourth, mentioned by 13.4% of the informants. It ranks lower than economic benefits (70.7%; see Chapter 2 for a description of those); their being useful (26.8%; ecologically²⁰ and/or in daily life²¹); and the fact that they attract tourists²² (22.0%). For 13.4% of the informants, another good thing is that wild animals are part of God’s creation (Figure 4.3).

¹⁹ For 51.6% of the informants (n=190), wild animals lacked any good thing.

²⁰ E.g. elephants “building dams”, i.e., holes where rainwater collects, which is then used by domestic animals and people.

²¹ E.g., providing meat, skins and other items used in daily life (see Chapter 3).

²² Here, I distinguished between “economic benefits” and “attracting tourists” as informants themselves made this distinction. By economic benefits, they usually meant income and other benefits (e.g. employment) provided through tourism and community-based conservation initiatives (see Chapter 2). The “attracting tourists as a good thing” type of answer more specifically concerned tourists perceived by Maasai as coming to see wild animals “to take their pictures”.

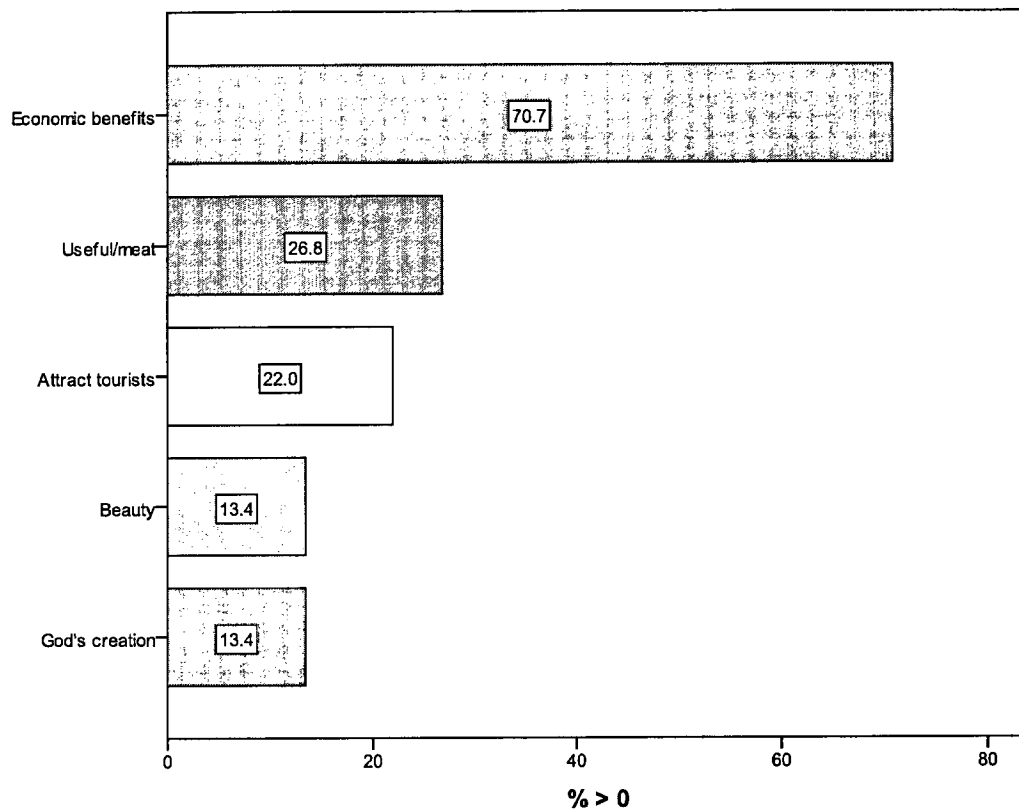


Figure 4.3. “Good things” of wildlife among those informants who thought that wildlife had “good things” (n=82). Values are percentages of informants who listed each “good thing” (mentioning multiple “good things” was allowed).

“Beauty” is less frequently mentioned than utilitarian “good things” of wildlife, such as income, and other economic benefits and uses of wildlife. Both these data and the fact that informants mentioned “beauty” without being probed suggest that Amboseli Maasai enjoy having wildlife around them for aesthetic reasons apart from utilitarian considerations. People, indeed, derive pleasure from seeing and watching wild animals in the context of their daily lives; they “make the land beautiful”, as the following quotes show:

A good land is a land with wild animals because they’re not bad: I was born in a land with many wild animals and I find it very beautiful to have them grazing with the cows. (Inyankusi elder, Emeshenani)

I like to have them around [because] I love seeing them (young woman, Swamps)

[Wild animals] give us money and it is also just good to have them. Sometimes, they're around my boma and I like to see them. The land looks beautiful with them on it. (Ilkishimu elder, Swamps)

It is very good to have wild animals on the land [because] sometimes when my children have no food, I can bring something home. And it is also beautiful to look at them grazing on the land. (Ilkishimu elder, Osilalei)

Wild animals are part of a good land because they are beautiful and it is good to see them around. (Ilkimunyak elder, Swamps)

For some informants, wildlife species are “colors” (*imuain*) that God put on the land to make it beautiful, to “decorate” it. This notion of decoration resonates with the attention that Maasai pay to personal elegance, through the use of beadwork and other adornments. An elderly woman from the Swamps explains:

Except for the aggressive wild animals, I like all the other ones: they're colors that God has put on the land. There is none that I love more than another because I'm not getting benefits from any one of them. But I just like seeing them because they're colors put by God on the land [...] Generally, if none causes any loss to me, they are fit to be on the land because they decorate the land. They make it good (*aitobir*).

For other informants, it is the mix of colors created by the juxtaposition of animals with other natural elements that adds beauty to people's lives. For instance, for this Ilkimunyak elder, from the Swamps, “the Neekolo makes a tree beautiful when it is on top of it”²³. Or an Ilnyankusi elder from Osilalei finds the “red gazelle” (the impala²⁴) attractive: “I like to see [them] when the land is green [after the rains]. I enjoy seeing them chasing each other... It's very beautiful”.

For many informants, hence, having “beautiful” species around their homes makes the land more complete and more enjoyable to live in. This makes life more exciting: “Wild animals are part of a good land because without them we would be

²³ The superb starling (*Spreo superbus*) bird.

²⁴ *Inkoilin nanyokioo*: the “gazelles that are red”.

bored” (woman, Emeshenani). And “I like to see them because they are beautiful... They make me happy... But some are dangerous to people's lives” (Ilkimunyak elder, Swamps).

In the next section, by investigating which species are considered beautiful and ugly, and the criteria that people use to make these judgments, I explore how Maasai conceptualize beauty and ugliness in wildlife.

Beautiful and ugly wild animals

If I was a wild animal, I would never want to be a hartebeest because it's very ugly... Its shape is so ugly! (Ilkimunyak elder, Emeshenani)²⁵

Informants were asked whether there are species that they find beautiful and ugly; to free list those species that “please their eye” and those that do not; and to explain what makes them so. Among 190 informants, a majority (66.8%) cited at least one species that “pleases their eye”. A total of 20 “beautiful” species was named. This includes 18 mammals and two “birds” (ostrich and “birds”). A larger majority (88.4%), still, affirmed the existence of ugly species and listed 32 species as such²⁶.

²⁵ This statement, again, reflects the value that people attach to their personal physical appearance. For instance, regarding his participation in the lion hunt, an Iseuri elder from Emeshenani explained how he did not see killing a lion as crucial to his prestige: “I did not kill a lion. But I was lucky because I was very beautiful and very smart so I was still very much loved by the *siankikis*!” (*isiankikin*: young circumcised women).

²⁶ Here, I use “species” generically as informants mentioned “all carnivores” and “snakes”. Also, for analytical purposes, I collapsed cheetah and leopard as one “species” as informants often did not distinguish these two species and there was frequent confusion and overlap regarding their names (however, I counted them as two different species). This happened even when images of both species were shown to help in the identification. Grouping these two species together in this context of discussion of aesthetics makes sense: as we will see below, their characteristic spots are what provide them with aesthetic value. Both leopard and cheetah are known as *olowaru keru* (the spotted carnivore), among other names. Such a confusion is unexpected among people who demonstrate a rich and sophisticated knowledge of wildlife (their ornithological knowledge, for example, is

The “beautiful ones”

Of the “beautiful” species, the zebra²⁷ emerged as the most beautiful: 30.5% of the informants (n=190) listed it as attractive (Figure 4.4; Table 4.2).

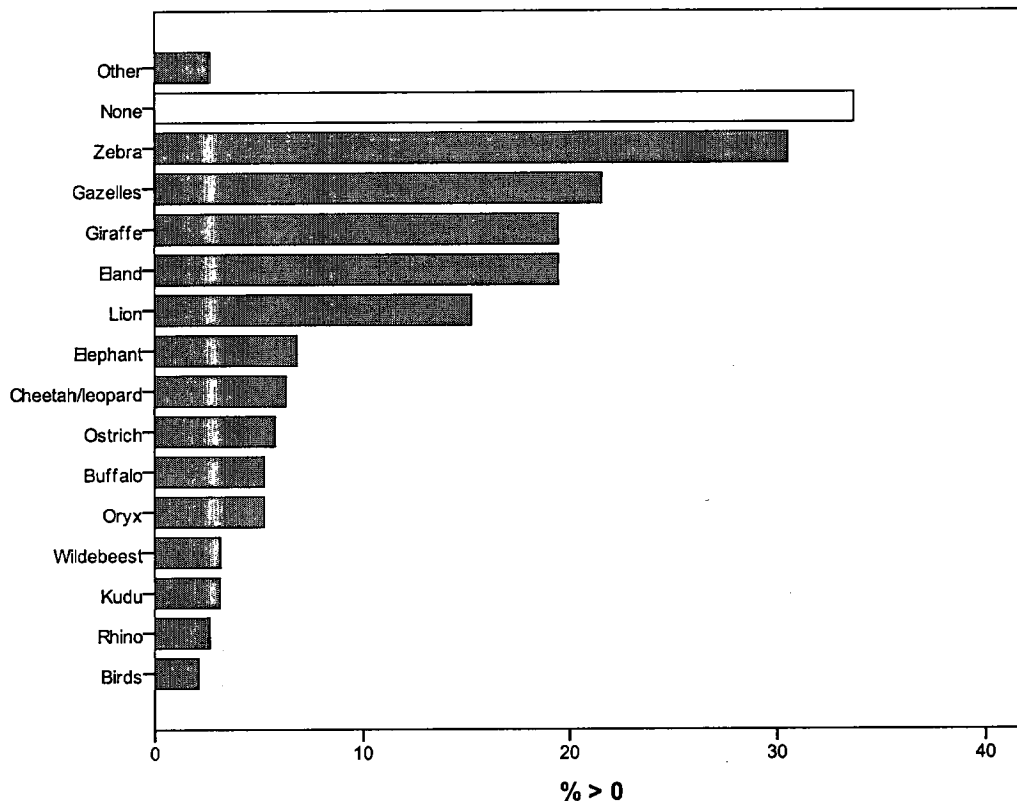


Figure 4.4. Species listed as “pleasing to the eye”. Values are percentages of informants who mentioned each species (n=190; multiple species allowed). The red bars represent the species shown in Table 4.2. The “other” category includes the species that were mentioned by less than 1% of the informants²⁸.

The zebra was closely followed by other herbivores, i.e., the “gazelles”²⁹ (21.6%); the eland (19.5%) and the giraffe (19.5%). The lion comes next, with

impressive). However, I witnessed it several times and it has been referred to before (e.g. Kaltenborn et al 2006).

²⁷ See Appendix 25 for the scientific and Maasai names of all the species mentioned in this chapter.

²⁸ I.e., waterbuck, baboon, hippopotamus and “all the wild animals”.

²⁹ For the informants, the category “gazelles” (*inkoiliin*) included Grant’s gazelle, Thompson’s gazelle, and the impala. For the purposes of statistical analyses, since most informants used the generic term *inkoiliin*, I collapsed these three species into the same “gazelles” category. However, their respective physical characteristics (e.g., lines, colors) were clearly distinguished by several informants.

15.3% of the informants citing it as a beautiful animal (which makes it the most beautiful carnivore). It is followed by the elephant (6.8%); two other carnivores (cheetah and leopard: 6.3%); one bird (ostrich: 5.8%); the buffalo and the oryx (5.3% each); and the wildebeest and the lesser kudu (3.2% each). Rhinoceroses were cited as beautiful by 2.6% of the informants and “birds” by 2.1%. Surprisingly, the ostrich, whose name in Maa (*esidai*, pl. *isidan*) means “the beautiful/good one” was not mentioned by as many informants as this name would have led to expect. Next, informants ranked “their” beautiful species and I quantified the number of times a species was ranked as the most beautiful. Some people insisted in giving the same rank to several species when they thought that they did not differ in beauty. This was allowed. Table 4.2 shows the eight species that were most frequently listed as “pleasant to the eye” and how many times each was ranked as the most beautiful relatively to the other species.

Table 4.2: The top eight beautiful species (n=190). Numbers in parentheses are percentages.

Species	Number of times species listed as beautiful	Number of times species ranked as most beautiful (1 st) ³⁰
Zebra	58 (30.5)	32 (16.8)
Gazelles	41 (21.6)	20 (10.5)
Eland	37 (19.5)	23 (12.1)
Giraffe	37 (19.5)	10 (5.3)
Lion*	29 (15.3)	20 (10.5)
Elephant*	13 (6.8)	4 (2.1)
Leopard/cheetah*	12 (6.3)	6 (3.2)
Ostrich	11 (5.8)	3 (1.6)

* denote species that were listed as both beautiful and ugly (see Figures 4.4 and 4.5).

Both frequency and ranking results show zebra, eland and “gazelles” as the three most beautiful “species”. The lion is less frequently mentioned as being beautiful than the giraffe (15.3% vs. 19.5%). However, about double the number of informants listed lion as the most beautiful animal (10.5% vs. 5.3% for the giraffe). This would suggest how strongly the people who find lion beautiful feel about it, in terms of its beauty (and also in terms of general preferences, as we will see below). This also hints at lion being a very special animal to Maasai, whose relationship with it is characterized by complexity and ambiguous feelings (Goldman et al In prep.). As we will see below, it is also considered an ugly animal by a substantial number of informants. Similarly, while leopard/cheetah was listed as beautiful by only 6.3% of the informants (vs. 6.8% for the elephant), more informants ranked it first in beauty (3.2%) as compared to the elephant (2.1%).

³⁰ The percentages do not add up to 100% because informants were allowed to mention several species as being the first in beauty if they thought they were equally beautiful. Also, only the eight first most mentioned species are represented in the table.

The ugly species: “even tourists don’t take pictures of the hyena!”³¹

Informants (n=189) also listed all the species that they found ugly (“with a bad formation”) and ranked them in terms of their relative ugliness (Figure 4.5; Table 4.3).

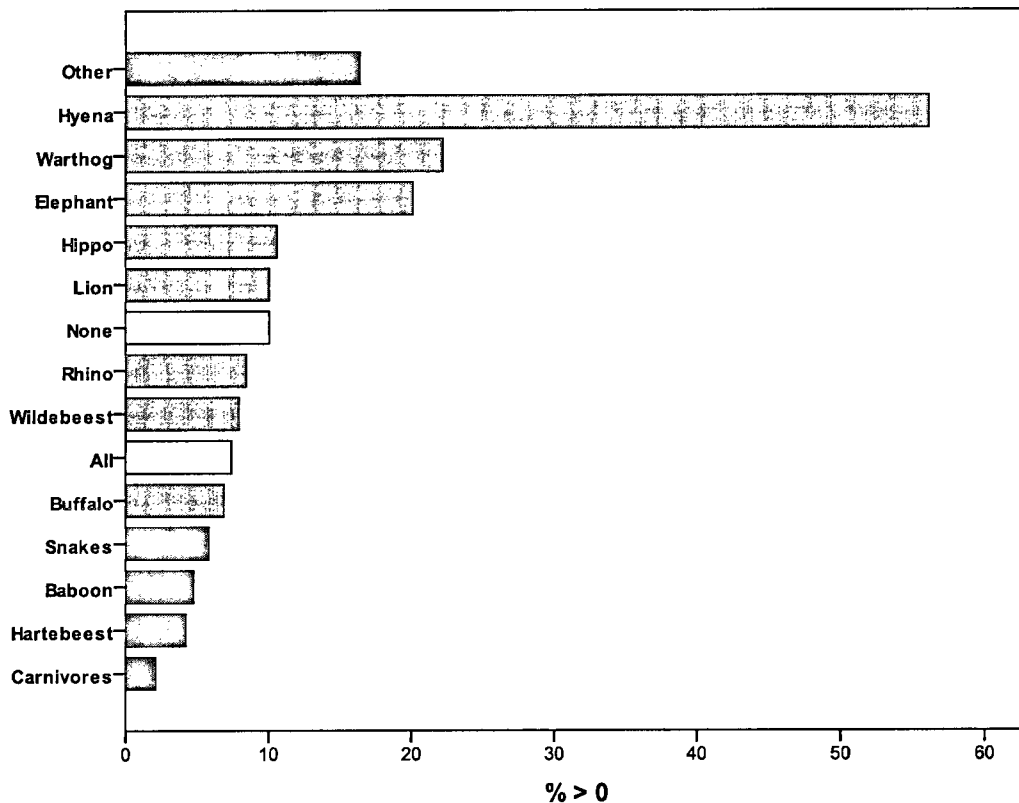


Figure 4.5. Species listed as “ugly”. Values are percentages of informants who mentioned each species as ugly (n=189; multiple species allowed).). The red bars represent the eight species shown in Table 4.3. The “other” category includes species that were mentioned 1% of the time or less³².

³¹ This quote is from an Iseuri elder in the Swamps, as he explained how ugly the hyena is to him.

³² I.e., giraffe, jackal, cheetah/leopard, ostrich, snails, crocodile, aardvark, monkey, porcupine, honey badger, mongoose, pig, eland, tortoise, “crab” (i.e., possibly crayfish in the swamps), zebra, fox, kudu – and even the gorilla (cited by one informant who had seen one in pictures).

Table 4.3. The top eight ugly species (n=189). Numbers in parentheses are percentages.

Species	Number of times species was listed as ugly	Number of times species was ranked as ugliest (1 st)
Hyena	106 (56.1)	84 (44.4)
Warthog	43 (22.8)	11 (5.8)
Elephant*	38 (20.1)	20 (10.6)
Hippopotamus*	20 (10.6)	9 (4.8)
Lion*	19 (10.1)	4 (2.1)
Rhinoceros*	16 (8.5)	5 (2.6)
Wildebeest*	15 (7.9)	7 (3.7)
Buffalo *	13 (6.9)	1 (0.5)

* denote species that were both listed as ugly and beautiful.

Among the “ugly ones”, the hyena is the most hideous: it is disproportionately listed as ugly by 51.6% of the informants. It is followed, from far, by the warthog (22.2%), the elephant (20.1%), the hippopotamus (10.1%), the rhinoceros ((8.5%), the wildebeest (7.9%), the buffalo (6.9%), the “snakes” (5.8%), the baboon (4.8%), the hartebeest (4.2%) and “carnivores” (*ilowarak*) (2.1%). About ten percent of the informants find no species ugly; while “all wild animals” are ugly for 7.4% of them.

The informants then ranked “their” ugly species from the ugliest to the least ugly and Table 4.3 shows how many times each of these eight species was ranked as the ugliest. Here too, the ranking results confirm hyena as the ugliest: it was ranked as the ugliest by 44.4% of the informants, well ahead of the elephant (10.6%) and the warthog (only 5.8%).

It is interesting to note that lion, elephant, buffalo, rhino, baboon, leopard, cheetah, hippo and wildebeest are on both the lists of ugly and beautiful animals, for

different informants. The lion is more frequently “beautiful” than “ugly” (15.3% of informants vs. 10.1%; it is also the most beautiful for 10.5% of the informants and the ugliest for only 2.1%). The same happens with the leopard and the cheetah: they are considered beautiful by 6.3% (n=190) and ugly by only 1.6% (n=189; not shown in 4.3). This relationship also holds for their respective ranks. The elephant, on the other hand, is more “ugly” than “beautiful” (20.1% of informants vs. 6.8%; it is the most beautiful for 2.1% and the ugliest for 10.6%).

On the other hand, some species are considered only beautiful (i.e., gazelles, eland, giraffe), while others are unambiguously ugly, with not a single person listing them among the beautiful ones. This is the case of the hyena and the warthog. The fact that some species are considered beautiful by some informants and ugly by others suggests the existence of a strong variability in aesthetic predilections of wildlife species among (and across) different populations in the study area.

What makes an animal beautiful and another one ugly? Aesthetic criteria

After free listing and ranking species, the informants explained to us what made each of them beautiful and ugly. These qualitative data were coded in NVIVO 2.0, and then entered in and quantified with SPSS 17.0. For each species they mentioned, informants could list more than one aesthetic characteristic. While the same characteristic could be mentioned for several species, it was entered only once in SPSS. Thus, the percentages below represent the number of informants who mentioned each characteristic at least once. As we will see, the notions of beauty and ugliness that emerge here are inclusive.

Criteria of “beauty”

Characteristics that were listed as contributing to the “beauty” of a species include (Figure 4.6) the animal’s skin colors and/or patterns (cited by 40.0% of the informants; n=190); its being similar to livestock (22.6%); the animal’s shape, posture or type of movement (13.2%); positive aspects of its “personality” or behaviors (12.1%); its being interesting or entertaining (11.6%); specific body parts (9.5%); and its size (8.9%). Some animals are “naturally beautiful” (5.3%). Others are beautiful because they are useful (*eata tipat*: 3.7%); yet others play a role in moranhood (3.7%) and/or have ritual use(s) (1.1%). For 3.2%, some species are beautiful because “they have a good picture for tourists”. Other informants enjoy the sight of some animals because of their “variety” or their rarity (2.1% each). Finally, being part of God’s creation make some species beautiful (0.5%).

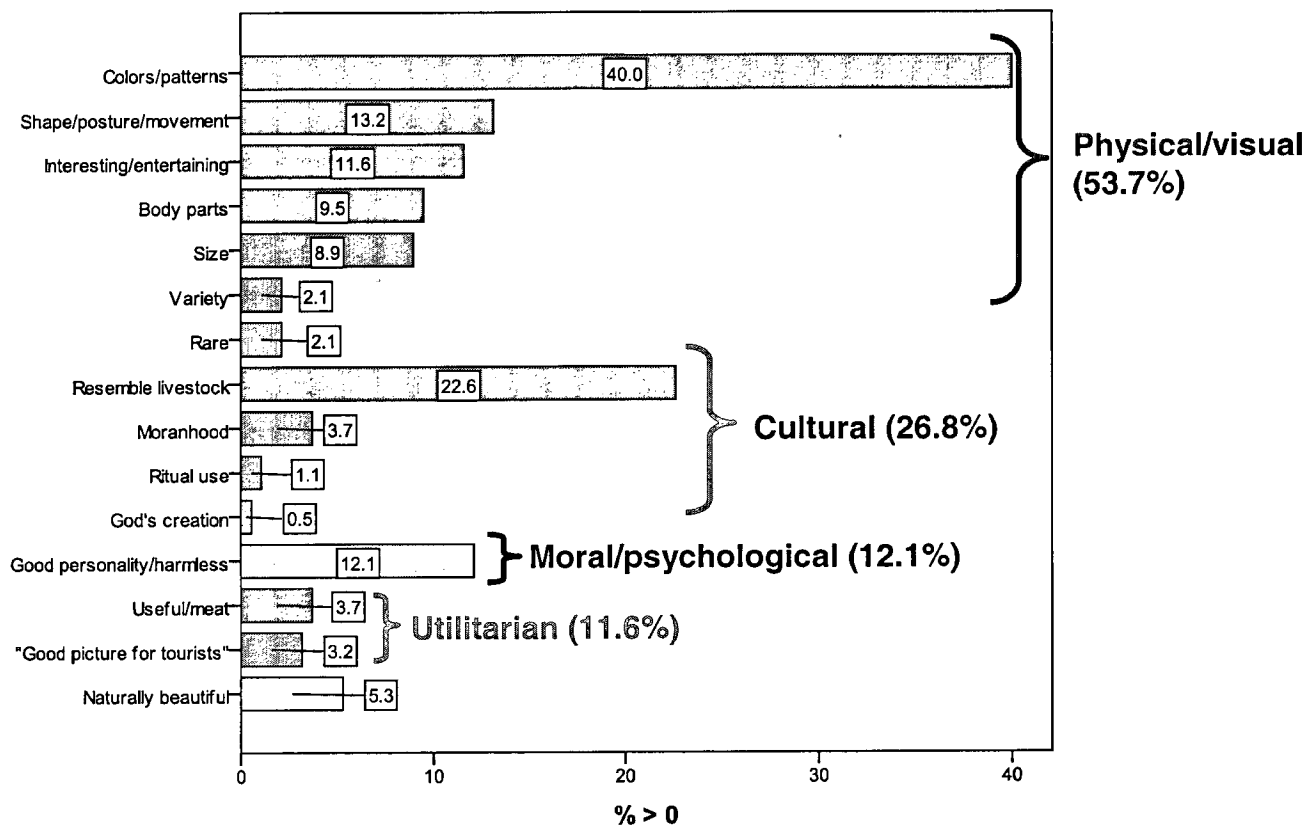


Figure 4.6. Criteria of beauty. Values are percentages of informants who listed each characteristic as a criterion of beauty (n=190; multiple criteria allowed).

After recognizing that these aesthetic characteristics have common aspects, I subjectively grouped them into four broader categories (shown in Figure 4.6) in order to facilitate discussion of the results below. These classes of criteria include 1) physical/visual, 2) moral/psychological, 3) cultural, and 4) utilitarian characteristics.

I defined physical/visual criteria as the ones that are clearly derived from *seeing* the animal. These include such traits as skin color and patterns, body parts and the animals' type of shape, of posture and/or how they move (i.e., how they

walk, run, feed etc) were mentioned by 53.7% of the informants. These visual criteria have the greatest weight as standards for beauty.

By “beautiful skin colors” (*emua*, pl. *imuain*)³³, informants meant the stripes (*osirata*, pl. *isirat*) of the zebra and lesser kudu³⁴; the spots of the leopard and cheetah, and of the giraffe (the *keri* pattern; the giraffe’s spots are “just perfect” according to some informants); the red, black and white colors of the ostrich (feathers and skin); the black line separating the white belly and reddish back and of Thompson’s gazelles (and a similar pattern in Grant’s gazelles, minus the black line); and the waterbuck’s characteristic hindquarters (encircled by a white line). Other animals that are perceived as sporting “good colors” or “unique colors” are the eland, the oryx, the lion, and the elephant.

When explaining the ways in which the zebra is “smart” and “elegant” (*maridadi*), every informant mentioned its stripes. For instance, asked whether there are animals that he finds good looking, this Ilnyankusi elder from Osilalei promptly answers “*Epae* (of course!)! The well striped zebra is very beautiful! I just like to see it going like that...” To others, “the stripes of the zebra attract my eyes”; “its stripes are ‘systematic’ (*sidan oipanka*)” and “just perfect”; “God striped the zebra so well, with black and white stripes...” that are “well matched” and “appealing to the eye”. The coat of the zebra is even a desired pattern for cattle.

According to this Iseuri elder from the Swamps: “the zebra has such good stripes... I

³³ In Maa, “color” is more than *color*: it is also *pattern*. According to Mol (1996), *emua* has several meanings, which include color; shade of color; sort; kind and quality. I verified that this is how the term *emua* is locally used. Henceforth, when I use the term *color*, I also mean “pattern” and “color configuration” (e.g. checked, patchy etc).

³⁴ *Osirata*, pl. *isirat*: line, drawing, mark, writing, letter (Mol 1996).

wish I had a steer like this, which had these colors..." Indeed, some cattle of the *esampu* "color" have stripes. As another Iseuri elder (Swamps) explains: "the zebra has good colors... When you have a cow with such stripes, it's good"³⁵.

Other species' spots and patches are also highly appreciated: an Ilkimunyak elder from Osilalei, after mentioning the beauty of zebra stripes, also mentioned how...

The leopard [is beautiful because] its image and its skin colors are beautiful... You can wear its skin because of its beauty. And the giraffe too: it is so much decorated!

The kudu also "has good colors" (stripes), as does the oryx with "its white mouth, and beautiful colors, and vertical lines coming down from the eyes" (Ilkishimu elder, Swamps). As for ostriches (*isidan*), "the beautiful ones", for one informant (and for several others) "some of them are very black with white on their sides... I wish I had a cow of this color!" (Iseuri elder, Swamps). Reversing the argument, an Ilkishimu elder from the Swamps says that the ostrich is beautiful because it has the "colors" of some cows: "the ostrich is very beautiful! Some are very black with white sides, just like some of the beautiful cows"³⁶.

As I discuss below, these "colors" are patterns created by contrasting hues³⁷. And contrast, together with balance, is one of the main principles underlying Maasai aesthetics (see Klumpp (Pido) 1989; Klumpp & Kratz 1993; Klumpp 1982). Not surprisingly, and as I will show below, how Maasai aesthetically judge wild animals

³⁵ I was shown a cow of the *esampu* color configuration, with "zebra stripes". To my non-Maasai eye, this pattern seemed quite different from the zebra's. These stripes were vertical lines composed of dark dots over a lighter background (brown).

³⁶ I.e., the cows with desired color configurations (see Appendix 26).

³⁷ Lion, elephant and eland, which sport solid colors, are an exception.

is influenced by aesthetic criteria that they bring to bear on other aspects of their lives and that are shaped by Maasai social and cultural values.

Another physical trait that confers beauty on an animal is its resemblance to “cows”³⁸. This comes as no surprise and confirms findings in Chapter 3 about cattle as the standard against which several characteristics of wildlife are judged. Some animals, for instance, *look like* cattle. According to this Ilnyankusi elder from the Swamps:

The eland is beautiful! Even its name, *osirua*, is very good: it's almost the name of a cow³⁹. And it's just like a cow, the way it's made! And it even has the same dewlap as a cow! And it doesn't eat me...

The eland's color, combined with other characteristics that are common to cows, makes it a much “loved” animal, indeed: “[it's] just excellent! It's just a cow!” (Ilkishimu elder, Swamps) and it even “grazes like a cow! It's good to see it” (Iseuri elder, Osilalei). Another Swamps elder displayed a very affectionate and tender look on his face as he expressed how much an eland looks like a cow. The “love” for cows is projected onto the eland because of its physical and behavioral likeness to cows.

Other species that resemble cattle in physical appearance include the wildebeest and the buffalo: “The buffalo is beautiful because of the way its horns are made: they are wide and they curve up. When you see it, you say “it's a bull!”” (Iseuri

³⁸ Wild animals can also “be like cows” in personality and behavior. This is a criterion that is in Figure 5 and that I analyze below. In Figure 5, I grouped both these characteristics together (22.6%) as being “cultural criteria” (26.8%) in order to facilitate discussion below. Comparing wild animals to cows reflects the centrality of cattle in Maasai culture. Here, “cows” (*inkishu*) is understood to mean all the different domestic animals (see Chapter 3).

³⁹ By “a name of a cow”, he is referring to the name of a particular cattle color configuration. See Appendix 26 for a list of cattle “colors” in Amboseli. In this case, he is mentioning the *sirua* “color”, which is a solid gray (according to Mol 1996, *sirua* means white or splendid). The eland, *osirua*, is said to have the same “color” as this particular “beautiful cow”.

elder, Osilalei). Specifically, “it looks like a good animal: it looks like a Boran bull⁴⁰” (Iseuri elder, Emeshenani).

The resemblance between these animals and cattle is such that informants wish to domesticate the wild ones:

I like the eland because I see it standing and I'd like to cross it with my cow. It's like a cow and much bigger! There are people in Tanzania, Kisonko Maasai who catch young elands and cross them with cows. [...] Otherwise, to me, all [wild animals] are ugly, because they all have bad colors (even the zebra?) Yes (even the eland?) Ok, except for the eland because I usually say “Oh! This color is nice!” I'd like to get one to be my bull. And when elands are eaten by lions, they cry like cows! (Ilterito elder, Emeshenani)

The buffalo is beautiful: if possible, I'd love to domesticate one as my bull. His body is the body of a Friesian cow, very big! (Ilkishimu elder, Swamps)

Other animals, such as the Thompson's and Grant's gazelles, the impala and the oryx are “like goats” (the latter “like a big goat”). And gazelles’ “colors are good, like goat colors”.

I like to see [gazelles] walking like goats. Also, they fear even young children and they don't finish the grass for the cows. It is good to see them around... (Iseuri elder, Swamps)

The familiar donkey also provides an aesthetic standard: “*The zebra is* beautiful because it has beautiful colors and stripes and, also, it's just like my donkey that we use for transport” (Iseuri elder, Emeshenani).

On the other hand, for some informants, because no wild animal is ever exactly “like cows” (see Chapter 3 for Maasai conceptualization of differences between the domesticated animals “at home” and the wild animals “in the bush”), then no wild animal is possibly beautiful. Consider this exchange with a woman from Osilalei:

⁴⁰ Boran cattle are a breed indigenous to Northern Kenya, which is highly desirable in Maasailand. For some informants, elands, too, look like Boran cattle.

I don't know [if there are ugly wild animals]... (So, you find the hyena beautiful?) No! The hyena is not "good"⁴¹. But no wild animal is "good" anyway... Only the cow is beautiful and nicely created!

An animal's body shape, its posture or how it moves is the second most important set of physical characteristics, and the third most frequently mentioned criteria for attractiveness (13.2%) (After "resembling livestock", in both physical appearance and personality/behavior). Species whose type of posture, way of moving or body shape make them enjoyable to see include the lion, the leopard, the giraffe, the elephant, the eland, the buffalo, and the ostrich.

Some informants are particularly attracted to the posture of some animals ("the way they stand"). For instance, the eland "has a good posture, like the cow's" and "a good body because it stands very upright". Another enjoys watching lion and leopards "because of the way they stand".

Other people are engrossed by the way in which some animals walk, run, or feed. Both the eland and the giraffe are beautiful because of "the way they walk"; the leopard is attractive thanks to "the way it runs"; and the ostrich is beautiful because "it's very fast!" For a married woman from Osilalei "the eland is the best! Its walking style is like the cow's and its colors are unique!" The lion's movements also make it a pleasant sight:

Everything is different in the lion: the way it lies down; the way it walks; the way it stands. Even if it kills people, it's good to look at! It is very organized (*epashari*) (Ilkimunyak elder, Emeshehani)

In other animals, it is their "feeding system" [sic] (*endaari enye*) that makes them "pleasing to the eye":

⁴¹ As I mentioned before, the word *sidai* is understood as both "good" and "beautiful". The question asked here was "are there animals that you think have a "bad formation" (*torrono olkitaunei*)?"

The elephants... I like to look at them, to watch them... Just to look at them. They're beautiful because they're bigger [than other animals]. You hardly know how they graze, because other animals use their mouths to get food from the ground. But elephants are strange because they use their hands [the trunks] (Iseuri elder, Osilalei)

Finally, for some informants it is the shape of an animal, its "body configuration", that is "beautiful". The eland has "a very good body configuration", the elephant "is unique the way it's made", while the lion, "I like to watch it just because of the body configuration, the way it's made" (Ilkimunyak elder, Swamps). According to an elder of the same age-set in Emeshenani:

"If you pass near a lion you must stop and look at it! You're not tired looking at it: the colors are good, it's a strong animal! I just like its body, the way it's strong..."

Animals whose body shape makes them look "fat" (thus, healthy) are also highly appreciated: "Sometimes I see a very fat giraffe and that is beautiful. The eland, too, sometimes I also see a beautiful fat one. That's all" (Ilnyankusi elder, Osilalei). For this Ilkimunyak elder from the Swamps the zebra too...

... is always healthy (*epir*: it is fat) and with very nice stripes. It is always fat, never skinny (*tasat*: shriveled). It is always in a good shape (*eitobiruno*)!

Some species have behavioral and/or ecological characteristics that make them entertaining and interesting (cited by 11.6% of the informants). Some animals, such as the lion, the elephant, the ostrich and even the wildebeest have interesting behaviors or "habits" which some informants describe at length. In this process, they reveal both how much they enjoy their sight and how much they *know* about wildlife behavior in general. For instance, this elder from the Swamps provides an elaborate description of how Thompson's gazelles' behaviors are attractive to him:

I think the gazelles, especially the Thompson's gazelles, are beautiful to look at. They are very organized... They have a pen in the bush where they spend the night. They are very smart because, when they sleep, they all look at all directions and stay there, sleeping with

their backs against one another's. If anything [a predator] comes out of the bush, they see it (Illyankusi elder, Swamps)

A young girl from the Swamps listed baboons among the beautiful ones because she likes to see the way in which they carry their babies. While an Iseuri elder mentions the ostriches as beautiful because "it is entertaining to look at ostriches: they have beautiful feathers and they scratch their body with the mouth" (Iseuri elder, Osilalei). The elephant, the wildebeest and the ostrich also display entertaining characteristics:

The elephant pleases my eye: I just like to see it taking its hand [the trunk] to a tree to eat and making noise to the other elephants, controlling the other elephants, with the leader taking them from one side to another. (Ilkishimu elder, Swamps)

The wildebeest: I like looking at it because it has a beard like a ram and I like to hear its sound and it gives birth systematically: all the wildebeests give birth at the same time and then stop. While for the other animals it is random [...] Also the ostrich: when I see it, I see four things: a bird, a snake, a human being, and a lion. When I find its tracks, they look like human being's. If you find someone who has never seen tracks of ostrich and you show them, they think it's the tracks of human being. Also, an annoyed cobra and a grazing ostrich look the same because of the neck and the way it moves. And the sound of the ostrich is like the lion's! There is no difference in sound and the number of times of the sound. (Ilkishimu elder, Swamps)

One informant, however, distinguishes "beauty" from "entertainment":

The hippo is ugly: even the tail is not properly set. It's not as big as an elephant. The legs are very short. It has terrible colors. There is nothing special and beautiful about them. But I like to watch them moving inside the water (Ilkishimu, elder, Swamps)

As we can see, even animals widely acknowledged to be dangerous and harmful, such as the lion and the elephant, are attractive because of the awe they inspire and their fascinating behaviors: "The prestige that the lion holds... I am never tired to look at it!" (Iseuri elder, Swamps).

People do not just passively witness the "beauty" of these attractive species. They will, if given the chance, go out of their way to observe the animals and enjoy the display of their beauty and of their interesting "performances". For instance, this

herding boy on Imbirikani GR likes the giraffe “because they don’t run away when they see us. They go slowly so that we can enjoy looking at them for a long time”. Or for this Iseuri elder from Osilalei, “the leopard, if it is not being too aggressive, you hide and you just look at it when it passes nearby: when you see it closely, it’s really beautiful!”

An Ilkimunyak elder from the Swamps expresses similar sentiments regarding the elephant:

The elephant... When it passes at a distance, it’s good to look at it ... Because it’s the biggest! I just want to watch it. Even when it goes away, I need to turn back and look at it. (Ilkimunyak elder, Emeshenani)

For some informants, it is indeed the sheer size of animals that impresses onlookers (mentioned by 8.9% of the informants), rousing fear, excitement or astonishment. This is especially the case of the elephant (“the only one to be so big!”) and the giraffe:

To me, the elephant is beautiful in the sense that it’s the biggest animal, so you really like to see it! (Ilkimunyak elder, Emeshenani)

Elephants are “good” because they are very big, so you can take the time to look at them. (Inyankusi elder, Emeshenani)

I just like seeing elephant because it is extra big; I also like the buffalo also because it is big: I like to look at it. (Woman, Swamps)

The giraffe is beautiful because of its colors and its tallness is unique: it’s the only one that can eat leaves on top of the trees. (Ilkishimu elder, Swamps)

The giraffe is the only one I find beautiful: I like its height. They see you from far and they don’t run away and they just wait for you. I would like to befriend a giraffe. (Young woman, Swamps)

Some species have specific body parts that make them attractive (cited by 9.5% of the informants). This includes the dewlap of the eland, as we saw above. An Ilkiponi olmurrani from the Swamps explains it further “The eland is beautiful

because it walks beautifully and the thing on its neck looks like a bell” It also includes the horns of the oryx, according to an Iseuri elder from the Swamps (and other informants): “I like to see the oryx around if possible: its horns are straight and turned upwards, and it has white colors on its face”. Other animals whose horns make them beautiful include the buffalo (“the way its horns are set, wide apart”) and the kudu. The lion is “beautiful” because of its mane and “its attractive, clever eyes”. The elephant, too, is attractive because of “its long teeth: it’s admirable to see it going!” (Iseuri elder, Swamps). While the ostrich and the Grant’s gazelle are good looking, respectively, because of their neck and their “white buttocks”.

The variety exhibited by some taxa (e.g., the “gazelles”) also has a positive aesthetic value, according to 2.1% of the informants. People, such as this Ilkishimu elder from the Swamps, acknowledge their different shapes and their diverse colors: “I like seeing many of them. They have nice horns and different colors”. More specifically, it is “the way there is a variety of them”, according to a boy from the Swamps, that is attractive. This was reiterated by a woman from Osilalei: “the gazelles are beautiful because of their variety. I like the variety.” This also applies to birds:

The different kinds of birds are beautiful, for example the starling and the marabou-stork⁴². They are just so beautiful... They look very nice, kind of shining (*etilisho basi*). (Old woman, Osilalei)

To some informants, the rarity of other species adds to their aesthetic appeal (2.1%). For instance, according to this Ilkimunyak elder from the Swamps,

The rhino is beautiful because it is a very rare animal. I'd like to see it clearly... Also, I've heard it's the most profitable animal if it is in your area. Lots of people will come to see it... So, just like this, it is beautiful (Ilkimunyak elder, Swamps)

⁴² Yes, she did say the marabou-stork (*Leptoptilos crumeniferus*).

One informant regrets the rhino's local disappearance: "I would like to see [the rhino] but it is finished" (Ilkimunyak elder, Swamps).

The lion's rare appearances also increase its aesthetic value:

The lion [is beautiful]: it's an "animal" (*enkukuu*⁴³)! It's very big, and very strange to look at! I'm never tired to look at it because it is very rarely seen. It really hides... (Ilkishimu elder, Swamps)

I like just to watch [the lion]! It is a clever person who doesn't always appear to the public... So whenever it shows up, it is admirable to see him. (Iseuri elder, Swamps)

There is only one animal that I love to see but from far: the lion... Because we see them very rarely. So the day you see it, you want to see it very clearly. (Iseuri elder, Emeshenani)

Other aesthetic criteria reflect socio-cultural practices and values held by Maasai, and thus I classified them as being cultural criteria of beauty. These were mentioned by 26.8% of the informants and include resembling cows (for instance, the eland) or goats (e.g., the gazelles) in both physical appearance and/or behavior (being gentle and harmless); it also includes the fact that, for some informants, the beauty of certain species is related to these species' role in cultural practices. This is the case of the lion, through *olamayio* (the lion hunt) and the ostrich, whose feathers are an important component of male circumcision.

Olamayio, which entails *ilmurran* going on the hunt, coming back alive with a dead lion and the communal rejoicing associated to it, is considered by some as the embodiment of "beauty" (*esidano*) and even the only "beauty" to be found in wildlife:

The beauty of wild animals is only for morans, to go and find a lion with a big mane. But it is not for me. (Elderly woman, Osilalei)

⁴³ *Enkukuu* pl. *inkukuuni*: monster.

I don't find any wild animals beautiful (Are you sure? What about their shape, their colors?)
Ok, when I was a moran, the only beautiful animal was a *olowaru oju* (a "hairy lion", with a big mane). Because a lion without a mane and a female lion don't have any beauty. But now, I don't find any animal beautiful (Iseuri elder, Osilalei)

The hunt itself is truly an aesthetic experience, "it's just beautiful (*maridadi*) in the Maasai way of living" (Iseuri elder, Osilalei). According to another Iseuri elder in Osilalei, "Morans went to *olamayio*, killed lions, came back and played around the bomas with it because that is the beauty of the morans (*maridadi oolmurran*)". Or, as an Iseuri elder from the swamps reminisces...

I go on the hunt, I try to get myself a lion so that I have a lion name. I will be recognized as a hero and the girls will love me. You bring the tail of the lion like a flywhisk and sing around it, the whole team of morans. And the other morans are holding the lion's leg. It's very beautiful! Have you seen morans with lions?

Similarly with the ostrich: as an Osilalei Ilkishimu elder explains, "we have the ostriches for beauty: people put on their feathers at ceremonies".

Finally, for a Christian woman from Osilalei, wild animals are beautiful simply by virtue of being part of God's creation: "They are all beautiful because they all are the way God wanted them to be".

The reader may have noted how, in the above quotes, besides physical traits, informants also frequently mentioned the animals' good personality or behavior. Indeed, this moral/psychological criterion for beauty was cited by 12.1% of the informants, which makes it the third most mentioned set of criteria. To these informants, some animals are also beautiful because they are harmless and "polite" (*ebor*). Their gentle "personality" and/or their non-threatening behavior contribute to their "beauty". As mentioned above, this includes their being "like cows" (in behavior and personality). The eland and the giraffe are "polite like cows", and thus beautiful. For a woman from the Swamps, the eland, gazelles and zebras are

beautiful “because they are harmless”. Similarly, for this Ilnyankusi elder from the Swamps, the giraffe and gazelles are beautiful “because they are just good and innocent”. He maintained this explanation even as I probed for specific “aesthetic” qualities (in the more restricted sense of physical appearance). For one informant, an Ilnyankusi elder from Osilalei, the only beautiful animal is the giraffe “because they only eat leaves” (and thus they do not compete for grass with cows). The giraffe is also beautiful because, while its size gives it the possibility to harm, instead it is gentle:

I don't find any beautiful, except for the giraffe: it is polite, it is very good; it is even good in looks, because it is very big: it has a good look when it stands. It could be very aggressive because it's big, like the elephant. But it's actually very polite and doesn't destroy our shambas. (Ilkishimu elder, Swamps)

Finally, utilitarian criteria, such as providing meat, were mentioned by 11.6% of the informants. These are the least relied upon criteria to comment on the “beauty” of wildlife. For instance, for this Ilkimunyak elder from the Swamps, “the eland is beautiful because the way it walks is beautiful and in a terrible drought I can eat it...” For another Ilkimunyak elder (Emeshenani), zebra, giraffe and gazelles are beautiful because of their “good” colors and nice behavior and also “because they are food for lions” (which distracts predators’ attention away from domestic animals).

Another criterion of beauty which I subjectively classified as “utilitarian” is how some animals are perceived as attractive because they have a “good picture” (*empisha sidai*) for tourists. Asked how he felt about the fact that his grandchildren have not seen and may never see a rhinoceros (because of their local extinction), an Ilnyankusi elder from Emeshenani, replied “I don't like it because it's very important

for people to see [the rhino] and it's one animal that has been attracting tourists, which means that it has a good look."

The "utilitarian" dimension of "beauty" also shows through negative statements, such as "Maasai don't see wild animals as beautiful because they don't have any benefit" (Ilnyankusi elder, Osilalei). Or:

That question [are there animals that please your eye?] I don't know... Is there an animal that you don't milk, that you don't eat, that you don't take home, without any benefit, which pleases me? (So, to you, none of them has beautiful colors or shape?) No, none at all! (Ilnyankusi elder, Osilalei)

For some informants, "beauty" is not even a concept that applies to wildlife. For instance, a woman from Osilalei declared that "[she just did not] bother as such about their [wild animals'] beauty and ugliness". Another one from the same area says that she finds none beautiful and that she does not "even bother to look at their colors". An elder from Osilalei reacts even more strongly: "None is beautiful! Because they're animals (inguesi) and why should I like them? Why should I find them beautiful?" A woman from Osilalei squarely says "I don't look; I don't see beauty in wildlife".

Finally, the "naturally beautiful" (5.3%) category includes those animals for which the informants expressed an instinctive attraction and that they did not explain. To some informants, the oryx is "just good", "the lion is just appealing to the eye", and the gazelles are "just beautiful". And the buffalo "it's an animal that holds something! It's cool just the way it is"⁴⁴ (Iseuri elder, Swamps). For a woman from the Swamps, "about the lion... it's just emotional for people. Maybe because it's

⁴⁴ "Cool" is how it was translated to me by my research assistant.

strong and fierce... If we hear that a lion is here, everybody wants to see it" (Woman, Swamps).

As we can see, Maasai of Amboseli use a multitude of criteria to make elaborate and precise judgments about the "beauty" of wildlife species. These results show that "beauty" is more than just about a pleasing physical appearance: it also includes cultural, utilitarian and moral dimensions. Physical characteristics are, however, the predominant ones in determining which animals count as beautiful.

Criteria of ugliness

As they did for beauty, 189 informants listed and explained the characteristics that made some species "ugly". For each species, informants could list several criteria of ugliness, which are shown in Figure 4.7.

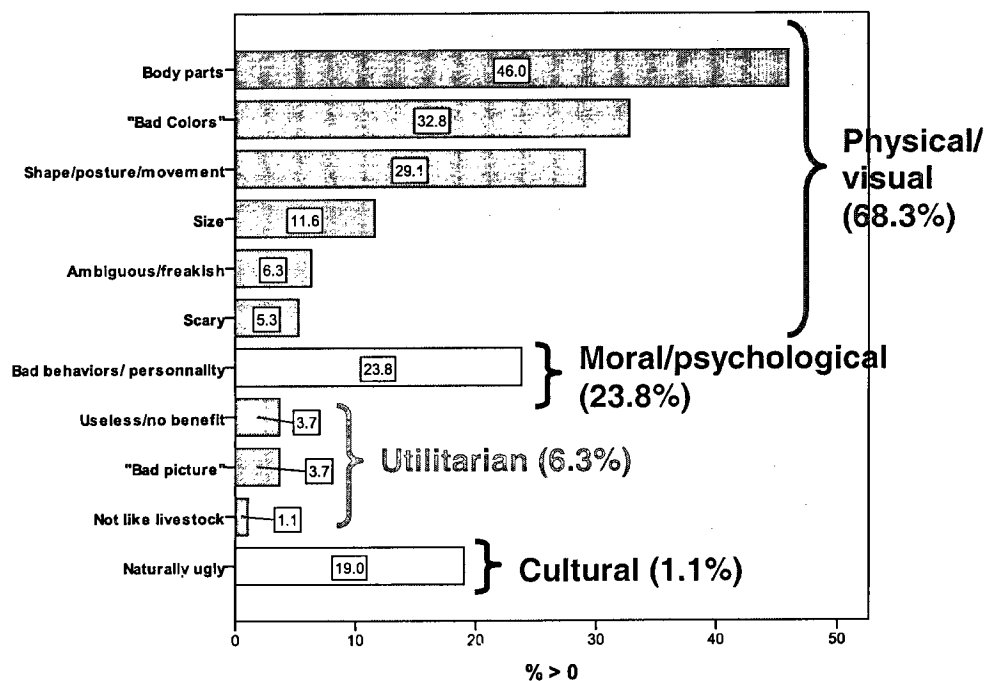


Figure 4.7. Criteria of ugliness. Values are percentages of informants who mentioned each characteristic (n=189; multiple criteria allowed).

Specific body parts were the most frequently mentioned characteristic that contribute to an animal's "bad formation" (*torrono olkitaunei*) (46.0%). It comes before colors (actually, "bad colors" or "lack of color": 32.8%) and the shape, posture or type of movement of animals (26.6%). An animal's bad personality and/or behavior also substantially contribute to its unattractiveness (cited by 23.8%). For 11.6%, the animal's size makes it ugly, as well as does a "freakish" or badly defined appearance (6.3%). Others are considered unattractive because they induce fear (5.3%), or because they have a "bad picture for tourists" (*empisha torrono*) (3.2%). Others are ugly because they are "useless" (do not provide any benefit: 2.6%). Finally, not being "like cows" is another characteristic of ugly species (1.1%). A sizeable proportion of informants (19.0%) expressed a "natural", unexplained repulsion towards some species, finding them "*naturally ugly*".

After grouping these criteria into four broader categories, we can see that, again, visual criteria are the most frequently used justification to explain why the ugly species are ugly (68.3%).

Specific body parts that make animals ugly (cited by 46.0% of the informants), include the "fur" of the lion (its mane)⁴⁵, the ostrich's "skinny neck and legs", the "protruding teeth of the warthog", the "spears of the porcupine" (its quills)⁴⁶, the faces of baboon, wildebeest and warthog (the latter "looks like it is carrying a plate on its face", according to a young woman in Osilalei), the hyena's "short leg" and its "black and wide mouth"; the wildebeest's buttocks ("that go down

⁴⁵ For instance "even in your book, its fur is very ugly" (young woman, Osilalei).

⁴⁶ An Iseuri elder from Osilalei finds the porcupine ugly because of its "spears and also its whole body is nothing, just made of *inkiik* (dung)... The inside is just *inkiik*!"

like the hyena's"); the hippo "red ears and extra large red mouth" (Swamps woman); the "hand of the elephant" (the trunk); the hartebeest's "big eyes"; the hairs of wildebeest and buffalo; the snake's lack of legs; the skin texture of the elephant and the hippo (the elephant's is "rough like our houses"; the hippo "looks like it has no skin")⁴⁷; while the rhino, "it has short legs and its mouth comes down like this!", according to an Ilkishimu elder in the Swamps who explained with a gesture how the rhino's mouth is shaped.

Some of these body parts contribute to an animal's ugliness by disrupting the body's proportion. For instance, the elephants' "long teeth are not proportional" and "its ears are too big"; the horns of the buffalo are also "too big"; the hartebeest has a "very thin waist, a very big belly that almost touches the ground, and a very thin neck. So, it's very ugly!"⁴⁸ (Iseuri elder, Swamps); the lion's "head is not good. It's ugly and the waist is very small, so it's not proportional to the chest" (Illyankusi elder, Swamps); the hyena is "completely horrible (*torrono pi!*) It has one short leg, so it makes its head bigger than its backside" (Ilkimunyak elder, Swamps); the rhino has "ears that point forward and horns that follow each other - it looks like it has four horns - and its belly touches the ground and the waist is too thin" (Illyankusi elder, Emeshenani). And the wildebeest's lowered hindquarters, "that's not proportional" either (*olmurrani*, Emeshenani).

The second most frequently cited visual criteria for ugliness, cited by 32.8% of the informants, are how "bad" the skin colors of some animals are - actually, their

⁴⁷ According to a woman in the Swamps, "the hippo has a very bad skin, with many cuts. Once we called the game scouts to come because a hippo was eating our shamba. They killed it so we had a closer look at its skin and it was ugly!"

⁴⁸ "But at least it's innocent", added this elder.

“lack of color”, as we will see. The animals with “bad colors” or that are “colorless” include elephant, rhino, hyena, baboon, warthog, hippo, crocodile, kudu, wildebeest, fox, buffalo, jackal, lion, puff adder and other snakes. These animals have in common the fact that “they have no decoration on the skin” (*mee maridadi olchoni*), instead sporting a brown color that is found “dull”. In other words, they lack contrast. For instance, for all its many cited ugly characteristics (teeth, warts, short legs, upright tail), the warthog is foremost found ugly because of its “lack of color”⁴⁹. As for other animals, the jackal too “is very colorless” (Iseuri elder, Swamps) and the hyena “is not presentable in colors” (another Iseuri elder, Swamps) and “it has dull colors” (Ilkishimu elder, Swamps); and the wildebeest, the hyena and the warthog are “very brown” (Ilkimunyak elder, Osilalei). Although it has thin stripes, according to a woman from Osilalei, the kudu has “bad brown colors”.

In cattle, too, brown is the least appreciated color: the *enkiteng ngiro* (which means “the brown cow”) “color” is considered the least beautiful of all the cows’ colors (see Appendix 26). It is called a “completely brown cow” by my assistants, and the animal that is closest to it in color is the elephant⁵⁰ (whose “skin is like stone, without hair and with brown colors”, according to an Ilnyankusi elder from the Swamps).

The color of some body parts, such as the red buttocks of baboons, the red legs of the ostrich and the red ears and mouth of the hippo, also makes these

⁴⁹ A fellow researcher who was witnessing my interview with a Iseuri elder in Emeshenani found my follow-up question “why do you find the warthog ugly?” unnecessary (since to her it is plainly obvious why the warthog is ugly). To her surprise, the mzee answered “the skin color” and did not mention the characteristics she would have pointed out (warts, body shape etc).

⁵⁰ Mol (1996; 1978) describes it as a light brown cow.

animals ugly. For some informants, it is only their colors that make some animals ugly, while other characteristics are seen in a positive light. For instance, for an Ilnyankusi elder from the Swamps, the buffalo “is not even bad: its footprints are like the cows’ (a positive aesthetic characteristic, as we saw above) and their horns please me. It’s just its color that doesn’t please my eyes”.

Other visual criteria that define ugliness (in the same way that they also contribute to beauty) are “the way [an animal] stands”, “the way it moves” and “the way it was made/created” (29.1% of the informants mentioned at least one of these). Animals whose posture is bad include the hyena, the jackal, the lion and the wildebeest. A woman from Osilalei even “hate[s] the posture of the giraffe: it cannot sit and wake up and walk”.

Along the same lines, how animals move and feed also add to their ugliness. In this respect, again, unsurprisingly, the hyena leads. Known in Maa as the *olngojine*, “the one who limps”, everything about “the way it moves” is “bad”. It has a “terrible walking style”. And “when it runs and lies down”, it is also “horrible”. In addition, “it’s ugly the way it feeds: it even eats ashes!” according to an Ilkimunyak elder from Emeshenani. An Iseuri elder clearly expresses its disgust at the hyena:

They’re not innocent and they’re not stupid: they can see you from a distance. They’re very clever, the smartest! Oh! The hind legs are short! It really limps as its name shows... And it’s a monster (*enkukuu*). The general way it is made is just naturally bad.

The wildebeest, too, has a “terrible walking style”, with “its head going up and down” (Ilkimunyak elder, Osilalei) and “going about as if it was blind” (elderly woman, Osilalei).

Some animals have ugly body shapes, such as the elephant, the warthog, the hartebeest, the hippo, the rhino, the wildebeest and the hyena (because of “its short leg”): “the way they are made” is bad. For instance, the wildebeest “is almost like the hyena, the way it’s made: with the buttocks going down” (Ilnyankusi elder, Emeshenani). The hippo “is a big animal that is very short, with a very big mouth and teeth protruding all the time” (Ilkimunyak elder, Swamps). And the crocodile “is very ugly, very bad! It had no good shape... God just created something that we don't know what it is! It’s just an animal that was put inside the water. It has a pointed mouth and a pointed tail and a big stomach and its back goes upward” (Iseuri elder, Swamps). Skinny animals, such as the giraffe and the wildebeest are also considered ugly. And a badly defined shape, or even “no shape” is also disliked. This is the case of, respectively, the wildebeest (“it’s very ugly especially when you see it running: you cannot tell the front from the rear”; Woman, Osilalei) and the snakes (“they have no shape”; woman in Osilalei).

Other informants (11.6%), in contrast with those informants for whom some animals’ large size made them interesting and attractive (8.9%), find big animals ugly. In the case of the elephant, its large size is obviously associated with its being dangerous. But the giraffe, too, can be ugly: a young woman from the Swamps explains: “I hate the height of the giraffe. It’s too tall!” On the other hand, small is not always beautiful either: monkey and warthog are “too small”, while the tortoise is “too short”.

Other animals are ugly because they are strange, with “wrong” characteristics, such as “wrong” behaviors or “wrongly” placed body parts (6.3%).

These animals are thus ambiguous. For instance, to an Ilkishimu elder from Osilalei, “the rhino is ugly because the horns are in a wrong position, not like in the other animals”. Or the elephant is “terrible! You cannot like anything in the elephant, it looks like it has no blood” (elderly woman, Swamps). And the buffalo is ugly because “it’s a fake bull” (young woman, Emeshenani). Others, by having characteristics that belong to other animals, have a badly defined identity that makes them unattractive. For instance “the ostrich is ugly because it has red legs, like the *wazungus*’ [white people] but it is not a human being. And its walking style is pathetic!” (Woman, Osilalei). The hyena, according to this Ilkishimu elder from the Swamps “hangs in between: it is not a lion, and it is not a leopard! (So what is it?) Just a hyena! It’s closer to dog! Even a cat is better than a hyena...”⁵¹

More specifically, the baboon and the elephant have human characteristics that make them particularly repulsive. For instance, “the baboon is useless and terribly made. It is not an animal and it is not a human being. It hangs in between, so it is very bad” (Ilkishimu elder, Swamps); “it’s like a person, but sometimes but it’s also an animal (*engues*), a very bad animal. It’s ugly, and his actions are terrible because it’s a terrible thief! (Ilkishimu elder, Swamps). The elephant, too, is “neither an animal neither a human being (*me engues, me oltungani*; woman, Swamps); it is “between a human and an animal” (*olmurrani*, Emeshenani). It “looks like a person and a wild animal; its hand is like a person’s and it’s too big (boy, Osilalei). Among

⁵¹ Being called a dog is extremely derogatory among the Maasai.

elephants' human-like physical characteristics are their "hands" (the trunk), their breasts and some of their behaviors⁵².

For 5.3% of the informants, animals that inspire fear (i.e., elephant, lion, buffalo, rhino) are ugly. An Ilkimunyak elder from Osilalei finds "all the lions" (all the carnivores, including the leopard) ugly because "It's scary to look at them". The lion "is the worst! It's too scary so you cannot even look at it" (Ilkimunyak elder, Swamps). More specifically, the lion... "When you see it from a distance, it has one color. But if it comes closer to you and it is annoyed, its colors changes and its hairs stand up. It's frightening!" (Ilkimunyak elder, Swamps).

Compared to what happens in the assessment of "beauty", moral aspects of animals (e.g., bad behaviors, questionable personalities and lack of morality) were mentioned by a greater proportion of informants (23.8%) as contributing to their "ugliness". Animals with bad personalities and/or reprehensible behaviors include, of course, the hyena, the jackal (it is greedy and feeds on goat kids), the elephant, the rhino, the warthog (it digs the ground), the snake, the lion, the aardvark, the baboon, the hippo (it hides in the water), the leopard (it eats livestock). Again, we see a complementarity between visual aesthetic criteria and judgments of an animal's morality. For instance, "the hyena, on top of having a bad colors, and one short limb, it is also a thief (*olapurroni*)" (woman, Osilalei). It is "greedy and a coward: when you scare it, it runs away (What else is ugly?) It has one short limb" (non-practicing *olmurrani*, Swamps)⁵³. Or according to an Ilkimunyak elder in the Swamps:

⁵² See Chapter 3 about the legend on the human origin of elephants. See also (Kuriyan 2002).

⁵³ By non-practicing moran, I mean a circumcised man of the *ilmurran* age-grade but who does not spend time in the *manyata* or "in the bush" or hunting lions (with the other *ilmurran*).

The hyena is very useless! It has lots of terrible hairs and a black mouth and a short leg and it carries many burs. And it is a hypocrite! When someone calls you a hyena, he is really underrating you so badly!

The hyena is also ugly because it is “greedy”, “coward”, “hypocrite”, “a thief” and “a witch” that starts to eat cows by their udders or kills livestock without eating them; it is also “poisonous” (a bitten animal is believed not to recover from a hyena bite). According to an Ilnyankusi elder from the Swamps “the hyena is very bad, very dirty, very bad. (What else is ugly about it?) It’s the leading animal in causing problems to people”.

Carnivores, in general, are ugly because of their predatory habits:

All the lions (*ilowarak*)⁵⁴ are ugly. Even the name itself it terrible: who else have you heard being called *olowaru* (Don’t you like to look at lions?) No! Even when you meet a thief, you say “Look at him! He looks like a lion!” (Ilkishimu elder, Emeshenani)

Also, baboons are ugly because they are “very destructive” (of crops) and also “thieves”; while the wildebeest “loiter” aimlessly around the bomas (Maasai disapprove of “idling”).

Being “dirty” is another behavioral attribute that adds to ugliness. I interpret this trait as being moral because Maasai can be quite judgmental about hygiene and cleanliness. In this case are the vervet monkey, the baboon, the hyena and the warthog (for being close to the pig, which Maasai find disgusting). Even the zebra, the most beautiful animal for most Maasai, was considered ugly by one woman from the Swamps: “Only the zebra is ugly. They have very nice stripes but they’re always covered in dust so the stripes get dirty. So, that’s not even attractive”.

Finally, what could be called “sneaky behaviors” also contribute to unattractiveness. For instance, the snake “hides under a stone... It’s always scary”

⁵⁴ *Olowaru*, pl. *ilowarak*: carnivore, predator, “lion”.

(Ilkishimu elder, Swamps) and “it just moves on its stomach, you cannot see it coming” (Iseuri elder, Emeshenani). Similarly, the colors of the crocodile are terrible: “when it comes to the river bank, it looks like the bank, you cannot differentiate so the colors are terrible and its mouth is too wide (Ilkishimu elder, Swamps).

About 5% of the informants referred to some animals’ “bad picture” and their “uselessness” as reasons for being ugly. Again, I classified these criteria as “utilitarian”. About four percent of the informants used this expression and their own *perceptions of* tourists’ perceptions, to explain the ugliness of some species. As usual, the hyena is “very, very, very ugly. It’s very rare for people (tourists) to take pictures of hyenas” (Ilkishimu elder, Emeshenani).

The wildebeest, also, “has no good picture and its walking style is terrible. The hyena... *Hakuna picha!* (Swahili: “there is no picture”). Its walking style is the worst!” (Iseuri elder, Swamps). Similarly, the warthog, too, “doesn’t even have a good picture because it has the face like this (the informant mimics the shape of the face with a gesture), too wide, with protruding teeth” (Ilanyankusi elder, Emeshenani).

In their use of this phrase (“good/bad picture”), people show awareness of which animals are preferred by tourists. An Iseuri elder explains his preference for lion based on his perception of tourists’ perceptions: “Even *Ilashumpa* [white people] want to see lions more than elephants”. (Iseuri elder, Emeshenani)⁵⁵

⁵⁵ *Olashumpai*, pl. *ilashumpa*: white people.

The influence of perceived aesthetic preferences of western tourists also shows in this quote from a woman who is actively involved in the beadwork business for the tourist market:

I find the warthog ugly... One day, a warthog made me and some other people climb trees! I saw it for the first time when I was already old [mother of several children]. It's so ugly that even in business people don't like it [my emphasis]. We were going somewhere and it was late in the evening, three mamas, three morans and three old men. I was walking in front of everyone and rushing to get home because it was really late. I saw two warthogs, one big and one small. And they jumped and they looked at me. I saw their teeth and asked myself "Are these small elephants? Or small rhinos?" I was so scared that I jumped and climbed a tree and everyone followed me because they thought "maybe she saw a rhino" and the morans ran to save the mamas "What's wrong?" I said "I saw something like a small rhino and a small elephant, behind these big trees". Morans saw the warthogs and everybody burst out laughing.

It is interesting to note that the criteria "good picture for tourists" and "bad picture for tourists" (respectively mentioned by 4.7% and 5.5% of the informants) were only mentioned by residents of group ranches, where land is communally owned and wildlife-based income generating activities take place. Not one private ranch resident of Osilalei used the "picture" expression. More specifically, "good picture" was mentioned by 1.6% of Imbirikani GR informants and by 7.7% of Olgulului-Lolarrash GR informants; "bad picture" was mentioned by 6.3% of Imbirikani GR informants and by 4.7% of Olgulului-Lolarrash GR informants. Tourists are frequent visitors of GRs, as they pass through and occasionally stop at some "cultural boma" (such as the ones existing on Olgulului-Lolarrash GR) on their way to ANP. Some are guests at local small scale tourism operations on the GRs. The use of these criteria would suggest that Maasai are aware of how other people (the "tourists" or white people) aesthetically value wild animals. And they use their perceptions of tourists' perceptions to validate their own aesthetic assessments. In

addition, this could also suggest that tourism, by bestowing economic value on some animals is contributing to a shift in how people value wild animals, even aesthetically. Some species that, in the past, would qualify as “ugly” because of their “bad colors” and/or their “bad behaviors” (e.g. elephant, buffalo, lion etc) are now seen as “beautiful”, because they are perceived as economically valuable and/or because they are perceived as being beautiful to other people, the tourists. Either way, this seems to reflect the process of commodification of wildlife that I analyzed in Chapter 3. As we saw there, formal education also might contribute to it. A primary school teacher in Imbirikani GR explains that

We usually teach the lower classes children that wildlife are *beautiful* [my emphasis] because they are a gift of nature, and thus they make the natural environment complete. Wildlife is also a primary venture to the country's economy because it brings a lot of foreign cash through tourism.

A formally educated, non-practicing *olmurrani* in the Swamps, also agrees that “wild animals make our country beautiful [my emphasis]. If they were all disappearing from the land, our land will not be as beautiful as it is now”.

Being perceived as useless (3.7%) also contributes to make animals less attractive. For instance the warthog, again, “is a very small animal with very bad colors. It never entertains someone and it will never be used by people!” (Ilkishimu elder, Swamps). Or, in general,

None [wild animals] pleases my eyes. What is good about them? I just don't mind them as long as they don't disturb me. I don't even scare them. I also don't need things from them. Even when I find one eaten by lions, I don't go close. I don't need them in any way. (Ilnyankusi elder, Emeshenani)

Finally, in the context of lack of beauty, only one cultural criterion was mentioned (by only 1.1% of the informants): this is the fact that some animals do not look like livestock. The buffalo, for instance is deemed “a fake bull”. In general,

“none is beautiful because none is a cow! (Ilterito elder, Osilalei) or “because they are all wild” (woman, Swamps).

In some ways, ugliness is mostly defined negatively, framed in opposition to perceptions of what constitutes beauty. Ugly animals are the ones that lack what is beautiful. They are defined by what they *are not* or by what they *do not have*: they are not like domestic animals in appearance and/or behavior or personality; they are not useful; they are not economically beneficial; they are not “polite”; they do not have a “good picture”; and they are “colorless”.

On the other hand, there are also those animals that are “naturally ugly” and revolting (19.0%). Informants mentioned the snails (“It makes someone sick just to look at it. It makes you vomit!”; Ilkishimu elder, Swamps), the warthog (“It’s really horrible! It makes you puke!” (Elderly woman, Swamps), the buffalo (“I just hate it naturally! I don’t even want to see it. It doesn’t make me happy...”; Ilkimunyak elder, Swamps). As for snakes, also profusely “naturally hated”, it is an animal whose creation by God is puzzling: “the snake... I just don’t know how God created it!” (Woman, Osilalei)⁵⁶.

The hyena is the ultimately repulsive animal, simultaneously displaying several of the “ugly” characteristics, as this (small) sample of quotes shows:

Hyena: I hate them! One leg is short and the colors are bad and the walking style is ugly. It’s ugly from all sides! (Woman, Osilalei)

There is nothing good about the hyena! If you mix the colors and the way it’s made! And its habits are so bad. (Ilkimunyak elder, Emeshenani)

The hyena is ugly pi (completely)! Because of the colors and the way it is made... It’s terrible! The way it stands is very bad. God really didn’t favor it! (Ilkimunyak elder, Emeshenani)

⁵⁶ And they are actively killed whenever people come across some of them (unless they are from a clan whose members do not kill the snake associated to their clan).

Hyena! I'm even surprised when I hear that the government is protecting it... Even its picture is terrible! It's not attractive when it is standing; it is not attractive when it is walking; it doesn't look good from the back and it doesn't look good in front. It is always useless. And it is the ugliest! I heard that when it eats, it vomits and comes back afterwards to eat the vomit! (Iseuri elder, Swamps)

Hyena is the only ugly one. The others are fine. (Specifically, what is ugly in the hyena?) The stomach almost touches the ground, as if it has drank too much water. It is very dirty, and always keeps its mouth open. If you look at it from far away, you think it has a disease. The hyena is very *otolo* (harsh, cruel, short-tempered, malevolent). Look at these smart animals (showing other animals in the book): their mouths are always closed! Not like this one! I think the hyena is even a witch (*olasakutuny*) (why is it a witch?) Because even when it meets a group of cows in the bush, it just kills them without eating them; it breaks their heads and then leaves them. Even if it kills an animal here, it still runs after all the animals just to kill them; it does not even eat them to finish them [sic]. Oh! (Looking at the pictures in book) Look at their hairs! (Iseuri elder, Emeshenani)

Paradoxically, and this illustrates, again, how variable aesthetic taste is locally, a most beloved and “beautiful” animal, the giraffe, is also found to be a “bad creation of God”:

The giraffe is too tall... So ugly! It hardly ever takes water from the ground; it's not able to eat grass and it only feeds on top of the trees. When there is a drought, they become skinny very quickly. I don't like the way they're made. God has created the giraffe very badly... (Inyankusi elder, swamps)

In sum, combining analyzes of qualitative and quantitative data on aesthetic judgment and value of wildlife species suggests that:

- 1) Amboseli Maasai aesthetically appreciate wildlife and do make sophisticated aesthetic judgment of individual species;
- 2) They ascribe different aesthetic value to different species;
- 3) They show a wide variety of opinions regarding what is “beauty” and “ugliness”; what are “beautiful” and “ugly” species;
- 4) When making these judgments, they draw upon a range of aesthetic criteria and standards that include paying attention to visual/physical characteristics of the

animals, as well as what I defined as the cultural, utilitarian and moral/psychological dimensions of aesthetics.

Having shown that, to Amboseli Maasai, “beauty” matters in their relationship with wildlife, next I explore the relationship between perceived beauty and ugliness of specific animal species, and preferences thereof. Then, I examine whether positive aesthetic valuation is related to support for the conservation of species.

Influence of aesthetic value on preferences for species and support for their conservation

In this section, I investigate whether 1) there is an association between aesthetic appreciation of individual species and stated preferences for them, and 2) whether we can predict support for a species’ conservation from its perceived beauty. After determining which species the informants “like” and “dislike”, I qualitatively investigate why these species are liked and disliked, and whether their respective beauty and ugliness were invoked to express these attitudes. Then, using Fisher’s exact tests and binary logistic regression analyses⁵⁷, I determine whether species’ perceived beauty and ugliness are associated to respective “likes” and “dislikes”. Finally, after exploring how aesthetic valuation and support for conservation of individual species vary with gender and where one lives (study area), I test if beauty is a predictor of people’s support for conservation.

⁵⁷ The response variable is categorical and binary.

The species that are “liked”

Most informants (64.7%; n=190) mentioned at least one species that they “like” (*anyor*)⁵⁸. Twenty “liked” species were listed in total. These preferred animals include “gazelles” (38.4%); giraffe (35.3%); zebra (25.3%); eland (21.1%) and wildebeest (12.6%). Mentioned by 10.0%, the lion is the preferred carnivore. The ostrich (8.4%), the elephant (6.8%), the oryx (4.7%) and the buffalo (3.2%) come next (Figure 4.8).

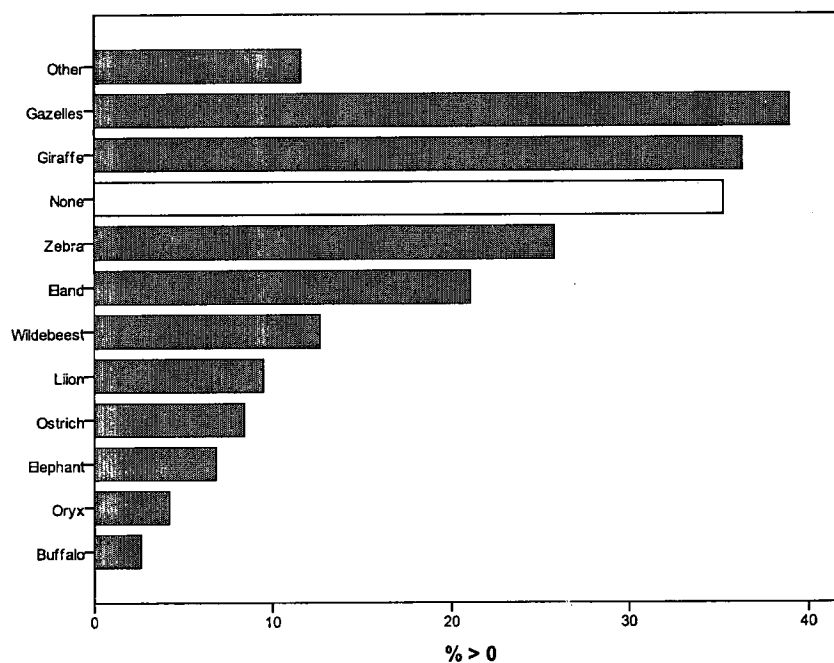


Figure 4.8: Species listed as “liked”. Values are percentages of informants who listed each species as “liked” (n=190; multiple species allowed). The red bars represent the eight species shown in Table 4.4. The “other” category includes species that were mentioned less than 2% of the time⁵⁹.

⁵⁸ *Anyor*: to love, to like (Mol 1996). My assistants translated it as “to like”. In Maa, the question was posed as follows: *Keti inguesi ashu ilcangit linyor?* (Are there wild animals, among both the harmless and the harmful ones, which you like?). Interestingly, very frequently, when answering this question, informants would rephrase it as “I do not hate species X”. Similarly, when answering questions about animal *beauty*, some informants would say “this species is not horrible” (*me torrono*). For example, “gazelles are not very bad” when people explained why they liked gazelles.

⁵⁹ I.e., “all the animals”, kudu, hare/rabbit, leopard/cheetah, hartebeest, “birds”, hippo, rhino, waterbuck, dikdik, and aardvark.

As many as 35.3% of the informants declared that they did not like any animal. They justified their answers with explanations that are familiar from Chapter 3 and that reflect how even asking this question is ludicrous: only livestock can be “liked” or “loved”, not wild animals. For instance, a woman from Emeshenani expresses her surprise at the question: “How can I like a wild animal? (*keatai inguesi naji enyorre?*)”. Others express a more neutral attitude: “I don’t think there’s any wild animal that I like because there is none that I keep on thinking ‘I like this animal’, ‘I like this animal’” (Iseuri elder, Emeshenani). Or, according to a younger man, an Ilkimunyak elder from the Swamps, “There is none about which I can say ‘I like it’ and there is none about which I can say ‘I hate it’”.

Those informants who mentioned species they liked then ranked “their” species from most liked to least liked. Again, they were allowed to give the same rank to more than one species. As shown in Table 4.4, species were listed as “the most liked” in the following proportions: “gazelles” (18.9%); giraffe (15.3%); eland (10.0%); zebra (6.8%); ostrich and elephant (4.7% each); lion (4.2%); and the wildebeest (2.1%).

Table 4.4. The top eight “liked” species (n=190). Numbers in parentheses are percentages

Species	Number of times species listed as liked	Number of times species ranked as most liked (1 st)
Gazelle*	74 (38.9)	36 (18.9)
Giraffe	69 (36.1)	29 (15.3)
Zebra*	49 (25.8)	13 (6.8)
Eland*	40 (21.1)	19 (10.0)
Wildebeest*	24 (12.6)	4 (2.1)
Lion*	18 (9.5)	8 (4.2)
Ostrich*	16 (8.4)	9 (4.7)
Elephant*	13 (6.8)	9 (4.7)

* denote species that were listed as both “liked” and “disliked”.

Of these species, only the giraffe is unambiguously liked. All the other species were also cited as disliked by other informants. This is the case of even the “peaceful” herbivores that nevertheless destroy crops (e.g. gazelles) and transmit diseases (e.g. wildebeest)⁶⁰. Even the “beautiful/good one”, the ostrich, can be aggressive and scary at times. The rankings of gazelles and giraffe confirm their “lead” as the preferred species. The eland, however, although the fourth most frequently listed as a “liked” species, is third in terms of how many times it was listed as the preferred species, thus surpassing the zebra.

Compared to how frequently zebra was mentioned as beautiful, zebras rank lower than the other herbivores in terms of general preferences. As beautiful as they may be, zebras are considered a nuisance by many because they strongly compete with cattle for grass. There is a similar reversal concerning the lion and the wildebeest. While the latter is more frequently mentioned as being liked than the

⁶⁰ Wildebeest transmit malignant catarrhal fever (MCF), which is deadly to cattle.

lion, the lion is more frequently listed as the favorite animal (2.1%). Again, I believe this says something about the complex love/hate relationship that Maasai have with lions and the ambiguous feelings that they elicit: if and when liked, the lion is so strongly liked that it ranks among the preferred animals. As we will see below, the same situation happens with the people who dislike the lion.

The “hated” species

Nineteen species, in total, were listed by 87.4% of the informants (n=190) as being “disliked” (*aiba*)⁶¹ (Figure 4.9) and ranked (Table 4.5).

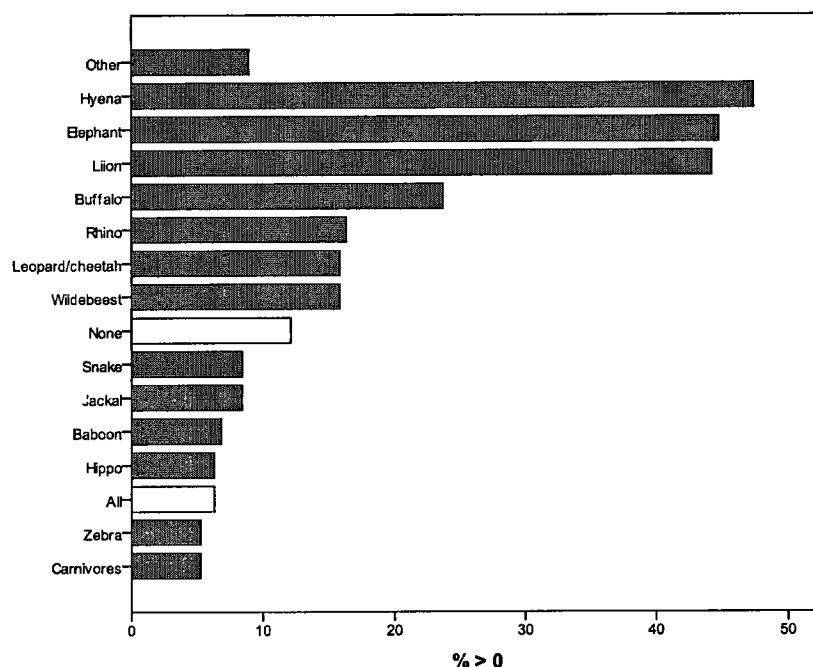


Figure 4.9. Species listed as “hated”. Values are percentages of informants who listed each species as “disliked” (n=190; multiple species allowed). The red bars represent the eight species shown in Table 4.5. The “other” category includes the species that were mentioned by less than 3% of the informants⁶².

⁶¹ *Aiba*: to hate, to dislike (Mol 1996). It is significant that my assistants always translated *aiba* as “to hate”. So, while some species are *liked*, others are *hated*. “Liked” is also sometimes rendered as “I do not hate” (*maiba*). This is something that my assistants usually said about my food, which I learned to take as a compliment.

⁶² I.e., gazelles, warthog, wild dog, ostrich, eland, porcupine and honey badger.

Table 4.5. The top eight “disliked” species. Numbers in parentheses are percentages (n=190).

Species	Number of times species listed as disliked	Number of times species ranked as most disliked (ranking 1 st)
Hyena	90 (47.4)	54 (28.4)
Elephant*	85 (44.7)	32 (16.8)
Lion*	84 (44.2)	39 (20.5)
Buffalo*	45 (23.7)	7 (3.7)
Rhino*	31 (16.3)	7 (3.7)
Wildebeest*	30 (15.8)	5 (2.6)
Leopard/cheetah	30 (15.8)	9 (4.7)
Snakes	16 (8.4)	7 (3.7)

*denote species that were listed as both “liked” and “disliked”.

Besides being considered the ugliest animal, by far, ever created by God (as we saw above), the hyena also leads in terms of how many informants expressed negative attitudes towards it: 47.4% listed it as being among the species they “hate”; and 28.4% ranked it as the most disliked. The hyena is closely followed by the elephant (44.7%; ranked first by 16.8%) and the lion (44.2%; 20.5% ranked it first). As we saw above, lion and elephant are among the species that are also listed as “liked” (albeit to a lesser extent). In contrast, the hyena is thoroughly and unambiguously “hated”: not one informant mentioned liking it. As we saw, no one listed it as “beautiful”, either.

That the black rhinoceros is mentioned as one of the hated animals, while it has been locally extinct since the early 1990’s, testifies to the depth of people’s dislike of it. Mentioning rhino in interviews often gave rise to emotional reactions from the informants, with older people calling their children and grand-children to come and see its picture on my African animals guidebook. Detailed explanations

would follow of how “bad” this animal used to be. Next I examine the reasons behind these stated preferences and “dislikes” and whether animals’ perceived beauty and ugliness contribute to these feelings.

Why are some species “liked” and others “hated”?

Using NVIVO and SPSS, I coded and quantified the reasons given by the informants (n=190) to explain why they like certain species and dislike others. By far, being perceived as “polite” (*ebor*) (i.e., being harmless to people and/or livestock; cited by 45.3%) is the most important in determining preferences for certain species, i.e., the gazelles, the giraffe, the eland, the wildebeest, the zebra and even the elephant. As an Iseuri elder from the Swamps explains: “I like all the non-problematic wild animals: giraffe, all the kinds of gazelles, kudu, zebra, waterbuck, and eland. Because they graze just like cows... They even graze together with the cows, they mix.” An Iseuri elder from Emeshenani likes...

the ones like giraffe, zebra, gazelles, oryx, eland: I like them because they’re just innocent like the Maasai. I like them all equally. Because none is harmful to my cows and they also cause no problem to me whatsoever.

Although less frequently mentioned, being “beautiful” and/or interesting to see (14.7%) nevertheless is the second most frequently mentioned reason (Figure 4.10).

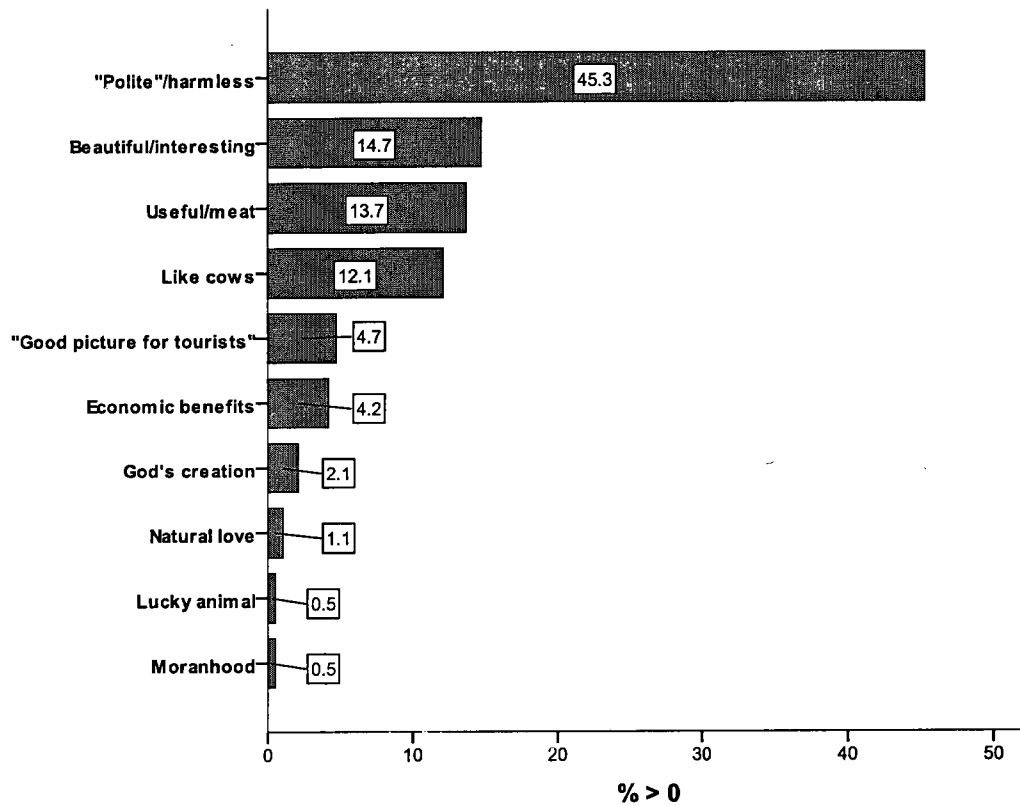


Figure 4.10. Reasons for species to be liked in general. Values are percentages of informants who mentioned each reason (n=190; multiple reasons allowed).

Animals that are liked because of their “beauty” and/or their “entertainment value” include lion, elephant, eland, leopard, cheetah, buffalo, giraffe, ostrich, gazelles, “birds”, oryx and zebra. The qualitative data show that the pleasant physical appearance and/or other aesthetic characteristics of these species contribute to or are even the main reason for their being preferred over other species. In the Swamps, an Ilkishimu elder explains that he likes the gazelles “because they are like goats in shape and don't cause any problem”. Another Ilkimunyak elder, from Osilalei likes both the giraffe and the zebra because of their “beautiful colors”. To an Ilkimunyak elder from the Swamps, the eland “is the best! The colors are good!” Another Ilkishimu elder from the same area explains that he

likes the eland “because it has a very good body configuration, just like the cow and it’s not aggressive to people and it doesn’t eat shambas and it doesn’t transmit diseases, so there is no reason for me not to like it”. Two other Ilkimunyak elders, respectively from the Swamps and Emeshenani, like the lion because they enjoy seeing it, “because they are good to look at”: “yes, the lion! I like it! If it passes by, I just like to watch!” and “despite its being dangerous [the lion is] good. I like the way it’s made. It’s just good to look at it, especially if it is not causing any problem...” Another Ilkimunyak Emeshenani likes it because “I just like to watch it, it attracts me when I see it. It’s just a good animal”. Thus, for some informants, the pleasure associated with seeing and watching some species makes them like them. This is especially striking considering that the lion is dangerous and among the most disliked species, as we saw. This suggests that enjoyment of the lion’s sight is important in determining preferences for it (below, I statistically test this hypothesis for both harmless and harmful species).

Other animals are liked because of a combination between their beauty and their harmlessness:

I like the ostrich because I just like to see them moving around. They have beautiful colors and they don’t eat grass. The zebra are beautiful, but they eat grass and destroy crops. Even the ostrich’s name, *esidai*... It means “good”. That’s why it got its name: it is all good; it has no problem (*metii eniamali*). It’s beautiful at the same time. (Iseuri elder, Swamps)

Some like certain species exclusively for aesthetic reasons. This is the case of an Ilkimunyak elder from the Swamps: “I like the lion because of its colors. The eland is the best because its colors are good! And I like the leopard, because of the colors”. For similar reasons, a woman from the Swamps likes “the elephant: I just like seeing it because it is extra big. And the buffalo is also big: I like to look at it!”

The three animals that this Ilkimunyak elder likes are “the zebra because it has beautiful colors; the giraffe because it has nice colors. And the ostrich, because why is it called *esidai*? Because it is beautiful! These are mine”. Or, again, another harmful animal whose aesthetic interest “saves it” is the elephant:

I like the elephant because I like to see it around if it is not eating the shambas. It's the biggest animal that I can see and I like to see the biggest animals all the time (Ilkishimu elder, Swamps)

Another aesthetic argument used by informants to explain why they like certain animals is the “good picture” that they have for tourists (4.7%). For instance, an Imbirikani GR Committee member, who is involved in the management of wildlife-based economic benefits for the GR, likes the zebra because “it has a good color, is harmless – it just eats grass – and they have a good picture; the giraffe too because it doesn’t eat grass, just trees. It’s harmless to people and just innocent. Tourists like its picture too”. Or, as an Ilkishimu elder from the Swamps explains: “I like the lion: they are very attractive... Even the tourists like them.”

Other justifications of preferences involve the animals being useful (by providing meat: 13.7%), their “being like cows”, their being part of God’s creation (2.1%), their being “lucky” (0.5%; see Chapter 3) and their being associated with moranhood (such as lions and the other big dangerous animals: 0.5%).

In contrast, an unattractive physical appearance is mentioned as a reason for disliking species by only 4.7% of the informants (n=190) (Figure 4.11).

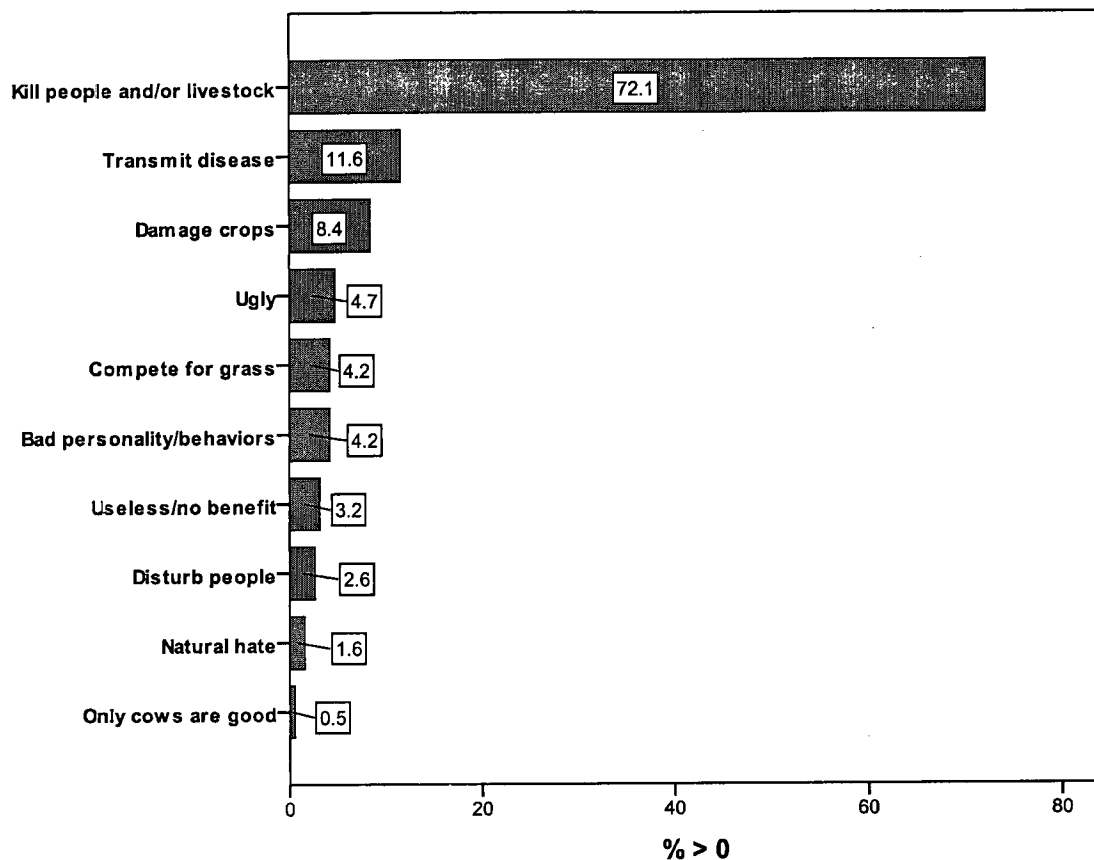


Figure 4.11. Reasons for being disliked. Values are percentages of informants who mentioned each reason (n=190; multiple reasons allowed).

This justification comes fourth, far after “killing people and/or livestock” (the strongest reason to dislike wild animals: mentioned by 72.1% of the informants), transmitting diseases to livestock (11.6%), and damaging crops (8.4%)⁶³. Those species whose unattractiveness was cited as a justification for their being “hated” include the hyena, the hippo, the buffalo, the elephant and the warthog. An Ilkimunyak elder from the Swamps explains: “I just hate the hyena. Just the way it’s made!” Or according to an *olmurrani* from the Swamps “The hyena, I hate it

⁶³ E.g., Malignant Catarrhal Fever is transmitted to cattle by wildebeest. There is also rickettsia (?) transmitted by gazelles to goats (*kurru konyek*).

completely! It's a coward and its looks are pathetic!" Speaking about the elephant, an Ilkimunyak elder from the Swamps explains:

I don't even like to look at the elephant. It has no good colors and a very big loose meat. If elephants were not protected, we would kill them all because we even don't like their appearance!

Only five people "hate" the warthog. Of these, three people gave exclusively aesthetic justifications for their dislike (because the warthog is an otherwise harmless herbivore that does not hurt people or livestock and does not compete with human interests). For instance, a woman from the Swamps hates warthogs because "they are so ugly! They have protruding teeth..." and "a bad shape and bad colors" according to another woman from the same area. Also, this woman from the Swamps: "I hate the warthog because it is so ugly: it looks like a pig, which I don't like". A girl from Osilalei informally mentioned that the warthog is among the animals that she dislikes because she hates its colors and "it looks as if it is carrying something on its face".

Other reasons for "hating" wildlife (after "ugliness") are, again, derived from the fact that these animals negatively affect people's lives and livelihoods. This includes their competing for grass with livestock (4.2%), negative personality or behavioral traits (4.2%; e.g., "I hate the rhino because it's mad. And the hyena because it's stupid!" said an Iseuri elder from Emeshenani), their lacking economic benefits (3.2%) and disturbing people (2.6%). Some animals are "naturally hated" (1.6%). For 0.5% of the informants, "only cows are good".

An Ilkishimu elder from Osilalei sums it up:

"The zebras are harassing me a lot because of my grass. But I don't like any, if you really want to know! I'm not getting anything out of them! They kill people, eat our cows, and eat our grass".

In general, while neither beauty nor ugliness are the most frequent explanations for preferring and hating some species, aesthetic arguments were nevertheless frequently used. This suggests the existence of a relationship between aesthetic appreciation and attitudes towards wildlife. Next, I statistically explore this relationship and whether there is a relationship between beauty and support for conservation of species.

Relationship between aesthetic appreciation and preferences

In this section, I explore the relationship between aesthetic value and attitudes, which is suggested by the qualitative data. To do so, I statistically test whether, for each species whose beauty and ugliness were cited as reasons for their being liked and disliked, there is a association between their “beauty” and their being liked; and between their perceived “ugliness” and their being disliked. I use one-sided Fisher’s Exact Tests to identify positive associations between these variables. The strength of these relationships is described by odds-ratios estimates and confidence intervals, which are computed using binary logistic regressions.

Beauty and preferences

Table 4.6 below shows how many informants who listed a certain species as “liked” also mentioned it as beautiful. I tested the association between their perceived beauty and their being “liked”. The association is positive for all the species (all $p < 0.05$).

Table 4.6. Strength of the association between the beauty of a species and its being “liked” a species (n=190).

<i>Species listed as “liked”</i>	<i>Informants who listed species as liked</i>		<i>Test statistics</i>		<i>Binary logistic regression</i>			
	<i>Beautiful (no)</i>	<i>Beautiful (yes)</i>	<i>Pearson’s χ^2</i>	<i>One-sided Fisher’s Exact Test p</i>	<i>β</i>	<i>SE</i>	<i>Exp (β) (odds ratio)</i>	<i>95% CI</i>
Gazelles (n=74)	43 (58.1)	31 (41.9)	29.554	<0.001	2.034	0.406	7.642	3.45-16.94
Giraffe (n=69)	44 (63.8)	25 (36.2)	19.404	<0.001	1.641	0.394	5.161	2.38-11.17
Zebra (n=49)	28 (57.1)	21 (42.9)	4.734	0.024	0.746	0.346	2.108	1.07-4.16
Eland (n=40)	23 (57.5)	17 (42.5)	17.131	<0.001	1.570	0.400	4.804	2.19-10.52
Lion (n=18)	5 (27.8)	13 (72.2)	49.878	<0.001	3.233	0.588	25.350	8.01-80.27
Ostrich (n=16)	12 (75.0)	4 (25.0)	11.821	0.008	2.073	0.694	7.952	2.04-31.01
Elephant (n=13)	10 (76.9)	3 (23.1)	5.770	0.048	1.611	0.734	5.010	1.19-21.13
Leopard/cheetah (n=3)	1 (33.3)	2 (66.7)	18.763	0.011	3.567	1.267	35.400	2.95-424.2

The odds-ratios show how the strength of this association varies across the species. The relationship between beauty and preference is the strongest for the lion. Indeed, few people like it without also finding it beautiful. Among the informants who find the lion beautiful, the odds of also liking the lion are about 25 times the odds of liking the lion among the people who do not find it beautiful. This suggests that the lion is mostly liked because of its appealing or interesting looks, since other characteristics (e.g. being a dangerous predator) are reasons enough to make it a “hated” animal. Its “beauty” and/or the interest its sight elicits in onlookers thus clearly contribute to this preference.

Also, regarding leopard and cheetah, harmful predators that have interesting “skin decorations”, the association between beauty and preference is positive and significant. However, the sample (n=3) is too small to rely on the respective odds

ratios for a conclusion. For another dangerous animal, the elephant, the odds of liking it among the people who find it beautiful are five times the odds of liking it among the people who do not find it beautiful. These odds are about eight times greater for gazelles, five times greater for giraffe, five times greater for eland and seven times greater for ostrich.

In contrast, the association is the weakest for the zebra: many people find it beautiful without liking it. Among the informants who think that zebra is beautiful, the odds of liking the zebra are only about twice the odds of liking the zebra among the people who do not think that zebra is beautiful. As we saw, zebras are strong competitors of cattle. And, thus, while zebra's beauty is undoubtedly recognized, its negative effects on livelihoods possibly contribute to its not being as *liked* as the other peaceful herbivores.

This analysis shows that, for some informants, beauty or their aesthetic interest contributes to making them like some species. This is especially the case with the lion and the elephant. While recognizing problems with some species, the informants admit that they nevertheless like them *because of* their beauty: "*although they eat my crops*" says a woman from the Swamps, "*I like the gazelles because they are beautiful*". An Iseuri elder from Emeshenani explains in detail the fascination that lions exert on him and how much he enjoys watching them, while acknowledging their "aggressiveness":

I like the lion, even though it is aggressive. If you drive along this road and see one, you have to stop and look at it! For example, if you find a lion and have enough time to watch it, you can imagine a moran. Also you can imagine a bull! So a lion builds up the mind so much! I don't know what's really inside the lion, but it must have something magic inside... It's really principled; he's a hero *tukul* (completely)! If it decides it is this way, it will be that way and that's it. Not a joke! It's very interesting to watch lions mating. [One of my sons] and I saw one lion mating with a lioness once. The lions had come out of the bush. It's automatic that

the moment they start mating, every 5 minutes they stop and then the male goes back. It lasts the whole day. At a time, that male dropped (after 5 minutes), saw us and so it ran to corner us and eat us. He came very close to us! But then he turned back and saw that the female was not following and that it had gone to the other side. So the male turned away from us very quickly. We both thought that we were going to be killed. So we were rescued by the lioness! The lion likes the lioness so much that the moment they start to mate, they don't want to be separated.

Ugliness and “hating” species

Next, I tested whether the perceived ugliness of species is statistically associated with their being “hated”. Test statistics and odds-ratios are shown in Table 4.7.

Table 4.7. Strength of the association between ugliness of species and “hating” them (n=189).

<i>Species listed as “disliked”</i>	<i>Number of informants who listed species as disliked</i>		<i>Test statistics</i>		<i>Binary logistic regression</i>			
	<i>Ugly (no)</i>	<i>Ugly (yes)</i>	<i>Pearson's χ^2</i>	<i>Fisher's Exact Test p</i>	β	SE	<i>Exp (β) (odds ratio)</i>	<i>95% CI</i>
Hyena (n=89)	38 (42.7)	51 (57.3)	0.101	0.432	-	-	-	-
Elephant (n=85)	71 (83.5)	14 (16.5)	1.271	0.173	-	-	-	-
Lion (n=84)	75 (89.3)	9 (10.7)	0.073	0.486	-	-	-	-
Buffalo (n=45)	43 (95.6)	2 (4.4)	0.546	0.362	-	-	-	-
Rhino (n=31)	30 (96.8)	1 (3.2)	1.314	0.223	-	-	-	-
Wildebeest (n=30)	24 (80.0)	6 (20.0)	7.103	0.017	1.427	0.571	4.167	1.36-12.76
Hippo (n=12)	10 (83.3)	2 (16.7)	0.501	0.370	-	-	-	-
Warthog (n=5)	3 (60.0)	2 (40.0)	0.869	0.319	-	-	-	-

Among these species, a positive relationship between a species being perceived as unattractive and its being “hated” only exists for the wildebeest. Among the people who find the wildebeest ugly, the odds of disliking it are about four times the odds of disliking it among the people do not find it ugly. In contrast, for the hyena and all the other animals, the association between their ugliness and disliking them is not significant. This suggests that other reasons to “hate” these animals, which are all perceived as harmful and dangerous, are stronger than their lack of beauty in influencing how people feel about them. Thus, this analysis shows that, although these species qualify as ugly, their physical ugliness is not associated with their being disliked.

In sum, the relationship between aesthetic appreciation and preferences for species or dislikes holds for *beauty* and is the strongest for the most dangerous and harmful animals (i.e., lion, elephant). The more detrimental an animal, the more pleasure associated with its sight is associated with liking it among the people who like it. The influence of beauty is weaker in the case of the peaceful herbivores, since they are “likeable” for their other characteristics too. While their beauty does not hurt their case, it is, however, not as important in influencing how people feel about them as among harmful species. Perceptions of beauty seem especially crucial in determining positive attitudes towards *detrimental* species.

On the other hand, there is no significant relationship between an animal’s ugliness and disliking it (except for wildebeest). While their perceived ugliness, again, probably does not help, they are “hated” fundamentally for the damages they inflict on people’s lives and livelihoods. In the next section, I take the analysis a step

further and test whether support for the conservation of species is related to their “beauty”.

Beauty and support for conservation

The species that should be “rescued by God”

To investigate whether informants considered some species more worthy to be conserved than others, I presented them with the hypothetical case of all the wildlife being in the process of disappearing from the land and of God (*Enkai*) giving people the power to rescue these animals. The informants were then asked to list those animals they would “rescue” if they were faced with this situation. A majority (77.9%; n=190) mentioned at least one species and, in total, eighteen species were named⁶⁴ (Figure 4.12). Overwhelmingly, the “usual” peaceful herbivores (gazelles: 45.3%; giraffe: 36.3%; zebra: 29.5%; eland: 25.3%; and even the disease-transmitting wildebeest: 14.2%) were more frequently mentioned as “to be rescued” than other species. Still, 8.4% and 5.3% of the informants would rescue the lion and the elephant, respectively.

⁶⁴ Again, I counted “gazelles” as one species because informants did not specify which gazelle species they were talking about. I counted leopard and cheetah as two different species.

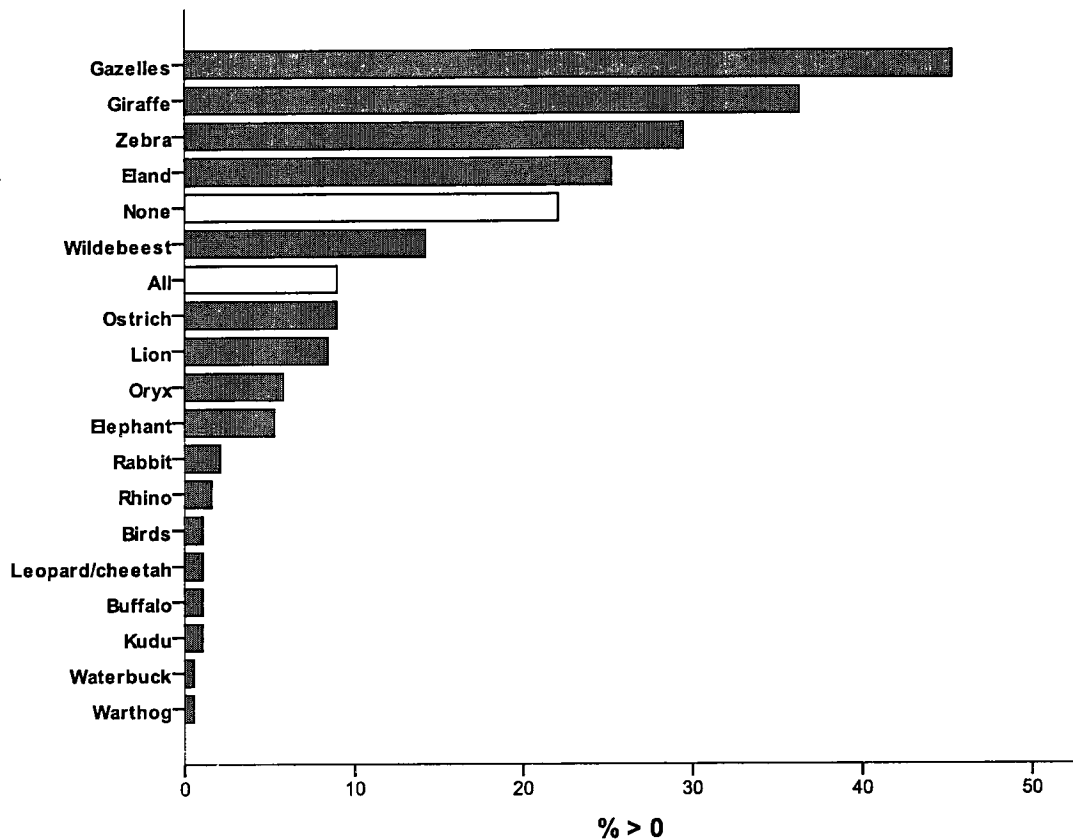


Figure 4.12. Species that informants would rescue if they were going extinct. Red bars represent species that were also listed as “beautiful” (see Figure 4.4 and Table 4.2). Blue bars represent species that were not listed as beautiful. Values are percentages of informants who mentioned each species (n=190; multiple species allowed).

It is interesting to note that while 64.7% of the informants said that there is at least one species that they like, as many as 77.9% of them would rescue at least one species. So, while people may not like many wild animals, this suggests that they nevertheless tolerate some of them. This supports Chapter 3’s findings on a tolerance towards wildlife that is based on their being part of God’s creation, independently of any benefit they could have.

Next, I qualitatively analyze and statistically test whether there is a relationship between some species' perceived "beauty" and the wish to "rescue them", which I take as reflecting support for their conservation. In other words, is beauty a predictor of support for wildlife conservation?

Association between beauty and support for conservation

The qualitative data show that beauty is one reason why some people would rescue some animals. Some would even do it exclusively for that reason. For instance, this Ilkishimu elder from Osilalei would...

rescue so many of them because I just like to see them graze over there. If it was possible to have somewhere [a protected area] to take them to, without having them killed, that would be much better!

An elderly woman from the Swamps would "rescue the zebra, the wildebeest, the eland, and the gazelles because they look beautiful on the land and, if you find them dead, you can make ropes and people can eat them if they're starving". As another informant explains, birds "will stay" too: "they are good to have around you because they are lively (*emurru*)"⁶⁵. Indeed, "It is good to have birds because some have beautiful color, they make nice sounds and they avoid boredom" (Ilkimunyak elder, Swamps). This Ilkimunyak elder, from Emeshenani even regrets the disappearance of the rhino: "I'd like the rhino to be here and to come back, because it's good to look at it". An even stronger example of the importance of aesthetic value is provided by an informant who "hates[s] the lion". Nevertheless, he says, "I would rescue it because I like to watch it" (Ilkimunyak elder, Emeshenani). Asked the reverse question ("If God gave you the power to make some species disappear

⁶⁵ *Amurru*: to be pleasing, to be enjoyable; *emurruna*: happiness, joy, gentleness, pleasure (Mol 1996).

from this land, which ones would you make disappear?”), an Ilnyankusi elder, also from Osilalei, replied “I’d like to have all the wild animals removed, except the ones that I said were beautiful” (i.e., buffalo, oryx, zebra and impala).

These statements strongly suggest that “beauty” and the pleasure of seeing some animals is determinant in shaping positive behavioral intentions towards them; of wishing to conserve them.

Table 4.8, however, shows that a positive association between species’ “beauty” and support for their conservation only exists for the eland, the giraffe, the lion and the elephant.

Table 4.8. Strength of the association between species’ beauty and support for their conservation (n=190).

<i>Species that informants would “rescue”</i>	<i>Informants who listed species as “to be rescued”</i>		<i>Test statistics</i>		<i>Binary logistic regression</i>			
	<i>Beautiful (no)</i>	<i>Beautiful (yes)</i>	<i>Pearson’s χ^2</i>	<i>One-sided Fischer’s exact test p</i>	<i>β</i>	<i>SE</i>	<i>Exp (β) (odds ratio)</i>	<i>95% CI</i>
Gazelles (n=86)	63 (73.3)	23 (26.7)	2.477	0.081	-	-	-	-
Giraffe (n=69)	48 (69.6)	21 (30.4)	8.301	0.004	1.055	0.375	2.871	1.38-5.99
Zebra (n=56)	35 (62.5)	21 (37.5)	1.821	0.120	-	-	-	-
Eland (n=48)	31 (64.6)	17 (35.4)	10.410	0.002	1.208	0.386	3.345	1.57-7.13
Ostrich (n=17)	15 (88.2)	2 (11.8)	1.222	0.257	-	-	-	-
Lion (n=16)	6 (37.5)	10 (62.5)	30.142	<0.001	2.610	0.571	13.596	4.44-41.62
Elephant (n=10)	5 (50.0)	5 (50.0)	30.846	<0.001	3.068	0.729	21.500	5.16-89.66

The odds-ratios show that the relationship between beauty and support for conservation is very strong for the lion: among the people who find it beautiful, the odds of also wanting to “rescue” it are 13.6 times the odds of wanting to “rescue” it among the people who do not find it beautiful. These odds are even greater for the elephant (21.5). But the results should be interpreted cautiously, as the sample size is small.

For lion and elephant, as we saw before with the association between beauty and preference, the positive aesthetic value of these harmful species is instrumental in determining that some people support their conservation. In contrast, for eland and giraffe, the strength of that association is more tenuous (respective odds ratios: 2.9 and 3.3). Probably, again, they are also well liked for their nice, non-threatening behaviors and thus their beauty does not add much in influencing support for their conservation. The association between beauty and support for conservation is not significant for zebra, gazelles and for ostrich.

Gender, study area, beauty and support for conservation

In this section, before determining whether beauty is a predictor of support for conservation while controlling for other variables, I explore how perceptions of beauty and ugliness and support for species conservation vary with gender and study area.

Gender potentially influences aesthetic appreciation of animals: as we saw in Chapters 2 and 3, gender influences exposure to wild animals in the course of daily activities, knowledge and cognition about them, as well as attitudes towards and types of relationships with them. We also saw in Chapter 3 how attitudes and

cultural models of human-wildlife relationships vary across study areas, partly as a function of exposure to tourism and conservation discourse, activities and income. So, it is pertinent to examine the association between all these variables. I expect that more men than women find dangerous animals beautiful. I also predict that harmful animals are more frequently found beautiful in study areas that are exposed to tourism (both GRs) rather than in Osilalei (private land; no tourism; no community-based conservation initiatives). Conversely, I predict that significantly more women than men find dangerous animals ugly.

Gender and aesthetics

Here, I examine the association between gender and perceiving species as beautiful. More men (78.0%) than women (51.9%) find at least one species beautiful ($\chi^2=14.315$; $df=1$; $p<0.001$). Table 4.9 shows that significantly more men than women found lion, elephant, buffalo, eland and leopard/cheetah “beautiful”. This confirms the prediction that less women than men see beauty in an animal if it is dangerous.

There is no association between gender and beauty for zebra, gazelles, giraffe and ostrich. Also, significantly more women than men found no species at all beautiful. The odds of men finding no wild animal beautiful are 0.3 times the odds of women finding no wild animal beautiful. In other words, women are more likely to find no wild animal beautiful than men.

Table 4.9. Strength of the association between gender and beauty (n=190). The reference category is “women”. Numbers in parentheses are percentages.

<i>Species listed as beautiful</i>	<i>Women listing species as beautiful (n=81) (reference)</i>	<i>Men listing species as beautiful (n=109)</i>	<i>Test statistics</i>		<i>Binary logistic regression</i>			
			<i>Pearson's χ^2</i>	<i>Two-sided Fisher's exact test p</i>	β	<i>SE</i>	<i>Exp (β) (odds ratio)</i>	<i>95% CI</i>
None (n=64)	39 (48.1)	25 (22.9)	13.223	<0.001	-1.138	0.318	0.321	0.17-0.59
Zebra (n=58)	20 (24.7)	38 (34.9)	2.267	0.132	-	-	-	-
Gazelles (n=41)	22 (27.2)	19 (17.4)	2.599	0.107	-	-	-	-
Giraffe (n=37)	12 (14.8)	25 (22.9)	1.954	0.162	-	-	-	-
Eland (n=37)	10 (12.3)	27 (24.8)	4.575	0.032	0.849	0.404	2.338	1.06-5.16
Lion (n=29)	3 (3.7)	26 (23.9)	14.587	<0.001	2.097	.630	8.145	2.37-27.99
Elephant (n=13)	1 (1.2)	12 (11.0)	6.965	0.008	2.292	1.052	9.897	1.26-77.76
Cheetah/leopard (n=12)	2 (2.5)	10 (9.2)	3.531	0.060	1.384	0.789	3.990	0.85-18.74
Ostrich (n=11)	3 (7.3)	8 (7.3)	1.126	0.289	-	-	-	-
Buffalo (n=10)	0 (0.0)	10 (9.2)	7.844	0.005	18.910	-	1.632E8*	-

* The odds-ratios tend towards infinite because numbers are too low for an estimate (zeros in the denominator).

The odds of men finding lion, elephant and cheetah or leopard beautiful are, respectively, about eight times, ten times and four times greater than the odds of women finding these species beautiful. This substantiates the prediction that men are more likely to find dangerous and/or culturally important animals (e.g. the lion) beautiful than women do. In support of this is also the fact that, interestingly, significantly more women (55.6%) than men (44.4%) use moral criteria ($\chi^2=4.233$; $df=1$; $p=0.040$) to justify ugliness in animals (the two genders do not differ in their use of the other aesthetic criteria).

Testing for the association between gender and finding species “ugly” yielded no significant result: men and women do not significantly differ in their assessments

of which species are ugly. Again, this suggests that beauty, more than ugliness, is the aesthetic dimension that matters in mediating the relationships between people and wildlife in the GAE.

Gender and support for conservation

Next, I tested the association between gender and support for conservation. In general, significantly more men (87.2%; n=109) than women (65.4%; n=81) would rescue at least one species if these were disappearing from the land ($\chi^2=12.736$; df=1; $p<0.001$). Table 4.10 shows the results by species.

Table 4.10. Strength of the association between gender and species' support for conservation. The reference category is "women". Numbers in parentheses are percentages.

<i>Species that "would be rescued"</i>	<i>Women (n=81) (reference)</i>	<i>Men (n=109)</i>	<i>Test statistics</i>		<i>Binary logistic regression</i>			
			<i>Pearson's χ^2</i>	<i>Fisher's exact test p</i>	<i>β</i>	<i>SE</i>	<i>Exp (β) (odds ratio)</i>	<i>95% CI</i>
Gazelles (n=86)	34 (42.0)	52 (47.7)	0.616	0.262	-	-	-	-
Giraffe (n=69)	29 (35.8)	40 (36.7)	0.016	0.511	-	-	-	-
Zebra (n=56)	28 (34.6)	28 (25.7)	1.763	0.122	-	-	-	-
Eland (n=48)	14 (17.3)	34 (31.2)	4.761	0.021	0.775	0.359	2.170	1.07- 4.39
Ostrich (n=17)	14 (12.8)	3 (3.7)	4.765	0.024	1.343	0.654	3.832	1.06- 13.81
Lion (n=16)	0 (0.0)	16 (14.7)	12.983	<0.001	19.443	-	2.779E8*	-
Elephant (n=10)	0 (0.0)	10 (9.2)	7.844	0.003	18.910	-	1.632E8*	-
Cheetah/leopard (n=2)	0 (0.0)	2 (1.8)	1.502	0.328	-	-	-	-

* The odds-ratios tend towards infinite because numbers are too low for an estimate (zeros in the denominator for lion, elephant and cheetah/leopard).

Significantly more men than women would rescue the eland, the lion and the elephant. This is particularly pronounced for lion and elephant, with men being much more likely to support their conservation (very large odds ratios).

Aesthetics and study area

In this section, I examine how perceptions of beauty vary according to where one lives (i.e., study area). Based on the qualitative data, I predict that residents of the Swamps (and of Emeshenani to a lesser extent), where community-based conservation and tourism are sources of income (even if mostly theoretical; see Chapter 2), will find charismatic (to tourist) but dangerous animals beautiful. I predict the opposite for Osilalei, where there is no tourism and income from conservation, as well as no dangerous animals left since subdivision of the GR. In the following regression analysis, Osilalei is the reference study area, against which the other two areas are compared.

As Table 4.11 shows, there are significant differences across the study areas regarding the number of people who find zebra, eland, lion, elephant and “none” beautiful. The differences are not significant for gazelles, giraffe, leopard, ostrich and buffalo.

As predicted, significantly more people in the Swamps find the zebra, the eland, the ostrich beautiful, as compared to Emeshenani and Osilalei. The odds of finding zebra beautiful in the Swamps are 2.45 times the odds of finding it beautiful in Osilalei (where zebras are disliked because of their competition for grass with cattle). In Emeshenani, these odds are 1.2 times bigger. The odds of finding the ostrich beautiful in the Swamps are about 3 times the odds of finding it beautiful in Osilalei.

Table 4.11. Strength of the association between species perceived beauty and study area. The reference study area is “Osilalei”. Numbers in parentheses are percentages.

<i>Species listed as beautiful</i>	<i>Swamps informants (n=64) listing species as beautiful</i>	<i>Emeshenani informants (n=65) listing species as beautiful</i>	<i>Osilalei informants (n=61) listing species as beautiful (reference)</i>	<i>Test statistics</i>		<i>Binary logistic regression</i>	
				<i>Pearson's χ^2</i>	<i>p</i>	<i>Swamps Exp (β) (odds ratio)</i>	<i>Emeshenani Exp (β) (odds ratio)</i>
None (n=64)	9 (14.1)	24 (36.9)	31 (50.8)	19.354	<0.001	0.158	0.566
Zebra (n=58)	27 (42.2)	17 (26.2)	14 (23.0)	6.340	0.042	2.450	1.189
Gazelles (n=41)	18 (28.1)	13 (20.0)	10 (16.4)	2.686	0.261	-	-
Eland (n=37)	23 (35.9)	7 (10.8)	7 (11.5)	16.692	0.000	4.328	0.931
Giraffe (n=37)	17 (26.6)	9 (13.8)	11 (18.0)	3.444	0.179	-	-
Lion (n=29)	14 (21.9)	14 (21.5)	1 (1.6)	12.896	0.002	16.800	16.471
Elephant (n=13)	7 (10.9)	6 (9.2)	0 (0.0)	6.746	0.034	1.984E8*	1.643E8*
Cheetah/leopard (n=12)	4 (6.3)	6 (9.2)	2 (3.3)	1.885	0.390	-	-
Ostrich (n=11)	8 (12.5)	0 (0.0)	3 (4.9)	9.363	0.009	2.762	0.000
Buffalo (n=10)	5 (7.8)	3 (4.6)	2 (3.3)	1.371	0.504	-	-

* The odds-ratios tend towards infinite because numbers are too low for an estimate (zeros in the denominator).

As expected, significantly more people in the Swamps and in Emeshenani find the lion and the elephant beautiful than in Osilalei. However, results must be cautiously interpreted because the sample sizes are small. It is interesting to note that it is in the GRs (Swamps and Emeshenani), where lions and elephants exist, where *olamayio* occurs and where there are income and benefits associated with these species' conservation that these species are perceived as beautiful. In Osilalei, subdivision has made these animals disappear: no Osilalei resident mentioned elephants, which only very rarely show up in the area.

Conversely, significantly more people in Osilalei find *no* animal at all beautiful as compared to Emeshenani and the Swamps. Looking at the strength of the association, we can see that in Emeshenani, the odds of finding *no* species beautiful are about 0.6 times the odds of finding no species beautiful in Osilalei. In the Swamps, compared to the odds in Osilalei, the odds of finding no species beautiful are 0.2 times greater than the odds of Osilalei. Osilalei residents are thus more likely to state that they find no species beautiful as compared to residents of the GRs.

Next, I tested for a possible association between study area and species' ugliness (Table 4.12).

Table 4.12. Strength of association between perceived ugliness and study area. The reference category is "Osilalei". Numbers in parentheses are percentages.

<i>Species listed as ugly</i>	<i>Swamps informants who listed species as ugly (n=64)</i>	<i>Emeshenani informants who listed species as ugly (n=65)</i>	<i>Osilalei informants who listed species as ugly (n=61) (reference)</i>	<i>Test statistics</i>		<i>Binary logistic regression</i>	
				<i>Pearson's χ^2</i>	<i>p</i>	<i>Swamps Exp (β) (odds ratio)</i>	<i>Emeshenani Exp (β) (odds ratio)</i>
None (n=19)	0 (0.0)	0 (0.0)	19 (0.0)	45.416	<0.001	0.000	0.000
Hyena (n=106)	41 (64.1)	46 (70.8)	19 (31.7)	21.869	<0.001	3.847	5.224
Elephant (n=38)	28 (43.8)	9 (13.8)	1 (1.7)	36.559	<0.001	45.889	9.482
Lion (n=19)	16 (25.0)	3 (4.6)	0 (0.0)	24.644	<0.001	5.385E8*	7.817E7*
Buffalo (n=13)	11 (17.2)	1 (1.5)	1 (1.7)	16.057	<0.001	12.245	0.922
Warthog (n=42)	7 (10.9)	26 (40.0)	9 (15.0)	18.412	<0.001	0.810	3.778
Rhino (n=16)	7 (10.9)	7 (10.8)	2 (3.3)	2.989	0.224	3.561	3.500
Hippo (n=20)	7 (10.9)	10 (15.4)	3 (5.0)	3.569	0.168	2.333	3.455
Wildebeest (n=15)	5 (7.8)	9 (13.8)	1 (1.7)	6.336	0.042	5.000	9.482

* The odds-ratios tend towards infinite because numbers are too low for an estimate (zeros in the denominator).

The study areas significantly differ in the number of people who find no animal, hyena, elephant, lion, buffalo, warthog and wildebeest ugly. The odds of finding these species ugly are greater in the Swamps and in Emeshenani than in Osilalei. Significantly more Swamps residents find elephant, lion and buffalo ugly. Significantly more Emeshenani informants find hyena, warthog, hippo and wildebeest ugly. These results are, however, not very conclusive for elephant, lion, buffalo and wildebeest because the sample sizes are small. Interestingly, while Osilalei is where the largest number of informants sees no animal as beautiful, it is also where more thought that no animal was ugly. These differences might, again, reflect differences in exposure and interactions with these species because of ecological differences across the study areas.

Study area and support for conservation

I repeated the analysis, this time comparing support for conservation of different species across the study areas (Table 4.13).

Table 4.13. Strength of the association between study area and support for species' conservation. Numbers in parentheses are percentages.

<i>Species that "would be rescued"</i>	<i>Swamps informants who listed species as "rescuable" (n=64)</i>	<i>Emeshenani informants who listed species as "rescuable" (n=65)</i>	<i>Osilalei informants who listed species as "rescuable" (n=61) (reference)</i>	<i>Test statistics</i>		<i>Binary logistic regression</i>	
				<i>Pearson's χ^2</i>	<i>p</i>	<i>Swamps Exp (β) (odds ratio)</i>	<i>Emeshenani Exp (β) (odds ratio)</i>
None (n=42)	15 (35.7)	11 (26.2)	16 (38.1)	1.682	0.431	-	-
Gazelles (n=86)	24 (37.5)	37 (56.9)	25 (41.0)	5.575	0.062	-	-
Giraffe (n=69)	23 (35.9)	25 (38.5)	21 (34.4)	0.228	0.892	-	-
Zebra (n=56)	16 (25.0)	30 (46.2)	10 (16.4)	14.337	0.001	N.S.	4.371
Eland (n=48)	21 (32.8)	12 (18.5)	15 (24.6)	3.539	0.170	-	-
Ostrich (n=17)	6 (9.4)	4 (6.2)	7 (11.5)	1.116	0.572	-	-
Lion (n=16)	3 (4.7)	13 (20.0)	0 (0.0)	18.066	<0.001	7.945E7*	4.039E8*
Elephant (n=10)	2 (3.1)	8 (12.3)	0 (0.0)	10.445	0.005	5.211E7*	2.267E8*
Cheetah/leopard (n=2)	0 (0.0)	2 (.1)	0 (0.0)	3.887	0.143	-	-

* The odds-ratios tend towards infinite because numbers are too low for an estimate (zeros in the denominator).

The number of informants who would rescue no species is not significantly different across the three areas. Looking at species, differences are significant for lion, elephant and zebra. Significantly more informants from Emeshenani would rescue the lion, the elephant and the zebra than in the other two areas. The odds of people wanting to rescue lion and elephant are greater in both Swamps and Emeshenani, as compared to Osilalei. These results make sense in light of the potential or actual sources of income that these species represent in these two areas, where there are tourism and CBC initiatives (see Chapter 2).

Support for conservation conditional on beauty controlling for gender and study area

In this section, I use binary logistic regression analyses to test whether the perceived beauty of a species is a predictor of support for its conservation (“rescuing” them) while controlling for gender and study area. Support for conservation is the response variable; beauty is the independent variable being adjusted for gender and study area (with gender and study area added as extra predictors in the regression model). Table 4.14 below reports odds ratios (exp (β)) and 95% confidence intervals (CI) for predictors of support for the conservation of eland, giraffe, ostrich and zebra.

Table 4.14. Binary logistic regression models predicting support for species conservation.

	Eland		Giraffe		Ostrich		Zebra	
Regression parameters	β (S.E.)	Exp(β) (95% CI)	β (S.E.)	Exp(β) (95% CI)	β (S.E.)	Exp(β) (95% CI)	β (S.E.)	Exp(β) (95% CI)
Beauty	0.981** (0.412)	2.666 (1.19-5.98)	1.100*** (0.383)	3.004 (1.42-6.36)	0.633 (0.877)	1.883 (0.338-10.50)	0.603 (0.366)	1.827 (0.891-3.744)
Gender (male)	0.690* (0.373)	1.994 (0.960-4.142)	-0.061 (0.315)	0.941 (0.508-1.745)	1.322** (0.658)	3.75 (1.03-13.6)	-0.532 (0.341)	0.587 (0.301-1.145)
Study area (Swamps relative to Osilalei)	0.187 (0.429)	1.205 (0.520-2.794)	-0.036 (0.387)	0.965 (0.452-2.059)	-0.256 (0.611)	0.774 (0.234-2.561)	0.387 (0.462)	1.473 (0.596-3.640)
Study area (Emeshenani relative to Osilalei)	-0.382 (0.448)	0.682 (0.284-1.641)	0.231 (0.379)	1.260 (0.599-2.651)	-0.650 (0.665)	0.522 (0.142-1.922)	1.481*** (0.431)	4.396 (1.89-10.23)

* p<0.10; ** p<0.05; *** p<0.01

Adjusting for gender and study area, results show that informants who find the eland beautiful are 2.7 times more likely to support the conservation of this

specie than people who do not find this animal beautiful ($p < 0.05$). Similarly, regarding giraffe as beautiful increases the odds of supporting its conservation by a multiplicative factor of 3.004. Beauty is a statistically insignificant predictor of support for the conservation of ostrich and zebra. Interestingly, males are 3.75 times more likely than females to want to “rescue” the ostrich, and about twice more willing than females to conserve the eland. Finally, all things held equal, residents of Emeshenani are significantly more likely (odds ratios = 4.396) than Osilalei residents to support the conservation of zebra. So, controlling for study area and gender, beauty is a predictor of support for conservation of giraffe and eland. Unfortunately, the data on lion and elephant are too sparse to carry out this analysis. Non-response and insufficient variation on the gender and study area variables precludes analysis of support for conservation of these two species.

Taken together, the results from these regression analyses, combined with insights from qualitative data, suggest that, depending on the species, there is a more or less strong association between aesthetic value (especially beauty), attitude towards it, and support for its conservation.

DISCUSSION

In this study, I investigated Amboseli Maasai concepts of beauty and ugliness in wildlife and examined whether aesthetic value is associated with attitudes and support for species conservation. In the next sections, I comment on the findings on Maasai aesthetic judgments and standards and relate them to socio-cultural characteristics of Maasai society. I then discuss the link that exists between

aesthetic value of some species, attitudes towards them and support for their conservation, as well as related implications for wildlife conservation in the ecosystem.

Exploring beauty and ugliness in wildlife in Amboseli

Aesthetic value of wildlife species

For numerous informants, many species of wild animals are a source of aesthetic pleasure. There is enjoyment in seeing and watching them, delight in their many colors, fascination and awe or just plain interest in their intriguing shapes and behaviors. On the other hand, other species are the source of precisely the opposite: their sight causes displeasure and even repulsion. This shows that Maasai undoubtedly recognize beauty and ugliness in wild animals when they see them.

As happens where “beauty” is concerned, a great diversity of opinions exists among the informants regarding which species they find beautiful and ugly. Few species are consistently found to be only beautiful and only ugly. It is true that gazelles and oryx, for example, are unambiguously considered beautiful, while hyena and warthog are overwhelmingly considered ugly by all the informants who mentioned them. However, other species, and this reflects the multiplicity of views held by Amboseli Maasai, are listed as beautiful by some informants and ugly by others. This is the case of the elephant, the lion, the buffalo, the rhino, the hippo, the wildebeest, the leopard and the cheetah.

Nevertheless, the data allow some generalizations about aesthetic preferences. For instance, the three most beautiful species (both in frequencies and ranks) are harmless herbivores (i.e., zebra, eland and gazelles) that have

characteristics color patterns (i.e., lines, stripes) and that are similar to livestock. The three ugliest animals include a carnivore (the hyena) and two unrelated herbivores (the warthog and the elephants). They have in common a “lack of color” (dull colors), odd, unbalanced body shapes, as well as behavioral traits that make them unattractive (see more below on the moral dimension of beauty).

Maasai ascribe aesthetic value to individual species, but also to the sight of species in combination. For instance, the vision of wild herbivores “grazing together with the cows” is enchanting; so is the sight of a superb starling on a green tree, or of “red gazelles” (impalas) frolicking against a backdrop of green grass. As one informant explained, wild animals are “colors that God put on the land to decorate it”. And, as I show below, color is all important in Maasai life and worldview. These perceptions of beauty in combinations of species also reveal Maasai integrated vision of “the land” and nature (see Chapter 3).

It is important to note that data on the perceived beauty and ugliness of species were collected through free lists rather than by asking people to comment on a fixed list of species. Thus, these perceptions also possibly reflect local presence/absence and/or abundance of species that result from varying ecological conditions across the study areas. For instance, baboons are mostly located in the Swamps, and thus a rare sight to most people of the other study areas; rhinos have disappeared from the ecosystem and thus younger people have never seen them. Such differences might account for a low number of responses for some of the species.

Aesthetic criteria

In this section, I discuss the various dimensions of wildlife beauty and ugliness and will show that they reflect Maasai cultural values and characteristics. I also touch upon how aesthetic criteria might be shifting as wildlife becomes increasingly commodified (seen in Chapter 3).

This study shows that Amboseli Maasai notion of beauty and ugliness in wildlife is inclusive and multidimensional. Most informants use a combination of criteria rather than only one criterion to explain animal beauty and ugliness. These include physical/visual dimensions, as well as psychological, cultural and utilitarian aspects.

The physical/visual criteria for both beauty and ugliness are, by far, the most frequently mentioned. It is thus clear that Maasai enjoy or dislike the *sight* of animals, even though their concept of beauty also incorporates utilitarian and moral dimensions. The translation issue I mentioned in the methods section suggests that “good” (*sidai*) and “beautiful” (“pleasing to the eye”: *atil*; but also *sidai*) can be, indeed, overlapping concepts in Maasai minds. However, this analysis shows that Maasai show aesthetic appreciation of wildlife also from a narrower visual point of view. Below, to facilitate the discussion of the multiple dimensions of beauty and ugliness and related aesthetic standards, I discuss the importance and meanings of these dimensions by following the four broad categories of criteria that I outlined in the results section.

The physical or visual dimension of beauty and ugliness

"Catching the eye": contrast and beauty

Color is all important in the appreciation of wildlife. In Amboseli skin color pattern is the most significant criterion of beauty, while "lack of color" (dull brown colors) is the second most important criterion for ugliness. This focus on animal skin color reflects color-based aesthetic principles at play in interrelated dimensions of Maasai life and culture. The main principle is contrast and it is central in Maasai cosmology, beadwork making and cattle color preferences. As I discuss below, the principle of contrast strongly informs and shapes Maasai aesthetic appreciation of wildlife.

Color is key in Maasailand. Appreciation, knowledge and use of colors and color combinations span several dimensions of Maasai culture, cosmology and everyday life. God (*Enkai*) is known as "He-of-the-many-colors" (*O-loo-Muain Kumok*) according to Mol (1996)⁶⁶. And the rainbow is known to children as "my father's garment" (Hollis 1905 (1970)).

As in other sub-Saharan African societies (e.g. Almagor 1983; Klumpp Pido 2001; Rainy 1989; Rigby 1966; Thompson 1999), there is, in Maasai culture, a strong symbolism associated with the black, red and white triad. Maasai are members of clans that belong in two moieties, the "Black cow" moiety (*Orok kiteng*) and the Red Bull one (*Odo mongi*) (Hazel 1978; Mol 1978; 1996; Ole Sankan 1971). *Enkai* (God) is either Black, in Her benevolent aspect (known as *Enkai Narok*) when

⁶⁶ Note how God's name is rendered as masculine here, which might reflect Father Mol's Catholicism. See Hodgson (2005) for a discussion of *Enkai's* gender.

she provides rain and life to people⁶⁷; or Red, when “in a bad mood”, causing drought and death (Hollis 1905 (1970); Kipuri 1983; Klumpp & Kratz 1993)⁶⁸. Ecologically, Maasai distinguish between black/blue (good) and red (bad). Contrasting with the redness associated with drought and bare land, a good rainy season that has “made the land very green” with grass is known as *olari orok* (the black season). Maasai also recognize a difference between the cool, humid, fertile, desirable (black/blue) highlands and the hot, dry (red) lowlands. This distinction has even a bearing on both the beadwork that people wear (Klumpp & Kratz 1993) and cattle colors preferences and selection (Finch & Western 1977). Finally, red is the color of everyday clothes, while black/blue (*narok*, the same color) is worn ritually by people in “holy”, liminal states (e.g. recently circumcised youth, young mothers and babies).

The red and white combination is also significant. For example, an Iseuri elder from Namelok explained how “In the past, elephant ivory was put around the neck of a red cow or of a red bull. It is nice to put white ivory on a red bull”. My assistant then clarified that white ivory and a red bull are a “good combination of matching colors”. Similarly, bringing together two other “well matched” colors, we have the strikingly black and white tail of the Black and White Eastern Colobus monkey (*Colobus guereza*), which is tied to brides’ and *isianकिन*’s necklaces at ceremonies (weddings, circumcisions) (Figure 4.12). Also, the ostrich feathers are

⁶⁷ See Chapter 3 for a discussion of Enkai’s gender.

⁶⁸ Think dark, rain-pregnant skies (rainy season: black) vs. cloudless, sunny sky and red earth (drought).

worn by *ilaibartak*, the male initiates. As we saw, the ostrich, the “beautiful one” (*esidai*) exhibits the beautiful red/white/black colors.



Figure 4.13. Bride wearing an *enkoroi* ornament made of the black and white tail of a *Colobus guereza* monkey (*enkoroi*) (June 2000).

Beadwork and adornment

A look at the rules that govern Maasai bead work reveals the aesthetic principles that people also bring to bear on their aesthetic evaluation of wildlife. Through the glass beads that they got at the end of the 19th century, Maasai women were able to express the Maasai aesthetic ideal in color code (Klumpp & Kratz 1993; Klumpp Pido 2001). Beadwork rules of color use are guided by the principles of contrast, complementarity and balance. The basic precept of color organization is “to catch the eye”, i.e., to maximize visual impact by juxtaposing colors of maximum contrast and complement. The black and white combination (that we see in zebra stripes; colobus tail; ostrich feathers) is the most contrasting and complementary of

color pairs and the red-white-black color set (visible in the ostrich), is the original and most basic color set. The other color sets are red-green-white-orange-blue, and yellow-red-white-black-orange. Collectively, these color sets are called the “beautiful colors” or “good colors” (*imuain sidan*) (Klumpp & Kratz 1993; Somjee 1993). Together, they delimit the range and orderings of colors that are aesthetically acceptable (Klumpp & Kratz 1993).

The most important and ubiquitous of motifs in Maasai art is the “cut”, which is an interruption, termination or enclosure of a field of contrasting color. The “cut” reflects the cultural belief that nothing should be continuous or unbroken. To do the opposite, such as creating pure fields of color in beadwork, would seem to claim the purity and power attributed only to God (Klumpp & Kratz 1993)⁶⁹. Cuts are always constructed of colors that are complementary or contrasting to the colors being separated or framed (Klumpp & Kratz 1993). We can see “cuts” in the coats of gazelles and other animals, which have lines separating fields of solid colors – and, of course, in the zebra’s dramatic black and white stripe. In beadwork, this pattern is named *enkoitiko*, from *oloitiko* (zebra). It is also the name of something else that is good: the thin white strata of clouds that appear in the sky after the rain (Somjee 1993).

As we saw, contrast and “cuts” are also appreciated in wildlife. The zebra, with its “well matched” black and white stripes is the most beautiful animal. Leopard, cheetah, and giraffe with their spots are also favorites, while some gazelles

⁶⁹ “Cuts” also feature in the clear differentiation of life into well-defined stages, which are marked by marked by ceremonies, hair shaving/cutting and, of course, circumcision (*the cut*).

and ostriches display the best combination of contrasting colors. These are the animals that “catch peoples’ eye”.

In beadwork, conventions of color combination are strict. Departures from this code are termed “ugly” or “wrong”(Klumpp & Kratz 1993). Similarly, “ugly” animals sport dull, “brown” colors and their skin is “not decorated”. Interestingly, aesthetic evaluation of humans is also based on contrast. People of northern European descent are deemed unattractive as blond hair and sunburned skin do not create the visual contrast that Maasai value. My brother and I were declared exceptions to this rule thanks to our locally unusual Mediterranean looks: the contrast created by our brown hair, black eye brows and white skin was well liked and we were “the first beautiful *wazungu*” that people had seen around (if I may boast) ⁷⁰.

Beauty in cattle and in wildlife

Cattle are primarily a feast for the eyes, and only secondarily a feast for the stomach (Coote 1992).

When discussing the color pattern of an animal – as they do for hours – the Dinka sound more like art critics than stockbreeders (Ryle 1982, quoted in Coote 1992: 251).

No, no wild animal is beautiful because none is a cow! (Ilterito elder, Osilalei)

Another essential aspect in a discussion of Maasai aesthetics is, as in other East African pastoralists, the appreciation and selection of cattle color

⁷⁰ From my field diary (02-26-04): Four women at a boma at which we stopped to report for the next interview. Leaning inside the car, staring at me and, as usual, laughing: “*ira sidai yie!*” (You are beautiful!) “*Kanyio?*” “*Erok*” (it’s black) they said, touching my very black eyebrows. They were calling attention to the contrast created by my eyebrows and white skin. This confirms what Koko and Simayo said of me, that I am a beautiful *esiankiki* because “you are so white with very black eyebrows”. Same thing for Francisco [my brother]: also very white skin and black eyebrows.

configurations. For Coote (1992), cattle provide *the* aesthetic locus of Nilotic pastoralists. Several authors (e.g. Almagor 1983; Coote 1992; Evans-Pritchard 1940; Infield et al 2003; Turton 1980) have shown that East African pastoralists have intricate and extensive cattle-color and cattle-color pattern terminologies (see Appendix 26 for Amboseli cattle colors). According to Coote (1992), the relationships of Nilotic pastoralists with their cattle shapes their systems of aesthetic values (Coote 1992): they see the world and life through a matrix of cattle colors and patterns (Coote 1992) or through “cattle colored lenses”, as Turton (1980) put it. Among the Suri pastoralists of Ethiopia, all color terms are derived from cattle coat color names (Abbink 2006). Dinka perceptions of color, light, and shade in the world around them is inextricably connected with their recognition of color-configurations in their cattle (Coote 1992). There is a close association between cattle color terms and names of environmental features and wildlife (see also Evans-Pritchard 1940). However, cattle color names are derived from terms for natural phenomena (and not the other way round) (Coote 1992). The same happens in Amboseli: an example is that the word for gray, *suyian*, derives from *esuyian* (pl. *isuyani*), the wild dog (it is also a cow color).

“Cattle color” terms rarely refer to pure colors or shades of colors, but rather to configurations of colors, or, patterns (Coote 1992). Here, too, contrast is preferred and sought. Coote (1992) explains Dinka preference for contrasting cattle color configurations by how strikingly contrasting patterns stand out in a landscape devoid of strong color and where most cattle are of a non-descript white, in addition to the universal appeal of contrast. Among the Pokot too, contrast in cattle hides is

the most desirable feature (Schneider 1956). Expectedly, the same happens among the Maasai (Mol 1978). Among Dinka (Coote 1992) and Maasai, “ugly” cattle are the cattle with dull colors (although, as one assistant explained, “there are no ugly cows: only beautiful ones and less beautiful ones”). As we saw, ugly wild animals, too, are “colorless”, with dull brown colors, and no “cuts” and “decorations”.

Other characteristics and qualities of cattle influence their aesthetic appeal. Coote (1992) lists, for the Dinka, sheen of the hide, horn shape, and bigness and fatness of the body, including the hump. Evans-Pritchard (1940) refers to fatness, color, shape of horns (which can be trained to obtain desired shapes), and hump as the pleasant aesthetic qualities in oxen among the Nuer. And Infield (2003) lists the following criteria among Ankole pastoralists: horn shape, hump, umbilical flap, head size and marks. The quality of some of these traits, such as horn shape, posture and body shape are also evaluated in wild animals and compared with their equivalent in livestock. Fatness is one of these. For Coote (1992) fatness in cattle is not appreciated because it leads to a better price at the market or to a larger meal. Similarly, when people say that a “fat eland” or a “fat zebra” are beautiful, no nutritional gain is anticipated since these animals are not typically eaten⁷¹. Rather, fat is synonymous of health and plenty – hence beauty⁷².

We saw earlier that informants extensively compared wild species to livestock when evaluating their beauty and ugliness. The aesthetic appreciation of

⁷¹ Zebras, in particular, are never eaten because they are seen as relatives of the domestic donkeys, which are also not eaten. They “stink” and their meat “stinks”. A person who has eaten a zebra will thus stink and their donkeys will assault them because they will smell that a cousin of theirs was eaten.

⁷² I venture this connection because I was similarly assessed. Coming back from a long break at home, after being sick in the field, my assistants commented on how I came back “very fat, very healthy and very beautiful”. Also, my “fat legs” were a common subject of admiration in the research team.

livestock informs the aesthetic assessment of wild animals; they provide an aesthetic standard by which wildlife's physical appearance, as well as its moral goodness (see below), are judged. With 22.6% of the informants mentioning that some species are beautiful because they are "like livestock" and with 1.1% mentioning that some species are ugly because they are "not like livestock", this research confirms that domestic animals are the epitome of beauty for Maasai.

Other visual criteria

Other physical characteristics were listed, albeit less frequently, to explain beauty and ugliness in wildlife. Size is one of them. In western society, large size drives preferences for animal species (e.g. Coursey 1998; Kellert 1996; Ward et al 1998). While some informants (8.6%) found big animals (e.g. elephant, buffalo, rhino) interesting and even fascinating (thus, "pleasing to the eye"), large size was more frequently cited as an ugly characteristic (11.6%). Being big confers these animals a threatening quality (and a real capacity to harm), which makes them "ugly".

Another characteristic of some animals that led informants to describe them as beautiful is their capacity to elicit interest and fascination. The fascination is greater the rarer the animal. In this, Maasai exhibit what has been described as a universal attraction to novelty and complexity (Van Damme 1996). Holmes Rolston III (1987) discusses how animals augment the value of natural area by increasing the excitement level through movement and the potential for surprise. To him, movement is crucial for beauty because movement is life. Maasai recognize as much, when they say that without wild animals on their land, they would be bored.

Maasai use other universal aesthetic principles when they declare animals ugly because of their unbalanced body shape or because of body parts that are out of proportion with the rest of the body. These universal principles are symmetry, balance and proportion (Van Damme 1996). Hyena, “the limping one” (*olngojine*), of course, is the paradigmatic asymmetric animal, whose moral defects are matched by its physical shortcomings (see below).

Another visual aesthetic criterion that people mentioned is an animal’s behavioral and/or physical proximity to humans. Contrasting with western society (see Kellert 1989; 1996), where, for example, non-human primates are highly appreciated, this feature is *not* attractive to Maasai. They find the closeness of elephants, monkeys and baboons to humans repulsive. Also, more generally, informants described as ugly those animals that have badly defined shapes or identities, the animals that “hang in between”. Compared to how well-structured Maasai society is in terms of age and gender (through the age-set system) and where group identity is well advertised through adornment and beadwork (Klumpp & Kratz 1993), “animals that hang in between” seem to “offend” Maasai attention to social categorization. Another difference with western society is the seeming absence among Maasai of preference for neotenic features and attraction for “cuteness” in animals. One informant even said that the hartebeest’s “big eyes”, a neotenic trait, makes it ugly. These two last examples suggest that we should be cautious when extrapolating western aesthetic preferences to other societies.

“More than meets the eye”: The moral dimension of beauty

The beauty of things is in the beholder’s brain – the human mind’s translation of their transhuman intrinsic value (Robinson Jeffers)⁷³

Character is beauty (Yoruba proverb, cited in Doris 2002).

The truth is that the African likens “beauty” to “goodness” and especially to “efficacy” (Leopold Senghor, cited in Ben-Amos 1989).

In Amboseli, the moral/psychological dimension of aesthetic appreciation of wildlife is key: it is the third most frequently used criterion in defining beauty and the second in defining ugliness. The “personality” of representatives of a species is more important in defining ugliness than in defining beauty.

The importance of this moral dimension shows in the fact that despite methodological efforts to frame the questions in such a way that informants distinguished between “good”/“bad” (in the western sense) and “pleasing to the eye” (or not), people’s explanations still featured arguments based on morality. So, moral goodness/badness overlap with beauty/ugliness in people’s minds (for example, the greedy, limping, ugly hyena). Among the Dinka, what is morally good is expected to display valued aesthetic qualities; and what displays valued aesthetic qualities is expected to be morally good (Coote 1992). Parsons (2007) argues that, what is called “beauty” in natural things is actually not about aesthetics: it is about positive feelings of love and sympathy directed at animals. He calls this conflation of moral regard, love and aesthetic value the “halo effect”, whereby people subconsciously infer moral excellence from physical attractiveness. Among the Maasai, it is actually moral goodness that bestows beauty upon the animal (including for people: see Biswas-Diener 2002).

⁷³ I am grateful to Dr. David Swift (NREL) for providing me with this quote.

Hence, in this, although they focus a great deal on visual and physical characteristics of beauty, Maasai display a broad conception of beauty, which Eaton (1999) defines as contextual. Based on the philosophical debate first proposed by Immanuel Kant, Eaton (1999) distinguishes two types of beauty. A formalist, Kantian notion of beauty sees beauty as “pure”, valueless, conceptless and apprehended through direct perception of color, rhythm, meter, balance and proportion. Instead, the Maasai can be said to display a contextual notion of beauty that is influenced by knowledge of the objects being valued and moral judgment.

For Eaton (1999), a formalist notion of beauty characterizes Western concepts of beauty. Indeed, I exhibited this bias as I initially focused my research questions on formal aesthetic characteristics of wildlife. In African cultures, however, descriptions of objects or events as “beautiful” do not require distinguishing “what is it for?” from “how does it look?” (Eaton 1999). For her (Eaton 1999: 14),

“Why something is made, who is making it, what is it made from, and the satisfaction taken in the apprehension of and understanding of all these is as or more important than pleasure taken in the apprehensions of formal qualities alone.”

Along the same lines, Ben-Amos (1989), in her review of African art from a social perspective, cites Cole (1982: 175) who discusses how the Igbo adjective *mma* signifies moral goodness, functional usefulness, beauty (artistic or physical), enjoyment (as of a performance), suitability or fit. Most African aesthetic systems are not of the formal kind and there is commonly a link between aesthetic and ethical criteria (Cole 1982). Ben Amos (1989) also cites Thompson (1971) and his work on Yoruba aesthetics that shows that the standards that Yoruba apply in

aesthetic evaluations are both formal and moral. To him, those very characteristics like symmetry, clarity of mass and line, and straightness that scholars see as manifestations of a *formal* aesthetic are better understood as linked to essential ontological notions of nature and essence. This does not make them less aesthetic but aesthetic in a different way. Thus, for Ben-Amos (1989), studies of African aesthetics cannot stop at formal evaluations or at understanding associated cultural values: they must also investigate ethics and ontology, concepts of goodness and of the nature of humans and their world.

As we saw, for the Maasai too, character and essence are central to defining “beauty”. It is too bad for the hyena that, on top of its reprehensible behaviors and dubious moral traits, it limps, stinks, “lacks color” and has lowered buttocks. My interpretation is that, to Maasai, these physical characteristics compound and reflect the hyena’s moral deficiencies. The lion, on the other hand, also a harmful animal that affects lives and livelihoods, not only exhibits impressive visual characteristics (strength, size, rarity), but also admirable moral features: it is brave and “eats like a moran, eating its food all at once” (in contrast with the hyena and wild dog that “bite, eat, and come back for another bite, even when the animal is still alive”. To some Maasai men, the lion is a symbol of moral excellence and all the more beautiful because of that, no matter how negatively it affects humans.

I would agree with Ben-Amos (1989) when she says that one reason for the lack of progress in the study of African aesthetics may be that scholars have been working within one particular aesthetic framework to gather data from people who may well be working within another. My experience exploring Maasai aesthetic

values of wildlife supports this idea. I started my research under the assumption that Maasai do not ascribe aesthetic value to wild animals. This was compounded by the fact that after time in the field, I was yet to hear someone comment on the “beauty” of wild animals. Hence, I framed my questions from a Western, formalist, perspective that focused strictly on visual aspects of Maasai aesthetic judgment. In time, and still in the field, I was eventually forced to broaden my own aesthetic framework to accommodate the additional dimensions that Maasai include in their definition of beauty, especially its very important moral dimension. While there is some limited anecdotal evidence supporting this idea (see Biswas-Diener 2002 for a journalistic analysis of Maasai perceptions of human beauty), I believe my study is the first one to explore this moral dimension of beauty, both for wildlife, and in general for the Maasai.

We saw above that gender has a bearing on which animals one finds attractive or ugly. Interestingly, this also happens regarding the moral dimension of aesthetic value. More women than men cited moral criteria to explain their aesthetic preferences. And more females than males perceive harmful and dangerous animals as ugly. We also saw in Chapter 2 that women are more scared of wild animals. This fear leads to perceptions of ugliness and it probably related to a lesser exposure to wild animals in the course of daily life. Men, in contrast, more frequently interact with some species in the context of their daily activities and are more knowledgeable about the economic benefits of wildlife on the GRs (see Chapters 2 and 3). This, again, is evidence of Maasai adherence to a notion of contextual beauty.

“Cultural” criteria of beauty

Only the cow is beautiful and nicely created. The beauty of wild animals is only for morans⁷⁴ (Ilanyankusi elder, Osilalei).

The characteristics of animals that I categorized as being “cultural” reflect cultural dimensions of Maasai society. These apply to animals that are associated with cultural practices in people’s minds. The practices themselves and/or people’s participation in them (such as in the lion hunt and the communal rejoicing that follows a successful hunt) are considered beautiful. And so are the wild animals associated with these practices. As we saw in Chapter 2, however, under the influence of religious conversion, formal education and economic diversification, these practices are losing ground. So may the aesthetic appeal of the species associated to them.

“Utilitarian” criteria of beauty

I classified as “utilitarian” the characteristics of animals that relate to animals providing useful services or products (meat, other uses, income), as well as when people referred to the animals’ “good” or “bad picture for tourists”. Utility contributes to an animal’s “beauty”.

Again, this fits the definition of contextual beauty (Eaton 1999). In this, the Maasai differ from the Pokot, Nilotic pastoralists of northern Kenya, whom Schneider described as making a distinction between what is utilitarian and useful in daily life and what is beautiful. To Pokot, “beautiful things have only the function of pleasing the eye and only the function of enhancing non-aesthetic things”

⁷⁴ “*Ilmurran ake ooyiolo enkishiaa oonguesi*”: literally, “It is only morans who know the beauty of wild animals” (through their participation in the lion hunt, *olamayio*).

(Schneider 1956: 106). In contrast with the Maasai, they have a word for “good” and a different word for “pretty”, “beautiful” and “pleasant to look at”. This “beautiful” term applies to both “beauties of nature” and human artifacts (Schneider 1956). While it was possible to find this distinction in Maasai language, however, most commonly, Maasai use the word *sidai* for both “good” and “beautiful”. For Maasai, “beautiful things” can be beautiful also *because* they are useful.

Within the same person, aesthetic value changes over time (Eaton 1999). The use by Maasai of the “good/bad picture” expressions reveals an understanding of tourism, sensitivity to tourists’ own aesthetic preferences and incorporation of the tourism value of some species. This reveals the process of commodification of wildlife that I described in Chapter 3. On the GRs, wild animals are becoming “metaphorical cows” as they are increasingly seen as conceptually close to cows: they are now useful, income-generating and “taken care of” by employed “shepherds” in “their areas” (see Chapter 3). This is especially the case for the charismatic, large, dangerous animals of high conservation value. As we saw, however, these animals (such as elephant, rhino, buffalo, and hippo) have several characteristics that would traditionally disqualify them as “beautiful” (i.e., scary, big, “colorless” etc). Tourism, however, is leading to their being reconsidered as “beautiful”. This is another hint at the depth and intensity of Maasailand’s current socio-economic and cultural changes.

Although this study did not aim at comparing Maasai and western aesthetic appreciation of wildlife, similarities but also differences emerged. From his research on aesthetic preferences for penguin species, Stokes (2007) derives generalizations.

To him, some of the species that “*humans* [my emphasis] find most appealing”, such as the panda, elephant and zebra have “very little color” (Stokes 2007: 367). Maasai would, of course, beg to differ. While they would agree with Stokes that elephants are mostly “colorless”, zebra, instead, have the “best colors”. By the same token, Maasai would almost certainly find the panda “colorful” and thus attractive, thanks to its “well matched” black and white colors. It is thus important to study aesthetics from a local perspective, in order to avoid blanket generalizations about “human aesthetic preferences”. While some human aesthetic preferences might have an evolutionary basis (e.g. phobias of snakes and spiders), the cultural basis of some Maasai aesthetic criteria are a caution against such generalizations. Especially regarding dangerous animals of high conservation status and tourism value, there can be little overlap between westerners’ preferences and those of rural Africans who are threatened by those same “beautiful” animals in their daily lives. However, in this study, we also see that aesthetic values of Maasai seem to be shifting under the influence of tourism and conservation, to become closer to westerners’.

Association between aesthetic value and support for conservation

The second broad research question I addressed was to determine whether there is an association between how Amboseli Maasai aesthetically value wildlife species, their preferences for those species and their support for their conservation. First I looked at preferences for species and dislikes thereof; then I explored why species are liked or disliked and determined whether aesthetic judgment is associated with these preferences. Next I investigated whether perceived beauty of some species is associated with support for their conservation.

I showed that how much a species' beauty is associated with preference for it and support for its conservation depends on the species. The most notable result was to find that among those animals that had strongly "unlikable" characteristics (such as lion and elephant), beauty was strongly associated with their being liked. Beauty is thus a determining factor for support of conservation of those species that have good reasons to be "hated" by Maasai. The more harmful an animal, the more its beauty or aesthetic interest is critical in determining preferences for it. This was less the case among harmless animals: their beauty does not contribute much in making them "likeable" (and worthy of being conserved).

The conflation between visual and moral dimensions of beauty that I discussed above, however, makes the question of whether "beauty" drives preference and support for conservation tricky to answer. Rather than asking whether an animal is liked because it is beautiful, the question could also be whether an animal is considered beautiful because it is "good" and "likeable". So, does "beauty" (in the sense of "external beauty") come first, or does "moral goodness" (its "personality"; its usefulness; let's call it "internal beauty")? Are these two aspects even distinguishable among the Maasai? This study suggests that they might be too entangled to be easily differentiated. Indeed, regression analyses do not allow commenting on causality. However, the qualitative data show that the two situations occur in this study population: for some informants and for some animals, moral qualities (and lack thereof) contribute to their being perceived as beautiful and ugly. While for others, their attractive physical appearance clearly determines preference for them and even support for their conservation. In other words,

sometimes the “internal beauty” of an animal makes it “beautiful”; in other cases, it is clearly their “external beauty” that drives preferences for them and support for their conservation.

Implications for wildlife conservation

This study’s findings have implications for wildlife conservation. First, it unambiguously shows that Maasai display sophisticated aesthetic judgment of wild animals. Beauty does matter, in Maasailand, and this includes how Maasai relate to and value wildlife. This finding should contribute to a reconsideration of how rural Africans are depicted in their relationship with nature. It is time to recognize that African rural people, no matter their level of economic poverty, also appreciate natural elements for their beauty’s sake. It is time to explore how aesthetic values mediate the relationship to people’s environment in developing countries, in the same way that this topic has been investigated in the West.

Secondly, showing that “beauty” is an important influence in people’s attitudes towards wildlife in Amboseli confirms that, as Barrett & Arcese (1995) have argued, considering only the income-generating and food-providing role of wildlife is not sufficient to explain interactions between people and wildlife in sub-Saharan Africa. Other authors have, too, recently argued against the supremacy of economic value as the fundamental premise for conservation in Africa. Gadd (2005) argues that it is important to build upon non-financial respect for wildlife to devise conservation strategies. If the motivation to conserve wildlife becomes purely economic, and non-economic values, such as the aesthetic ones, are ignored or lost, the effects could be negative if financial incentives to conserve wildlife are

discontinued. This aspect is all the more pertinent now that a global economic recession reminds us of how flimsy the tourism industry can be as a basis for biodiversity conservation.

Acknowledging and building upon aesthetic values of wildlife could thus be advantageous to conservation efforts. As Thompson (1995) argues, an environmental aesthetics requires that human perceivers value natural things for what they are. However, the current trend in conservation biology is opposed to this: community-based approaches to conservation strictly focus on promoting the economic value of wildlife and other natural *resources* to local people. This may influence perceptions of wildlife in the direction of valuing them more for their economic benefits and less for their “beauty”. Although the data on this are limited, this study suggests that this shift is underway in Amboseli. Also, Kiester (1997) argues that the aesthetic value of biodiversity is *immediate* and durable, as opposed to its commodity value that is, usually, in future (e.g., drugs to discover etc). The same could be said about Amboseli Maasai. For them, the aesthetic value of wild animals is there and it is strong. Wildlife’s economic value, instead, is being promoted by conservation initiatives, it is new and, as we saw in Chapter 2, it is in the future: most people have not (yet?) directly benefited from wildlife. Again, these economic benefits might never be realized. But building up these economic expectations might “kill” non-economic reasons for which animals are tolerated and even liked. So far, though, perceived beauty seems still important in mediating relationship with wildlife.

This research clearly shows that animals, even the most dangerous ones, are appreciated, tolerated and even actively sought for the aesthetic delight they provide. Another implication for conservation of showing that wildlife beauty matters to Maasai is that valuing wildlife from an aesthetic point of view, and thus in general, depends on actually *seeing* those animals. The power of the aesthetic appeal of animals as a motivator for conserving biodiversity remains latent in people who have not experienced it and thus will not miss species because they have never seen them (Stokes 2006 quoted in Stokes 2007). This concern could be emitted for the GAE: as land tenure is changing from communal to private, the most charismatic and endangered species have disappeared, as happened in Osilalei. Younger people there (and in other parts of the ecosystem) have not seen elephants and lions, let alone rhinos (that are extinct throughout the ecosystem)⁷⁵. In addition, few locals have visited Amboseli NP, where they could more easily see these animals. In this process, Amboseli Maasai might be losing some of the connection and familiarity they had with wild animals, on which is based their aesthetic appreciation. Stokes (2007) argues that providing opportunities for the public to experience biodiversity through images, exhibits and direct contact is an important means of raising support for conservation (Stokes 2006 quoted in Stokes 2007). Even some of my informants profusely recognized the educational importance for children and people in general of being able to see wild species:

Wild animals are beautiful to look at, and so children can differentiate them... Between those that are polite and those that are aggressive (Ilkimunyak elder, Swamps).

⁷⁵ Except for a small population that was recently shown to survive in the Chyulu Hills, on Imbirikani GR (Interview data; Anonymous 2003).

Future research

The topic of aesthetic value of wildlife would deserve a more in-depth treatment, in general because it has been grossly ignored up to now, and specifically for the GAE. Unfortunately, the questions for this study were asked as part of a broader interview guide and so not enough time was spent deeply probing for data on aesthetics. A less exploratory study could use questions on a fixed number of species, instead of relying on free lists. Showing pictures of the animals could also eliminate the effect of geography on species perceptions. Alternatively, using free lists, a saliency study could be performed (Bernard 2002). Also, it could suggest how species cluster together on the basis of their “beauty” and “ugliness”. These approaches would contribute to a deeper examination of wildlife-related aesthetics. Another potentially enlightening avenue for future research could be a comparative study of Maasai and Western aesthetic perceptions of wildlife species. More specifically, comparisons could be drawn between pastoral and non-pastoral populations (farmers, urban dwellers etc).

CONCLUSION

Considered together, the different results of this study give a picture of how Maasai aesthetically value wildlife and thus contribute to the limited scholarship on Maasai aesthetics (see Klumpp (Pido) 1989; Klumpp & Kratz 1993; Klumpp 1982). This research unequivocally demonstrates that Amboseli Maasai enjoy the sight of and ascribe aesthetic value to wildlife. Paraphrasing Thompson (1995: 305), one could say that wild animals provide Amboseli Maasai with “a joy of the senses, or a

spur to the imagination and intellect". Maasai recognize differences in species' aesthetic appeal and make sophisticated judgments about the "beauty" and "ugliness" of the wild animals with which they share the land. These judgments are based on well defined aesthetic principles and standards. This is a significant result since the topic of aesthetic appreciation of wildlife has not been addressed in Africa. I also believe that this result is particularly relevant in light of a bias (that I see reflected in this lack of studies) that frames rural Africans as engaged in a daily struggle for survival that makes them oblivious to natural beauty; that they are too poor and unsophisticated to have an aesthetic appreciation of nature. However, I show here that Maasai, as much as anyone else, aesthetically judge wildlife, as much as they do other aspects of their lives.

When they judge the aesthetic qualities of wildlife, Maasai, in part, deploy principles that govern the making of beadwork and aesthetic appreciation of cattle. Also, there is both an important moral dimension to beauty and an aesthetic dimension to not "liking" and "disliking" wildlife species. Thus, although "external beauty" is no doubt important to Maasai, it is tricky to disentangle "pleasing to the eye" and "pleasing to the soul" (the moral dimension). Eaton (1995: 155), indeed, urges us not to carve out a unique niche for the aesthetic. She argues, and I concur, that "human valuing is holistic. We rarely experience something purely aesthetically or purely ethically or purely religiously or purely scientifically etc". Maasai, with their inclusive, contextual and multidimensional concept of beauty, remind us of just this point.

The association between beauty, preferences and support for conservation that is suggested in this study calls our attention to the importance of aesthetics for conservation. I believe this is an aspect of human-wildlife relationships that conservation biology should recognize, explore and potentially build upon. Aesthetic valuation depends on *seeing* the wild animals. Thus, conservation initiatives in the ecosystem should also aim at connecting people visually with wild animals rather than separating them through land use restrictions and other restrictions (also, as we saw in Chapter 3, people actually desire that spatial separation too). Although this might seem absurd, many young people in Amboseli have not seen certain species that are highly familiar to westerners. On *seeing* them depends their future aesthetic appreciation and, thus, a potential wish to conserve them.

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CHAPTER 5

“WHAT IT ALL MEANS”: CONCLUSION AND IMPLICATIONS

INTRODUCTION

As I am nearing the completion of my dissertation, one of my committee members, Dr. Jeffrey Snodgrass, challenged me to discuss “what it all means” in this concluding chapter. I will follow this vague guideline and explore what the findings of this study of human-wildlife relationships in the Greater Amboseli Ecosystem (GAE) “mean” to the different actors (i.e., the Maasai, the wildlife) and in terms of pastoral livelihoods and wildlife conservation. I will summarize the results of the three data chapters; synthesize the respective insights and relate these to theoretical and practical issues of conservation and livelihoods in Amboseli, a pastoral system in socio-economic transition.

Chapter 2 - Attitudes towards wildlife in a pastoral system in transition, southern Maasailand, Kenya

In this first data chapter, I investigated attitudes towards wildlife across three study areas that contrast in their land tenure and land use situations, and in terms of their access to economic benefits from tourism and conservation.

Attitudinal studies are commonly used in evaluations of community-based conservation initiatives or to assess the effect of the creation of protected areas on local human populations. In social psychology, attitudes are defined as organizations of beliefs about an object or situation that predispose to respond favorably or unfavorably to a commodity, person, institution or event. They are seen as antecedents or determinants of behaviors (Ajzen & Peterson 1988; Rokeach 1966). Because attitudes can be determined through surveys, which are easier to carry out than behavioral observations, studies of attitudes towards wildlife and conservation have been tools of choice in guiding management and policy-making in conservation.

In the GAE, several initiatives were developed to compensate pastoralists for loss of access to grazing (e.g. because of the creation of Amboseli NP) and for human-wildlife conflicts, a study comparing how attitudes vary across populations that are characterized by different socio-economic situations can be enlightening in determining the factors that underlie different attitudes towards wildlife. In particular, we can test whether providing economic benefits from wildlife promote positive attitudes.

In this study, I first characterized the three study areas ("Swamps" in Imbirikani group ranch (GR); "Emeshenani" on Olgulului-Lolarrash GR; and "Osilalei" on Osilalei former GR) and the interviewed members of randomly selected households (n=191) regarding their socio-economic characteristics. These data confirm that these three areas are strongly contrasting, but also that they show a great deal of spatial correlation between study area and certain variables. This was

not anticipated and makes inferences from statistical results tricky (e.g. religious affiliation and formal education level vary geographically; land tenure and Maasai section membership perfectly overlap).

Next, I determined the availability of wildlife-based economic benefits at the GR level and their distribution at the household level. One major finding is that there is a discrepancy between the benefits that are theoretically available to GR members (i.e. school bursaries, financial aid, employment in tourism) and what household members actually get. The actual number of households that reported at least one of these benefits is low. Informants profusely complained about the inequitable distribution of the benefits, which they attributed to misappropriation by their leaders (GR committee members). There is also some confusion and ignorance in informants' minds concerning the origin of some benefits. In many cases, even when some households were benefitted, people did not always associate these economic benefits with wildlife.

Next, I attempted to quantify the level of conflict with wildlife and the associated costs that households incur. We asked household heads to list all the occurrences of crop damage, predation and disease transmission from wildlife to livestock that they experienced in the past year. In addition I also quantified human casualties (deaths and injuries) due to wild animals ever occurred in the informants' families. The emotional impact of such incidents is strong and potentially determining of attitudes over the years.

A majority of households reported at least one occurrence. After triangulating this information (with other informants; human-wildlife conflict

diaries, Appendix 2), I combined these data into a rough index of human-wildlife conflict (LOW; HIGH). Overall, most households were classified as having a low level of conflict with wildlife and there were no significant differences across the study areas.

Crop damage is the most frequent problem caused by wildlife. This suggests that co-existing with wildlife can pose a serious threat to household food security. This problem was significantly higher in the Swamps irrigated areas, which is also the poorest of the study areas, with many households heavily reliant on crops for food. Predation is the second most frequent problem (its incidence did not significantly vary across study areas), followed by transmission of wildlife diseases to livestock (significantly higher in the Swamps and Emeshenani, north of ANP). Finally, human casualties were significantly higher in the Swamps than in the other areas. These irrigated areas are the habitat of dangerous crop raiders (e.g., elephants, hippos and buffaloes). In addition, crops also attract these animals to the proximity of humans settlements.

A counter-intuitive finding was that both predation and human casualties were *under*-reported by the informants, rather than *over*-reported. Older people, particularly, would claim that those incidents did not occur. However, triangulation of data would sometimes show that they did suffer those costs. These informants would later on recognize that they had “forgotten” about these occurrences because the pain was too high to bear; or they did not want to talk about them in order not to reawake the pain of losing a cow or a family member. Maasai just do not talk of dead cows or dead people. It is commonly assumed, in the context of economic

compensation of costs caused by wildlife and community-based conservation initiatives, that people over-report costs of wildlife. However, this study shows that cultural specificities actually make it difficult to accurately quantify these losses in populations like the Maasai through surveys only. Observational data are needed.

Next, I characterized attitudes towards wild animals in general and compared the distribution of attitudes across the study areas and across groups defined by land tenure, land use, wealth, education, age category, gender, and costs and benefits of wildlife. I classified each informant into three types of attitudes (positive, neutral/undecided and negative). I did so by devising a post-hoc five-item attitudinal scale (n=113) and then used it to corroborate my subjective classification of the whole sample (n=191) ($r=0.769$; $p<0.001$). I found that a majority of informants was positive (44.4%); 36% harbored negative attitudes towards wildlife; and 19.6% were neutral or undecided (i.e., conflicted in their feelings towards wildlife, recognizing both good and bad sides to having wildlife on the land).

The number of informants in each of these categories varied significantly across study area (more positive people in the Swamps; less in Osilalei), with land tenure (more positive people on the GRs; less in Osilalei, where land is private); with formal education (more positive educated people); with religion (more Christians with positive attitudes); and with gender (more positive men than women). However, attitudes did not vary with land use, wealth, and most unexpectedly, neither did they vary with level of conflict and receipt of economic benefits from wildlife.

Then, I used a multinomial regression analysis to identify predictors of attitudes among the significant variables. Religion, land tenure and gender were shown to be predictors of types of attitudes. Of these three variables, counter-intuitively, being a Christian is the strongest predictor of positive attitudes: the odds of being positive towards wildlife among Christians are 3.5 the odds of being so among Maasai of the traditional religion. These odds are also about twice greater among men and residents of GRs. Thus, male Christian residents of GRs are more likely to have positive attitudes towards wildlife than are female, traditional residents of private ranches in Osilalei. This importance of religion combined with the lack of effect of economic costs and benefits of wildlife in shaping attitudes towards wildlife suggests that conservation initiatives should look beyond economic value of wildlife as the only possible driver of positive attitudes.

What the other results of this study mean for the Maasai of Amboseli is that it confirms their perceptions of inequitable distribution of economic benefits from wildlife. If the community-based approach to conservation is going to improve local livelihoods, it is necessary that benefits be equally distributed. Amboseli Maasai are aware and unhappy at these discrepancies and some have taken action (e.g. cursing of leaders; political killings of wildlife). Also, if the goal of community-based conservation is to be achieved (i.e., promoting positive behaviors towards wildlife by imbuing it with economic value), the knowledge of the source *in wildlife* of economic benefits should be more widespread than it currently is. In a way, because of these two aspects, the hypothesis that providing wildlife-based direct economic

benefits to households will promote positive attitudes towards wild animals remains untested.

The inequitable distribution of benefits from wildlife is also a symptom of broader problems characterizing the transition from a gerontocratic, consensus-based political organization to new power structures (i.e., GR leadership, government-appointed chiefs, local politicians) in a context of increasing local integration in the market economy. This suggests that attention should be paid to issues of governance in the context of CBC schemes. While it should be noted that some local CBC projects attempt to mitigate this problem, others blatantly refused to deal with it. Again, this points at the downside of overly relying on monetary incentives for conservation.

We did see that informants' expectation of one day benefiting from wildlife, as maybe a relative or a friend already does, seems to actually promote positive attitudes towards wildlife. The question becomes how long can such attitudes be sustained until people realize that their hopes are in vain, given the current situation?

As for insights concerning wildlife, this chapter confirms, as expected, that private land tenure is negative for wildlife populations, both in practice and because of what it does to peoples' attitudes towards wildlife. In Osilalei, the even spread of settlements across the landscape subsequent to subdivision has caused a dramatic decrease in megafauna population (people have not seen a lion or an elephant in more than a decade). In addition, it has also made Osilalei people less tolerant of the

“peaceful” herbivores that remained and that now compete with the livestock for more limited resources.

Why and how Christianity is associated with positive attitudes towards wildlife is difficult to pinpoint precisely. The question remains whether it is Christianity itself that underlies positive attitudes or whether it is other factors that were not investigated here and that are correlated with being a Christian. Nevertheless, this counter-intuitive statistical finding, combined with insights from qualitative data, points at the necessity to examine and question the relationship between Christianity and conservation in this region. Generally assumed to be negative in its effects on attitudes towards the environment, globally, some Christian denominations have been “going green”, especially evangelical churches. It is not clear in Amboseli whether this is the same phenomenon or a more localized phenomenon whose roots remain to be traced. Again, this role of religion in shaping Maasai-environmental relationships suggests that economic value of wildlife does not begin to capture what defines local human-wildlife relationships. This led me to explore more in depth and in a holistic manner, in Chapter 3, what does shape this relationship.

This chapter’s findings, however, are not very clear cut and need to be qualified because of the problem of spatial correlation. One thing, however, is flagrant: among the significant factors, the ones with the strongest influence on attitudes are two forces of change in Maasailand: land privatization and Christianity. This, I think, testifies to the magnitude of the transformations that Amboseli Maasai are undergoing and *participating in*. As already stressed by other authors (Campbell

et al 2000; Lindsay 1987; Western 1994), conservationists should be aware of these changes and the dynamic nature of Maasai society to design flexible conservation strategies that also truly benefit people (as the CBC approach purports to do).

Chapter 3 - From “staying together” to “let’s be separated”: Changing cultural models of people-wildlife relationships in the Amboseli Ecosystem, southern Kenya

In Chapter 3, puzzled in particular by the role of Christianity in promoting *positive* attitudes towards wildlife, and in general because I wanted to probe more deeply into how Maasai “feel” about and think about wildlife, I explored, qualitatively and quantitatively, the cognitive elements that underlie current attitudes towards wildlife among Amboseli Maasai. What are the understandings that Maasai have of how they relate with wild animals, or of how wild animals should relate to people? How shared are these understandings across and within the study areas? And how are differences and variation in these understandings formed?

Here, again, and supported by Chapter 2’s findings, the focus is on change and on how it affects human-wildlife relationships. I thus explored the socio-economic processes at the basis of variation in cultural models. I followed a cognitive anthropology approach to carry out a holistic and culturally-sensitive analysis of how Maasai relate to wildlife; I explored what is in Maasai minds when they think and talk about wild animals and when they act towards them.

Cognitive scientists have developed the concept of “schemas”, “frames” or “models” to study conceptual frameworks and interpretive processes that mediate human understanding of and acting in the world. These are cognitive structures and processes that are seen as “schematized, skeletal representations of some conceptual domain, including the elements, structures, associations and processes within that domain” (D’Andrade 1995b). Learned from others as well as formed through accumulated experience (Garro 2000; Holland & Quinn 1987; Quinn 2005a), these internalized representations inform our behaviors and how we make sense of others’ behaviors (Dressler 2000; Quinn 2005a).

These “models” in our minds are defined as “cultural” when they are shared within a population (Holland & Quinn 1987; Quinn 2005a; Ross 2004; Shore 1996; Strauss & Quinn 1994; 1997). Also, because they are taken for granted and tacit to the individuals who hold them, they are rarely formulated as explicit declarative knowledge (D’Andrade 1995b). They are best studied through discourse analysis, where words, expressions, metaphors and patterns of reasoning reveal the underlying models (Quinn 2005c) and how they can be influenced by social discourses (Strauss 2005).

No culture is monolithic and no cultural model is shared by all the members of one culture. There is both variation in individual’s agreement with models and change over time in this agreement. In this chapter, I conceptualize Maasai culture as distributional: as linked and overlapping mental models that are imperfectly shared and diversely distributed across individuals (see Atran & Medin 2008; Atran

et al 2002; Atran et al 2005; Sperber 1985). This definition of culture makes sense for a society in rapid socio-economic transition such as in the GAE.

In this chapter, I investigated both the content (qualitatively, through discourse analysis) and the sharedness and distribution of cultural models of Maasai relationships with wildlife, quantitatively, with cultural consensus analysis (Romney et al 1987; Romney et al 1996; Romney 1999; Romney et al 1986; Weller 2007). In addition, combining these two methods allows to trace the origins of variation and change in agreement with the models and thus to identify the social processes underlying different understandings of human-wildlife relationships. This knowledge can illuminate the sources of conflict across groups of land users and inform conservation strategies.

Through discourse analysis, I identified two contrasting sets of ideas, understandings and beliefs that reveal how Maasai conceptualize their relationship with wild animals. In one of these cultural models, wild animals are conceptualized as being different from cows in everything: they are useless for subsistence; they are not taken care of by people (only by *Enkai*, God); they belong to *Enkai*, not to people. In this model, however, even though wild animals mostly have nothing “good”, especially compared with cattle, they have the right to be on the land because wildlife were created by *Enkai*, as much as people and livestock were. *Enkai* meant for humans, cows and wild animals to “stay together”. For this reason, people should not kill wild animals unless these have caused a problem. Some species are even protected by taboos. In this model, people’s relationship with wildlife animals is seen as having been better in the past, when people and wildlife were not somehow

“separated” by conservation policy. Finally, “conservation” (rendered as “taking care of the land”), is about “taking care of people”, which is done through “taking care of the cows”, which is done through “taking care of the grass”, which is done through careful grazing management and conservation, which is enforced through rules. It is *not* about “taking care of” wild animals since only *Enkai* is the “shepherd of wild animals”. Because people using this model mention core Maasai beliefs and *Enkai*, I termed this set of understandings the “traditional cultural model” of Maasai-wildlife relationships⁷⁶.

Contrasting with this set of “traditional” understandings are ideas that, together, stand in opposition to these. In this model, wild animals *are* cows, metaphorically: they are useful and income-generating (through tourism and conservation); they have “shepherds” and are “taken care of” by employed Maasai, and, in general, because people now see them as economically valuable, they do not want to have them killed; they are also perceived as belonging to people (i.e., to the GR members; to the government; to the Maasai who privately own ranches). Wildlife is now a commodity. Another major feature of this model is that people are not willing anymore to “stay together” with wildlife. Instead, because wild animals have now been provided with their own areas, where people and livestock are not allowed (protected areas) then people and wildlife should be spatially separated. Also, Maasai and wildlife are understood as antagonists, even though their relationship is now seen as better thanks to some spatial separation and the

⁷⁶ As I explained in the other chapters, my use of the “traditional” and “modern” terms reflects Maasai use and understanding of these terms.

provision of economic benefits. Finally, in this model “conservation” is understood along familiar western lines: trees should not be cut and should be planted; and wild animals should not be killed. Also, private land and sedentarization are seen as pre-conditions to “taking good care” of the “resources” on “someone’s land”. I named this model, influenced as it appears to be by the market economy and community-based conservation discourse, as the “modern cultural model” of Maasai-wildlife relationships.

How radically different the “modern” model (with its dualistic focus on separation between people and wildlife) from the “traditional” model (which reminds other indigenous holistic cultural models of nature), again, suggests the impact of current socio-economic changes (and conservation policy and discourse are also drivers of change) in Amboseli.

While performing the discourse analysis, I became aware of Christian elements in our informants’ speech. A distinct sub-model of the modern model emerged that I characterized as the “Protestant cultural model”. As I explained, Catholic Maasai, in both their livelihoods and beliefs are close to Maasai who follow the traditional religion. Protestants, the “Saved” Maasai, in contrast, sharply distract from Catholic and traditional Maasai by despising their traditional beliefs and practices (seen as “dirty”, “immoral”, “not productive”). In the Protestant cultural model of human-wildlife relationships, humans are given a primacy in relation to nature that does not exist in the traditional model: instead of having been “created together with wildlife” by *Enkai*, people are seen as a special creation of God. Thus, everything that God has created should be used by people (this includes wildlife,

which can be killed if it going to be eaten). But, also, mirroring the environmental message transmitted in “green” evangelical churches, there is here a notion of “stewardship of God’s creation”, and killing wildlife “for nothing” (in the context of traditional practices) is now a sin.

Not all informants, of course, neatly fit one model or the other. People can hold elements of both models. Thus, I used cultural consensus analysis to identify how agreement with each model is distributed in the population and which socio-economic factors underlie variation in agreement with the cultural models (by combining CCA with regression analyses). The CCA showed that there is one consensual cultural model: overall agreement among the informants is reflected in a common, shared pattern of responses to the CCA survey. This suggests that informants draw from one single cultural model. The CCA answer key showed that this consensual model is closer to the modern model of human-wildlife relationships, especially in its emphasis on spatial separation between people and wildlife. However, the consensus is not very strong and there is evidence of both intracultural and subcultural variation: not all informants agree with the consensus to the same extent (intracultural variation) and there are groups who hold their own cultural models (subcultural variation).

To identify the socioeconomic processes underlying these varying patterns of agreement with the consensus, I used the loadings on the first factor (individual “competence” scores: how much one agrees with the consensus) and the loadings on the second factor as outcome variables in regressions analyses. In the first case, gender, age and land tenure are predictors of competence scores: older people,

males and GR residents are more likely to have high competence scores (i.e., agree more with the “modern” consensual model) than younger people, women and Osilalei residents. Using loadings on the second factor as a dependent variable in another regression analysis showed that there is agreement beyond the consensus among members of groups defined by their land tenure and their religious affiliation. Residents of private and group ranches have their own models and Catholic/Traditional Maasai have their own model that differs from the model of Protestant Maasai.

Together, the results of discourse analysis and cultural consensus analysis suggest a shift towards models of nature and human-wildlife relationships that are informed by western culture, market economy integration and, most importantly, global conservation discourse and practice. But, interestingly, this consensual modern model actually “works” against the current vision that conservationists, expatriate and Kenyan, have for the ecosystem. This vision is one of mixed land use and wildlife spatial mobility, which actually approximates the “staying together” ethic of the “traditional” model. What this means for wildlife conservation is that the model that most closely mirrors current approaches to conservation is the traditional model. However, this model is *not* prevalent in the population. Instead, the prevalent model emphasizes spatial separation with wildlife, which contradicts conservationist efforts to promote Maasai willingness to “stay together” with wildlife (which they have done so far), even if this model also emphasizes economic value of wildlife (which is promoted by CBC). What this means for the Maasai is that what they want (the separation, which comes with a desire for sedentarization and

land privatization⁷⁷) is not likely to occur since conservationists are intent on ensuring mobility of wildlife throughout the ecosystem.

The existing variation in agreement with the modern model shows that, although elements of western conservation discourse have been integrated by Amboseli Maasai, western conservation ideas are not adopted across-the-board by Maasai. Instead, while such notions as planting trees and not killing wild animals (because of their economic value) are common, they come together with the idea of physical separation with wildlife, an idea first introduced with the creation of Amboseli NP. This disconnect between models of human-wildlife relationships in the ecosystem not only sets the stage for conflicts between conservationist and pastoralist, as it illuminates the depth of existing conflicts. Investigating cultural models that are held by different groups of land users and stakeholders should be the first step to address these conflicts – which start by being conflicts of meanings. Finally, the depth of this disconnect, again, shows that there is more to local human-wildlife relationships than just the economic value (positive or negative) of wildlife to people.

Chapter 4 - “Pleasing the eye”: Maasai aesthetic appreciation of wildlife in the Amboseli Ecosystem, southern Kenya, and implications for conservation

In this last data chapter, I narrow my focus to examine in depth a specific aspect of Maasai-wildlife relationships: I asked what is the role of aesthetic value in mediating these relationships and in shaping attitudes towards wild animals. Such

⁷⁷ Ironically, a concept first introduced in the 1960s by international institutions and the Kenyan government.

questions have been asked in western contexts but surprisingly not in non-western contexts, and especially not in Africa.

First I showed that Maasai certainly recognize beauty and ugliness in wild animals and, if asked, actually make sophisticated judgments of the aesthetic value that individual species have to them. This refutes the bias that seems to exist among conservationists that economic value characterizes relationships with wildlife in Africa, and that where it does not exist (as among pastoralists), this value must be introduced and promoted if wildlife is to be conserved (the “wildlife must pay its way” principle). I also investigated the criteria that people apply to their aesthetic judgments. Again, although there is some conflation between moral goodness and beauty, it is clear that people do enjoy the sight of wild animals, independently of utilitarian motivations.

Secondly, I determined that there is an association between how Maasai aesthetically value wildlife species, their preferences for those species and their support for their conservation. I showed that how much a species’ beauty is associated with preference for it and support for its conservation depends on the species. A most noteworthy result is that among lion and elephant, animals that are dangerous and harmful, beauty is strongly associated with their being liked. Beauty is thus a decisive factor that increases support for the conservation of those species that have good reasons to be “hated”, which are precisely the species most targeted by conservation efforts in the ecosystem (lion and elephant).

What this means for wildlife is that, independently of potential or actual economic value, Maasai have other reasons to tolerate, and even take pleasure in,

the presence of wild animals on their land. Aesthetic enjoyment is one of them. Interestingly, while beauty contributes to positive attitudes, ugliness does not contribute to negative attitudes. Promoting the economic value of wild animals might actually work to the detriment of conservation: Maasai already enjoy the sight of wild animals, and that is for free. On the other hand, CBC initiatives require some payment to people and funding for this is never guaranteed. This, in the long run, can frustrate Maasai increasing expectations of financial gain from wildlife.

MAIN POINT

Typically, the community-based conservation approach emphasizes the economic value of resources and wildlife to local communities. However, this study's findings suggest that these strategies would benefit from being broadened to include other, non-economic dimensions of local human-wildlife relationships. Commodification of wildlife through tourism and CBC are creating expectations of economic benefits among Maasai that might be difficult to fulfill given the volatile character of tourism and current issues of elite capture of these benefits. On the other hand, non-economic dimensions exist that are still strong. This is the case of the aesthetic value of wildlife and they are also visible in Maasai understandings of how humans and wildlife should relate to each other based on Maasai cosmology and traditional religion. These non-economic dimensions could be taken advantage of as (additional) foundations of conservation strategies. While I do not have a precise idea of how to do it concretely, it seems to me that overly promoting the

economic value of wildlife to Maasai might end up undercutting what, so far, in part, has contributed to benign interactions between people and wildlife in Amboseli.

NEXT

In December 2008, I was privileged to be awarded a fellowship through the Center for Collaborative Conservation at Colorado State University. This fellowship will allow me to extend and deepen the findings of this study through three interrelated activities in my study areas during the summer of 2009. First, I will hold a meeting in each study area to share my PhD results with the communities and get their feedback. Second, I will carry out a participatory photography exercise. In the Swamps, I will provide 20 volunteers of different age/gender groups (with different livelihood activities) with disposable cameras. They will be asked to photograph aspects of their livelihoods that relate in *any* way to wildlife and wildlife conservation (direct/indirect; positive/negative; economic/non-economic). Then, in group discussions, the photographers will tell stories about the photographs' meanings, expressing through their eyes and in their voices, what living with wildlife means. This will be followed by a community workshop with presentation of photographs and associated storytelling to local leaders, conservationists and policy-makers.

This activity is inspired by photovoice (Allotey & Reidpath 2007; Checkoway & Richards-Schuster 2003; Schwartz et al 2007; Vaughn et al 2008; Wang & Burris 1997; Wang 1999; Wang et al 2000; Wang et al 1998), a Participatory Action Research (PAR) method that integrates Freire's (1970) approach to community

problem-solving through critical consciousness; feminist theory; and participatory documentary photography that gives voice to the marginalized. Photovoice enables people to record community strengths and concerns; promotes critical dialogue about community issues; and allows communities to communicate perceptions and knowledge to outside policy-makers. It relies on the power of visual images and sees local people as catalysts of change. Photovoice projects have promoted policy change in such areas as health and homelessness. Also, this approach strongly departs from the more traditional interview-based approach of this study. I believe it has the potential to get at how really feel about wildlife.

Finally, to investigate the origin of the “Evangelical environmentalism” of my Protestant informants, I will interview local evangelical pastors, to explore more in-depth how and why Christianity is actually influencing cultural models of human-wildlife relationships, in both positive and negative ways. This project will yield a photography exhibition and a documentary film.

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APPENDIX

Appendix 1. Age-sets and age-categories of informants.

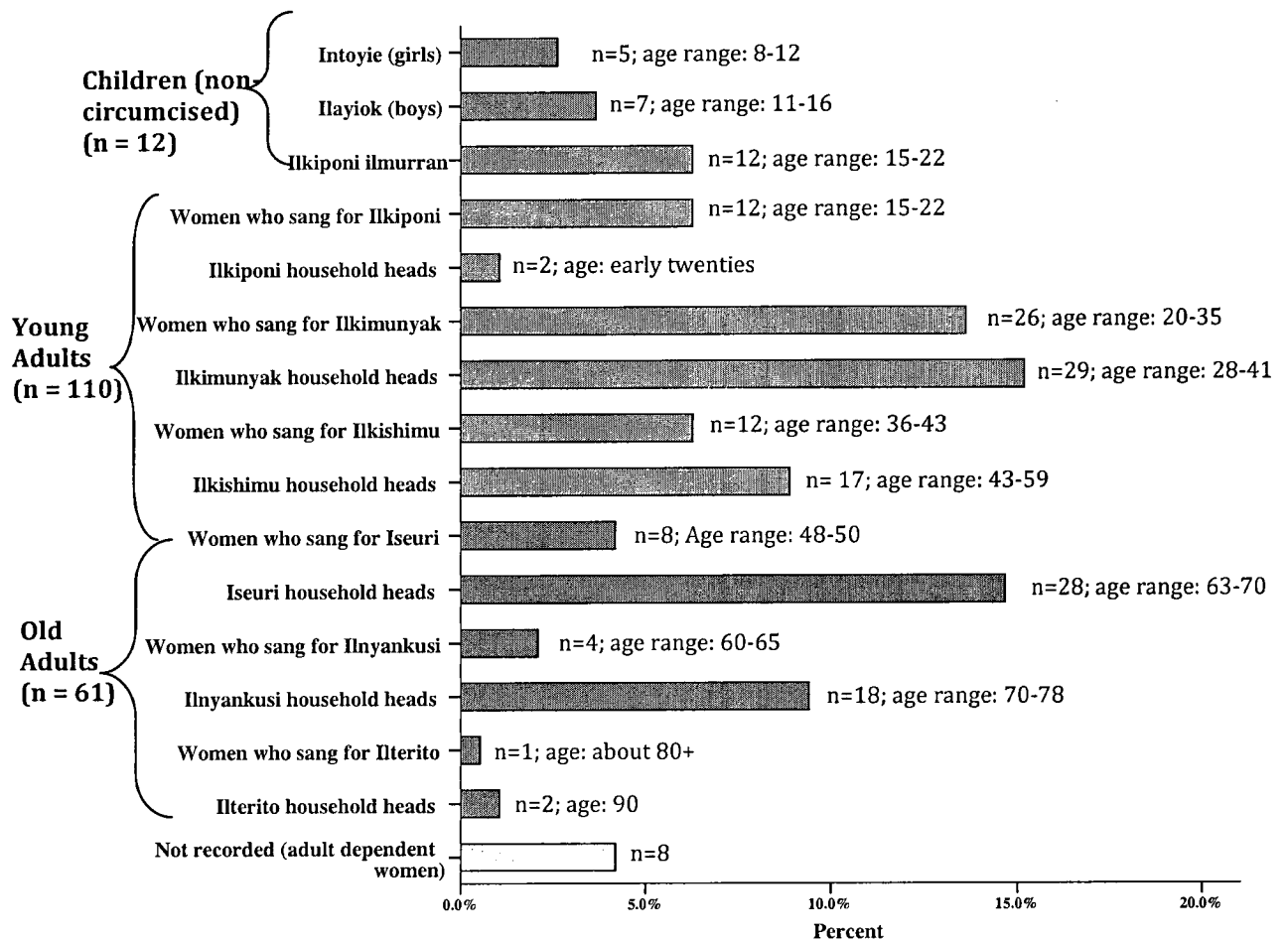


Figure 1. Distribution of informants across age categories.

Appendix 2. Human-Wildlife Conflict Diaries.

These data were collected by locally hired enumerators who recorded the data in the course of their daily activities and through the process of “eating the news” (*ainos ilomon*) [sharing the news]. This is not an exhaustive list of the human-wildlife conflict occurrences in the study areas. Please note how strongly emotions of either enumerator or informant are expressed in some cases. Names and GPS coordinates were removed for confidentiality.

Human-Wildlife Conflict Diary, Kalesirua irrigated area. Recorded by Richard ole Supeet, Imbirikani GR.

Date	Location	Problem	Species	Description	Cost (Ksh)	Name	Comments
Oct. 2002							
07/10/02	Kalesirua	Crop damage	Zebra	Ate & destroyed 15 nets of onions	1,950.00	Richard	5 zebras. I was very annoyed.
12/10/02	Isinet	Crop damage	Elephant	Chased boy & ate 10 bags maize	9,000.00		1 elephant, which was nicknamed Osama.
13-10-02	Kalesirua	Crop damage	Elephant	Destroy 1/4 acre shamba of onions	8,600.00		3 elephants. He wanted all the elephants killed.
14-10-02	Kalesirua	Crop damage	Elephant	Ate 2 lines onions	2,000.00		8 elephants. He swore[d sic] to spear an elephant if it comes back.
14-10-02	Kalesirua	Crop damage	Elephant	Ate 1/2 acre onions	17,000.00		2 elephants. He hired someone to guard the <i>shamba</i> [cultivated plot].
14-10-02	Kalesirua	Crop damage	Elephant	Ate 30 nets ready onions	4,200.00		A Mkamba woman.
14-10-02	Isinet	Crop damage	Gazelle	Ate 5 nets onions	700.00		A Mkamba man.
15-10-02	Empoocho	Crop damage	Elephant	Destroyed badly onion shamba (2 lines = 50 nets)	5,500.00		He tried to spear the elephant but he missed it.
21-10-02	Kalesirua	Crop damage	Gazelle	Ate 1/4 acre onions (35 nets)	4,350.00	Richard's cousin	He asked Richard where to report this problem.
Nov. 2002							

27-11-02	Ilmao (Chyulu Hills)	Human death	Buffalo	Killed 1 olayioni le shoo (herding boy)		People were so annoyed, and morans ["warriors"] tried to kill the buffalo but Richard Bonham's [from Oldoiny Wuas Lodge] game scouts took reaction [sic] by scaring it.
Dec. 2002 05/12/02	Kalesirua	Predation	Eagle	Injured a rooster	Richard's mother	Dog and people chased the eagle away.
Jan. 2003 20-1-03	Isinet	Crop damage	Elephant	Ate all the maize (10 bags)	A Luyia man	He tried to injure the elephant with bow and arrows but didn't succeed.
20-1-03	Isinet	Crop damage	Elephant	Ate 1/4 maize		He was also chased by same elephant as before, but escaped narrowly.
30 & 31-1-03	Kalesirua	Crop damage	Elephant	Ate 1/2 acre maize (20 bags)		The owner was forced to harvest maize before it was ready.
31-1-03	Kalesirua	Crop damage	Elephant	Ate 1 line maize (2 bags)		He harvested the maize to avoid it being finished by elephants.
Feb. 2003 03/02/03	Isinet	Crop damage	Elephant	Ate 1/4/ acre maize		Old man very annoyed. Swears [sic] he would spear the elephants if they come back.
04/02/03	Kalesirua	Crop damage	Elephant	Ate 1/4 acre onions		He reported to me, Richard, because he knows that I am taking these records.
04/02/03	Kalesirua	Crop damage	Elephant	Ate onions		He wanted to arrow [kill with bows and arrows] the elephant but he was stopped by others, non-Maasai, telling him that he will be arrested by game scouts.
04/02/03	Kalesirua	Crop damage	Elephant	Ate 1/4/ acre maize		He was not around when this happened.

04/02/03	Kalesirua	Crop damage	Elephant	Ate 1/4 acre onions	9,900.00	6 elephants. He harvested the little left by elephants.
05/02/03	Kalesirua	Crop damage	Elephant	Ate 1/4 acre maize	6,400.00	She ordered the morans to guard her shamba and to spear the elephant if it comes.
05/02/03	Kalesirua	Crop damage	Elephant	Ate 1/8 acre	3,200.00	He was forced to harvest before crop ready.
05/02/03	Kalesirua	Crop damage	Elephant	Ate maize and beans	5,200.00	He chased the elephants so angrily by throwing fire at them.
05/02/03	Kalesirua	Crop damage	Elephant	Ate maize and beans	6,400.00	The man was so annoyed that he could not eat food the following day.
05/02/03	Kalesirua	Crop damage	Elephant	Ate maize	2,000.00	Maize already harvested but elephants ate it stored under tree.
05/02/03	Kalesirua	Crop damage/human injury	Elephant	Finished 1/4 acre maize	5,600.00	He narrowly escaped but injured by the same elephant while trying to chase them. The elephant wanted to kill him.
07/02/03	Kalesirua	Crop damage	Elephant	Ate onions	3,100.00	He hired morans to guard shamba, instructed to spear the elephant crop raiders.
09/02/03	Kalesirua	Human injury	Snake	Bit 1 boy at Richard's boma	Richard's nephew	R and Joseph took boy to Kimana dispensary on bikes at 2 am.
13-2-03	Isinet	Crop damage	Hippo	Stepped on & destroyed tomatoes badly	2,100.00	Shamba is fenced where hippo has passed through, with thorn bushes.
14-2-03	Isinet	Crop damage	Elephant	Ate maize	2,100.00	Shamba owner hired a moran to spear the elephants

20-2-03	Isinet	Crop damage	Elephant	Ate 3/4 acre maize	12,000.00	Owner of shamba forced to harvest remains of crop before being mature.
20-2-03	Kalesirua	Crop damage	Elephant	Ate & destroyed onions	5,600.00	He harvested remaining onions.
26-2-03	Kalesirua	Predation	Hawk	Killed 1 chicken	150.00	At Kalesirua, Richard's boma. The owner poisoned the chicken to see if the hawk will eat it.
28-2-03	Isinet	Crop damage	Gazelles	Ate onions	6,200.00	Owner spends nights in the shamba.
28-2-03	Kalesirua	Predation	Snake	Killed 3 chickens	300.00	Owner put chickens outside to keep snakes away.
March 2003						
13-3-03	Kalesirua	Crop damage	Zebras	Destroyed 1/8 acre onions	1,900.00	Richard's mother Richard Supeet
Apr. 2003						
02/04/03	Kalesirua	Crop damage	Zebras	Ate 1.5 bags maize	1,500.00	She harvested the remaining maize.
03/04/03	Kalesirua	Crop damage	Elephant	Ate 3 bags maize	3,000.00	3 bags = 3x90kg. Owner harvested before time after the damage.
05/04/03	Isinet	Crop damage	Elephant	Ate 12 bags maize	12,000.00	He removed the remaining maize.
09/04/03	Isinet	Crop damage	Zebras	Ate 5 bags maize	5,000.00	He hired someone to guard shamba.
09/04/03	Kalesirua	Crop damage	Elephant	Ate 6 bags maize	6,000.00	He decided to spend the nights outside to guard the shamba.
10/04/03	Isinet	Crop damage	Elephant	Ate 10 nets onions	4,000.00	Owner harvested the rest before time (immature).
20-4-03	Kalesirua	Crop damage	Elephant	Ate & destroyed 20 nets onions	2,600.00	She asked God "what did I do to you?"
June 2003						
24-6-03	Kalesirua	Predation	Hyena	killed 2 goats at night	3,000.00	Interviewed informant He reported to game scouts and was paid by predator compensation project.
29-6-03	Kalesirua	Crop damage	Elephant	Ate 5 boxes tomatoes	1,000.00	"I am going to spear them". 2

29-6-03	Kalesirua	Crop damage	Elephant	Ate & destroyed 26 bags maize	26,000.00	elephants. He harvested the remaining raw maize. 2 elephants.
29-6-03	Kalesirua	Crop damage	Elephant	Ate 50 nets onions ready to harvest	10,200.00	2 elephants. He spends the nights in the shamba.
Jul. 2003 01/07/03	Kalesirua	Crop damage	Elephant	Destroyed onions	6,000.00	3 elephants. "I will spear them tonight, I swear!"
01/07/03	Kalesirua	Crop damage	Elephant	Ate 5 bags maize + destroyed 1 kg onion seeds	5,600.00	3 elephants. Harvested maize before being ready. Richard's brother
01/07/03	Kalesirua	Crop damage	Elephant	Destroyed 10 nets onions + fell trees	2,000.00	3 elephants. He declared he would spear them tonight. Richard's cousin
01/07/03	Kalesirua	Crop damage	Elephant	Ate & destroyed 20 nets onions	8,000.00	3 elephants. Very annoyed.
01/07/03	Kalesirua	Crop damage	Elephant	Ate 15 nets onions	3,000.00	3 elephants. He said he will report them to KWS.
01/07/03	Kalesirua	Crop damage	Elephant	Ate 26 nets onions	9,140.00	3 elephants. "I will spear them tonight!"
01/07/03	Kalesirua	Crop damage	Elephant	Destroyed 1.5 kg seeds	900.00	3 elephants. Very annoyed.
01/07/03	Kalesirua	Crop damage	Elephant	Ate 5 nets onions	2,000.00	3 elephants. "I will find some bows and arrows to kill them".
01/07/03	Kalesirua	Crop damage	Elephant	Ate and destroyed 20 nets onions	4,000.00	3 elephants. "I will report them to game scouts. If they don't take any action, then we spear". Richard
01/07/03	Kalesirua	Crop damage	Elephant	Destroyed 4 nets onions	800.00	1 elephant. He asked Richard to sue them.
17/7/2003	Kalesirua	Crop damage	Zebras	Destroyed 6 nets onions		He swore[d sic] to spear them if they come again. Richard's cousin
26-7-03	Kalesirua	Crop damage	Gazelles	Ate 2 nets onions	400.00	He asked his shamba boy to guard

Aug. 2003						properly.
02/08/03	Kalesirua	Crop damage	Zebra & gazelle	Ate & destroyed 5 nets onions	1,000.00	No action taken because owner not around when happened.
16-8-03	Kalesirua	Crop damage	Elephant	ate & destroyed 16 nets onions	3,200.00	The elephant named Osama; the owner used scaring objects to chase it and reported to game scouts.
24-8-03	Kalesirua	Crop damage	Elephant	Ate 3 bags maize & destroyed 5 boxes tomatoes	5,800.00	3 elephants. He harvested remaining maize.
26-8-03	Kalesirua	Crop damage	Gazelles	Ate 2 nets onions	400.00	We put scaring objects around shamba.
26-8-03	Kalesirua	Crop damage	Zebra	Destroyed 3 boxes tomatoes	1,500.00	He hired someone to guard shamba.
Sept. 2003						
01/09/03	Kalesirua	Crop damage	Elephant	Ate & destroyed 2 bags maize	2,200.00	1 elephant is Osama; he reported case to Imbirikani GR game scouts.
01/09/03	Kalesirua	Crop damage	Elephant	Ate & destroyed 16 nets onions	2,800.00	The elephant is Osama. He tried to spear Osama but he was chased by him.
07/09/03	Kalesirua	Crop damage	Zebra	Ate 3 bags maize & destroyed 4 nets onions	3,900.00	He put scaring objects around shamba and guards it.
18-9-03	Kalesirua	Crop damage	Elephant	Ate & destroyed 15 nets onions	2,500.00	2 elephants. He reported to game scouts.
18-9-03	Kalesirua	Crop damage	Zebra	Destroyed 3 nets onions	450.00	He decided to be the one guarding his shamba at night.

26-9-03	Kalesirua	Crop damage/material damage	Elephant	Ate 1 bag maize & destroyed a house	1,100.00	Richard's sharecropper, a Mkamba man.	The guy moved out completely because the elephant destroyed his house. Then he thought that this was too much and that he was lucky not to have been killed.
Oct. 2003							
02/10/03	Kalesirua	Crop damage	Elephant	Ate & destroyed 6 nets onions			2 elephants. He harvested remaining onions.
20-10-03	Kalesirua	crop damage	Elephant	Ate 1 bag maize	1,100.00		He put scaring objects around shamba and guarded it. Kikuyu interviewed for non-Maasai household survey.
24-10-03	Kalesirua	crop damage	Elephant	Ate 2 bags maize	2,200.00		He harvested the remaining maize and swore to spear the elephants.
30-10-03	Kalesirua	crop damage	Gazelles	Ate 2 boxes tomatoes	800.00	Richard Supeet	Tomatoes were so small that we were forced to plant again.
From mid-January to 16-2-04:							No conflicts in this area, which is normal for this time of the year because there is grass everywhere because of the good rains. Predation is rare here.
Mar-04							
03/04/04	Olokii (grazing area)	predation	Hyena	1 young goat killed & mother bitten badly	Don't know price of newborn kid. Goat = Ksh 2,600		A goat gave birth in the bush and then the young one was eaten and the goat was also bitten badly. Matter was reported to predator project on same day.
24/3/04		crop damage	Elephants	Destroyed 1/2 acre maize (16 bags of 90 kg)	Ksh 24,000		The owner of the maize speared and missed the elephant.
24/3/04		crop damage	Elephants	Same elephant destroyed 2 lines tomatoes	7 boxes tomatoes = ksh 4,200		He used scaring objects to scare the elephants + burned a piece of mattress.

20/3/04	Kalesirua	crop damage	Olpuua, kind of impala gazelle	Stepped & ate 30 jerubas of onions [seed beds].	About Ksh 6,000	Richard's Cousin	No action taken because it disappeared at night. But the owner is very annoyed.
25/3/04	Kalesirua	Crop damage	Inkoliin - Gazelles	Ate destroyed 2 lines maize	About Ksh 1,200.00	Richard's brother	He put a snare in the shamba.

Human-Wildlife Conflict Diary, Namelok irrigated area (Imbirani & Olgulului-Lolarrash GR's). Recorded by Noah Melita Nekeres, Imbirikani GR (GPS coordinates and names removed for confidentiality reasons).

Date	Location	Problem	Species	Description	Cost (Ksh)	Name	Comments
Oct. 2002							
2/10/2002	Osoit	Crop damage	Gazelles	ate and stepped down on crops	15,000 - 15x17m		Wild gazelles are very many in our area, causing a lot of damage and low harvests every year
8/10/2002	Osoit	Material damage	Elephant	falling poles and breaking electric fence	125,000 - 2,5x0,75 km		
15-10-02	Osoit	Crop damage + predation	Baboon, monkey	ate maize crops before harvest and killed 3 young goats	50,000 - 0,25x0,15 m		All these baboons which killed the young goats should be killed to save the remaining goats
15-10-02	Osoit	Crop damage	Monkey	ate ripe maize and onions	25,000 - 15x25m	Noah Melita	Monkeys are dangerous and destroyers. Should be moved away from shamba
20-10-02	Osoit	Crop damage	Baboon, monkey	eating cash crops (onions and tomatoes)	25x25m		Should be moved to places where there are no shambas
21-10-02	Osoit	Crop damage	Gazelle	ate small maize plants, cutting leaves	35,000 - 15x25m		Gazelle cannot be stopped except by a wire surrounding the whole shamba
31-10-02	Sumuneria area	Predation	Hyena	killed 1 goat	2,000		Hyenas are not many at this season
30-10-02	Inkoroshoni	Crop damage	Baboon, gazelle, monkey	3/4 ha maize + 0.75 m tomato			Baboons are dangerous animals which are almost extending to eating young goats. They should be all killed.
30-10-02	Inkoroshoni	Crop damage	Baboon, gazelle, dikdik	ate onions and maize	1/4/ha onion + 1/2 ha maize		Baboons should be killed all because they are of no benefit to the community
26-10-02	Inkoroshoni	Crop damage	Baboon, monkey	ate all crops of different crops (potatoes, maize and onions)	25,000 - finished almost whole plantation - 1 ha onion + 1/2 ha tomatoes	Chief	Baboons and monkeys should be chased away from shambas or all be killed

22-11-02	Osoit	Crop damage	Gazelle, monkey	ate green leaves of maize, causing great damage	16,000 - gazelles ate almost whole shamba - 3/4 ha maize	Gazelles and dikdik are the most dangerous animals, disturbing people in this area
21-10-02	Osoit	Crop damage	Monkey, gazelle, dikdik	ate ripe maize cobs + ate green leaves of beans	20,000 - 1/2ha maize + 1/4/beans	Wire mesh should be put all around the shambas to protect from dikdik and gazelles
18-11-03	Osoit	Disease	small insects			
13-11-02	Inkoroshoni	Crop damage	Dik-dik	ate beans and dropped down bean bags	1/4 ha beans	Electric fence not working and should be repaired
13-11-02	Osoit	Crop damage	Giraffe	stepped on crops		Shambas should be fenced well
13-11-02	Osoit	Crop damage	Elephant	stepped on, broke down and ate trees		Electric fence should be reestablished
12/11/2002	Osoit	Crop damage	Baboon, monkey	ate onions and maize	8000 - 1/2 ha of maize + 1/4 onion	All tall trees should be cut down
12/11/2002	Osoit	Crop damage	Gazelle, monkey	ate maize and cut leaves down	8000 - 1/4/ha beans and maize	For gazelles, community should find a way to trap them and take them to KWS HQ
7/11/2002	Osoit	Crop damage	Baboon, monkey	ate ripe maize cobs	6500 - 1,5 x 2,5m	Should be killed if possible because they are dangerous animals
5/11/2002	Osoit	Crop damage	Baboon, monkey	ate tomatoes and onions	5000; 5m x 2,5m	Dangerous damaging animals, causing great damages and low harvest
2/11/2002	Inkoroshoni	Crop damage	Gazelle, monkey	ate ripe maize cobs and tomatoes	2000 - 1,5m x 2,5m	
Inkoroshoni	Inkoroshoni	Crop damage	Dikdik, gazelle	ate beans leaves, cutting down, causing low harvest	5000 - 2,8m x 3m	Dangerous animals, causing great damages

3/12/2002	Osoit	crop damage	Giraffe + zebra	stepping on crops and damaging	To be chased away from the nearby shambas
3/12/2002	Osoit	crop damage	monkey	ate maize crop	Guards the shamba during daytime since monkeys don't eat crops at nights
3/12/2002	Osoit	crop damage	baboon + monkey	ate maize and onions	Shamba guarded at daytime because crops not eaten at night by these animals
4/12/2002	Inkoroshoni	crop damage	Dik-dik	ate and cut down bean leaves	Guarded at night by flames of fire
4/12/2002	Osoit	crop damage	Monkey + crowned crane ('crown birds')	monkeys ate unripe maize; crown birds use their beaks to eat seedlings	Shamba guarded at daytime
4/12/2002	Osoit	crop damage	monkey	ate unripe maize	Shamba guarded at daytime
9/12/2002	Osoit	crop damage	baboon + monkey	ate and broke down maize plants	Shamba guarded at daytime
9/12/2002	Osoit	crop damage	Monkey & crown birds [crowned cranes]	crown birds ate seedlings with their beaks + monkeys ate tomatoes	Shamba guarded at daytime
9/12/2002	Osoit	crop damage	baboon + monkey	ate maize and tomatoes	Shamba guarded at daytime
11/12/2002	Osoit	crop damage	Dik-dik	ate and cut down leaves of beans and maize	Shamba guarded at night time by use of fire flame. This brings a low harvest
11/12/2002	Osoit	crop damage	monkey	ate unripe maize	Shamba guarded at daytime
14-12-02	Osoit	crop damage	baboon + monkey	ate maize, onions and tomatoes crop	Shamba guarded at daytime
16-12-02	Osoit	crop damage	Dik-dik + gazelle	cut down leaves of beans and ate the	Should be guarded during the night by use of flames of fire

16-12-02	Osoit	crop damage	Zebra + gazelle	crop, causing low harvest stepping, cutting down and eating of unripe maize and beans	Should be guarded during the night by use of flames of fire
16-12-02	Osoit	crop damage	baboon + monkey + dik-dik	ate unripe maize and cut down leaves of beans	Should be guarded during the night by use of flames of fire
16-12-02	Osoit	crop damage	Dik-dik + gazelle	ate leaves of crops, cut them down	Should be guarded during the night by use of flames of fire
16-12-02	Osoit	crop damage	Dik-dik + monkey	ate beans, maize	Should be guarded during the night by use of flames of fire
16-12-02	Osoit	crop damage	gazelle + monkey	ate unripe maize and beans	Should be guarded during the night by use of flames of fire
18-12-02	Inkoroshoni	crop damage	gazelle + monkey	Ate crops and unripe fruits - of what?	Gazelles are scared by use of flames of fire [sic] and monkeys are scared during day time
18-12-02	Osoit	crop damage	Dik-dik + gazelle + monkey	ate crops, cut down crops leaves	Gazelles are scared by use of flames of fire [sic] and monkeys are scared during day time
18-12-02	Inkoroshoni	crop damage	baboon + monkey + gazelle	seriously destroyed the shamba of maize + gazelles ate the growing beans	Gazelles are scared by use of flames of fire [sic] and monkeys are scared during day time
18-12-02	Inkoroshoni	crop damage	baboon + monkey + gazelle	ate unripe fruits and unripe maize and beans leaves	Gazelles are scared by use of flames of fire and monkeys are scared during day time
19-12-02	Inkoroshoni	crop damage	Dik-dik + gazelle	cutting down all leaves of crops and unripe beans	Gazelles are scared by use of flames of fire and monkeys are scared during day time
19-12-02	Inkoroshoni	crop damage	gazelle + baboon	ate maize and unripe fruits - of	Gazelles are scared by use of flames of fire and monkeys are scared during day

			what?		time
20-12-02	Inkoroshoni	crop damage	gazelle + monkey	ate vegetables and unripe maize	Monkeys and gazelles should be guarded by use of dogs and fire flames
20-12-02	Inkoroshoni	crop damage	gazelle + monkey	ate tomatoes and green leaves of beans	Monkeys and gazelles should be guarded by use of dogs and fire flames
20-12-02	Osoit	crop damage	monkey	ate tomatoes	Dogs used to scare them
20-12-02	Osoit	crop damage	Dik-dik + gazelle + monkey	ate maize	Dogs to scare them
20-12-02	Osoit	crop damage	baboon + monkey	ate maize and onions	Dogs to scare them
20-12-02	Osoit	crop damage	baboon + monkey + dik-dik	ate maize	Dogs to scare them
21-12-02	Inkoroshoni	crop damage	baboon + gazelle + monkeys	ate maize and beans at night	All trees should be fallen down [sic] if possible
21-12-02	Inkoroshoni	crop damage	baboon + gazelle	ate onions , maize and beans at night	All monkeys and baboons should be killed and trees fallen down [sic]
28-12-02	Inkoroshoni	crop damage	baboon + gazelle	ate tomatoes, maize and onions	Should be guarded by use of fire flames at night
28-12-02	Inkoroshoni	crop damage	baboon + gazelle + dikdik	ate maize and tomatoes	Should be guarded by use of fire flames at night
28-12-02	Inkoroshoni	crop damage	baboon + gazelle + monkeys	ate maize	Should be guarded by use and fire flames at night
28-12-02	Inkoroshoni	crop damage	baboon + monkey	ate beans	Should be guarded by use of masks fire flames at night

3/1/2003	Inkoroshoni	crop damage	baboon + monkey + gazelle	ate beans and maize at night	Should be guarded during day time and chased at night by use of fire flames
3/1/2003	Inkoroshoni	crop damage	dikdik and gazelle	ate beans leaves and small maize	Should be guarded during day time and chased at night by use of fire flames
3/1/2003	Inkoroshoni	crop damage	baboon + monkey + gazelle	ate maize, tomatoes and beans	Should be guarded during day time and chased at night by use of fire flames
3/1/2003	Inkoroshoni	crop damage	baboon + zebra + gazelle	ate maize and stepped on muddy grounds	Zebras are big animals which should be guarded away for they cause great damage
4/1/2003	Inkoroshoni	crop damage	dikdik + monkeys + gazelle	ate onions, maize and tomatoes causing low harvest	Should be guarded by use of dogs to chase them away
4/1/2003	Inkoroshoni	crop damage	baboon + monkey	baboon and monkeys ate the whole crop	Should be killed and tree fallen [sic] down to reduce their population
4/1/2003	Inkoroshoni	crop damage	baboon + monkey + gazelle	ate onions, and tomatoes	Guarded by use of dogs and images
6/1/2003	Osoit	crop damage	dikdik + monkeys + gazelle	ate onions while not ready for harvest	Felling big trees can reduce total number of monkeys
6/1/2003	Osoit	crop damage	dikdik + monkeys + gazelle	ate maize and beans	Should be guarded by use of fire and felling of trees
6/1/2003	Osoit	crop damage	baboon + monkey	destroyed the whole shamba of maize	Should be killed to save other shambas for high harvest
6/1/2003	Osoit	crop damage	baboon + monkey + dikdik	ate ripe maize and cut down leaves of beans	Should be killed to save other shambas for high harvest
6/1/2003	Osoit	crop damage	dikdik + monkey	ate beans by cutting leaves and ate ripe	Should be killed to save other shambas for high harvest

6/1/2003	Osoit	crop damage	monkey + dikdik + gazelle	ate maize, beans and onions	maize	Should be killed to save other shambas for high harvest
14-1-03	Inkoroshoni	crop damage	baboon + monkey	ate unripe maize		Should be chased away from shambas
27-1-03	Inkoroshoni	crop damage	baboon + monkey + gazelle	monkey + baboon ate unripe maize + gazelle ate beans		Should be guarded by the NGOs
12/2/2003	Osoit	crop damage	dikdik + gazelle + monkey	ate beans, onions and maize		Should be guarded by the NGOs
17-2-03	Osoit	crop damage	monkey + gazelle	ate maize		Should be guarded by the NGOs
7/3/2003	Osoit (within O-L GR)	crop damage	baboon + monkey	ate unripe maize		Should be chased from the shambas
9/3/2003	Osoit (within O-L GR)	crop damage	baboon + monkey	ate maize		All baboons and monkeys should be killed if possible
12/3/2003	Osoit (within O-L GR)	crop damage	gazelle + monkey	ate beans and maize		Flames of fire to be used to chase away gazelles and monkeys chased away
17-3-03	Inkoroshoni (Mbi GR)	crop damage	baboon + monkey	ate onions and maize		Baboons and monkeys are destroyers
20-3-03	Osoit (within O-L GR)	crop damage	monkey	ate maize and onions		Monkeys should be chased away from shambas
20-3-03	Osoit (within O-L GR)	crop damage	dik-dik + monkeys	eating of young growing plants and maize		All the wild animals should be cleared out to avoid losing harvest
20-3-03	Osoit (within O-L GR)	crop damage	monkey	ate maize and onions		Should be chased away to avoid low harvest
21-3-03	Osoit (within O-L GR)	crop damage	monkey	ate maize and tomatoes		They have no benefits because they cause low harvest
21-3-03	Osoit (within O-L GR)	crop damage	dik-dik + monkeys	ate maize (rip and unripe)		Should be chased away from shambas if possible

22-3-03	Inkoroshoni (Mbi GR)	crop damage	baboon + gazelle	ate maize	Should be killed and chased away from this area if possible
22-3-03	Osoit (within O-L GR)	crop damage	monkey	ate onions and maize	They only benefit tourists and should be chased away from shambas
27-3-03	Near Eremito ANP gate (Olg. GR)	burning of hotel		Morans burned down hotel ["Hotel Paradise" episode, see Ch. 2]	GR officials gave out land within GR without agreement of members. They should not dictate GR members
1/4/2003	Osoit (Olg)	crop damage	monkey + dikdik	ate maize crops and cut down beans leaves	All monkeys should be chased away from nearby shambas if possible
9/4/2003	Osoit (olg or mbi)	crop damage	monkey	ate maize	Should be guarded by use of dogs
12/4/2003	Inkoroshoni (Mbi GR)	crop damage	Gazelle + dikdik	ate young maize plants	Fencing the shambas to avoid gazelles jumping over the fence
12/4/2003	Osoit (olg)	crop damage	monkey + dikdik	ate beans and maize	Should be guarded by use of flame of fire and dogs
14-4-03	Inkoroshoni (Mbi GR)	crop damage	baboon	ate onions and maize	Should be chased away from shamba to park lands top avoid low harvesting
16-4-03	Inkoroshoni (Mbi GR)	crop damage	baboon + gazelle	ate maize	Use of flames of fire and guarding by daytime
23-4-03	Osoit (olg)	crop damage	monkey	ate tomatoes	To be chased away from shambas
23-4-03	Inkoroshoni (Mbi GR)	crop damage	monkey + dikdik	ate maize, benas, onions	Should be chased away from shambas by use of flames of fire
26-4-03	Osoit (olg)	crop damage	monkey	ate tomatoes	Monkeys are destroyers and should be moved away from plantations to avoid loss of crops)
26-4-03	Osoit (olg)	crop damage	monkey	ate tomatoes	They eat crops and make great losses in harvesting
30-4-03	Osoit (olg)	crop damage	baboon +	ate maize and beans	All baboons should be killed or KWS

Non-Maasai

20-6-03	Enkongo narok	predation	lion	ate 3 goats	4,500	Lion jumped over fence and killed 3 goats and ate them. KWS should guard these lions or they will be killed
20-6-03	Olmoti	predation	lion	ate 2 goats	12,000	Lion jumped over fence and killed 3 goats and ate them. KWS should guard these lions or they will be killed
20-6-03	Enkongu narok	predation	lion	ate 4 goats	8,000	Lion jumped over fence and killed 3 goats and ate them. KWS should guard these lions or they will be killed
25-6-03	Inkoroshoni	crop damage	gazelle	ate maize and onions		Should be guarded by use of dogs and flames of fire at night
25-6-03	Inkoroshoni	crop damage	gazelle	ate beans and maize		Should be guarded by use of dogs and flames of fire at night
30-6-03	Inkoroshoni	crop damage	baboon + monkey	ate ripe maize		Trees should be felled to make monkeys and baboons climb on tall trees
5/7/2003	Inkoroshoni	crop damage	baboon	ate ripe maize		Should be chased away from the planted areas
20-7-03	Osoit - inside EF - oig GR	crop damage	baboon + monkey	ate maize		Always low harvest because of monkeys, should be chased away
24-7-03	Osoit	crop damage	baboon + monkey	ate onions		
30-7-03	Inkoroshoni	crop damage	baboon + dikdik	ate maize and fell down bean leaves		Baboons are very dangerous and should be chased away
30-7-03	Inkoroshoni	crop damage	baboon	ate maize and tomatoes		They should be chased away or KWS should pay us for the loss of our harvest
6/8/2003	Osoit	crop damage	Gazelle + dikdik	ate maize and beans		Should be killed or chased away out of electric fence
6/8/2003	Osoit -	crop damage	Monkey	ate unripe maize		Cause lots of low harvest
6/8/2003	Osoit -	crop damage	baboon + monkey	ate maize and onions		Should be chased away from shambas

6/8/2003	Osoit -	crop damage	baboon + monkey	ate maize	Should be killed if possible so that farmers can have good harvest
20-8-03	Osoit -	crop damage	dikdik + monkey	ate cabbage and maize	Causing low harvest and should be chased away from shamba
20-8-03	Inkoroshoni	crop damage	gazelle	ate maize and beans	They enter shambas at night through wire
24-8-03	Inkoroshoni	crop damage	baboon + gazelle	ate maize and beans	Destructive animals; should be killed to avoid low harvest of crops. Have no benefits
24-8-03	Inkoroshoni	crop damage	baboon + monkey	ate maize	Destructive, have no benefits, should be chased away
24-8-03	Inkoroshoni	crop damage	gazelle	ate and cut down leaves of maize	Have no benefits; should be killed
24-8-03	Inkoroshoni	crop damage	dikdik + gazelle	ate maize	Cause low harvest and should be chased away
29-8-03	Osoit -	crop damage	baboon + monkey	ate maize and beans	Always bring very low harvest and should be chased away if possible
29-8-03	Osoit -	crop damage	gazelle	ate sukuma wiki (kales)	Can be protected out of shambas by use of fire at night
3/9/2003	Osoit -	crop damage	dikdik + gazelle	ate growing maize leaves	Destructive animals
3/9/2003	Inkoroshoni	crop damage	gazelle + birds	ate maize, tomatoes and stepped on crops	Make low harvest and should be chased away
12/9/2003	Osoit -	crop damage	monkey + birds	ate maize and beans	Causing low harvest and should be chased or killed if possible
12/9/2003	Osoit -	crop damage	baboon + gazelle	ate maize by cutting down leaves and cobs	Very bad and should be chased away from shambas

19-9-03	Inkoroshoni - Mbi GR	crop damage	baboon + gazelle	ate unripe tomatoes	Should be chased away from shambas
19-9-03	Inkoroshoni	crop damage	baboon	ate maize	Baboons are destroyers and make low harvest for the Wakulima
2/10/2003	Inkoroshoni	crop damage	gazelle	ate maize and cut down leaves of beans	Dangerous animals, always causing low harvest
8/10/2003	Inkoroshoni	crop damage	baboon + gazelle	ate maize and onions	Very dangerous to the cultivation, causing low harvest
19-10-03	Osoit -	Crop damage	Baboons	Ate maize & tomatoes	Baboons destroyed the shamba and caused a low harvest
19-10-03	Inkoroshoni	Crop damage	Gazelles	Ate maize & tomatoes	They are hard to control as they are fearless and cause great loss for the owner
19-10-03	Osoit - inside EF	crop damage	baboon	ate maize and onions	Destroy shamba and make low harvest
19-10-03	Inkoroshoni	crop damage	gazelle	ate maize and tomatoes	Hard to control as they are fearless and cause great loss for the owner
18-11-003	Osoit -	Disease	Small harmful insects	Killed 3 cows	Unseenable [sic] and hard to control. Easy to kill
28-11-03	Inkoroshoni (Namelok)	Crop damage	baboon	eating the maize cobs	Very hard to control since they climb on top of tall trees and hide
23-12-03	Osoit (Namelok)	predation	hyenas	killed over 30 shoats [sheep and/or goats]	The loss should be under KWS to pay since wild animals are under them
24-12-03	Osoit (Namelok),	predation	Hyenas	killed 5 shoats [sheep and/or goats]	The hyenas should be poisoned to die or else to be paid by KWS
24-12-03	Osoit. Olg. Gr	predation	hyenas	killed 18 shoats [sheep and/or goats]	The hyenas should be poisoned to die or else to be paid by KWS
16-1-04	Naiborr Soit (Imbirikani)	predation	hyenas	killed 6 calves	The calves got lost and eaten by hyenas during the night. Outside electric fence

2/2/2004	GR) Olmoti (Olg. GR)	predation	lion	killed a big bull	over Ksh 45,000	The lion killed 1 bull and 2 other cows went injured. KWS intervened to secure the lions from the morans
28-2-04	Enkongu Narok (near Public Campsite)	human death	elephant	killed 1 man		Elephant was searched and found and killed
1/3/2004	Esiteti (Olg. GR)	human death		drowned inside borehole		The borehole killed the young boy while he tried to swim in it [sic]

**Human-Wildlife Conflict Diary, Emeshenani (Olgulului-Lolarrash GR). Recorded by Napi Stanley ole Kitipai.
Imbirikani GR (GPS coordinates and names removed for confidentiality reasons).**

Date	Location	Problem	Species	Description	Cost (Ksh)	Name	Comments
18-7-02	Esiteti	Predation	Elephant	Injured a cow badly and the cow died	6,700		Cow was paid by Cynthia Moss [Amboseli Elephant Trust] (Ksh 15,000)
08/09/02	Inkiito	Predation	Hyena	Killed 2 goats	1,300		A moran tried to get the hyena but it escaped
23-9-02	Inside the park	Killing of wildlife	Buffalo	2 killed by morans		Morans	The buffaloes were refusing the women to get water
02/10/02	Neboloti	Predation	Leopard	killed 1 sheep	2,200		The elders tried to find the leopard but it disappeared
04/10/02	Inkiito	Predation	Hyena	killed 1 sheep	1,200		A moran tried to get the hyena but it escaped
05/10/02	Inkiito	Predation	Buffalo	injured 2 cows	13,000		The morans followed the buffalos but did not see them anymore.
06/10/02	Risa	Predation	Elephant	killed 1 sheep	500		Morans tried to get the elephant but it escaped
06/10/02	Iremito	Predation	Jackal	killed a baby goat + 1 lamb			The owner poisoned the carcass
10/10/02	Inkiito	Predation	Jackal	killed 3 baby goats	1,500	Stanley [the enumerator himself] Morans	The owner tried to kill without success.
11/10/02	Intemwa	Killing of wildlife	Elephant	Morans killed 1 elephant			Elders reported the matter to KWS because they hate what has happened
15-10-02	Emeshenani	Predation	Hyena	killed 6 donkeys			The hyena escaped unharmed
20-10-02	Emeshenai olala	Killing of wildlife	Elephant	1 elephant carcass found			KWS suspects it was killed but no evidence
23-10-02	Iremito	Wildlife disturbing people	Elephant	Many groups of elephants disturbing community. Nobody			

28-10-02	Irkarat	Predation	Elephant	harmed.	Killed 1 cow	8,800	A moran tried to get the hyena but it escaped
1/11/2002	Irkarat	Predation	Lion	killed 2 big cows + 1 calf	22,700		Elders prevented and warned the morans against taking any action. KWS staff witnessed but took no action
2/11/2002	Emeshenani	Predation	Hyena	killed 2 donkeys	3,000		The owner poisoned the carcass and succeeded in killing 2 hyenas
3/11/2002	Emeshenani	Killing of wildlife	Hyena	2 hyenas killed after carcass poisoned (<i>donkeys above</i>)			[Revenge for above]
4/11/2002	Emeshenani	Predation	Lion	killed 1 cow	15,000		Morans tried to kill the lion but it escaped with a spear injury
6/11/2002	Imurua oloibor	Predation	Hyena	killed 1 goat	1,200		Morans killed that hyena on the spot
10/11/2002	Imurua oloibor	Killing of wildlife	Hyena	culprit hyena killed by morans because of attack above		Morans	[Revenge for above]
10/11/2002	Incakita	Predation	Hyena	killed 3 goats	4,000		Morans tried to follow the hyenas but no success
11/11/2002	Orpait	Predation	Tiger [Leopard/Cheetah]	Killed 1 goat	1,200		It was chased away but not hurt
12/11/2002	Inkereyiani	Predation	Hyena	killed 3 donkeys	6,000		1 hyena was killed on the spot and the other escaped with a spear injury
12/11/2002	Inkereyiani	Killing of wildlife	Hyena	Killed on the spot because of above			[Revenge for above]
14-11-02	Inkereyiani			1 cow died	15,000		Prolonged famine has raised havoc [sic] in the area
15-11-02	Irkarat	Predation	Elephant	killed 1 cow	12,000		Elephant research staff [Amboseli Elephant Trust] agreed to pay Ksh 15,000 to the cow's owner

15-11-02	Emeshenani	Predation	Cheater [sic] [Cheetah]	killed 1 sheep	2,000	Morans followed and killed that animal
15-11-02	Emeshenani	Killing of wildlife	Cheater [sic] [Cheetah]	culprit cheetah above killed by morans		
18-11-02	Iremto	Killing of wildlife	Buffalo + elephant	morans went out hunting and killed 2 buffaloes + 1 elephant calf		
18-11-02	Marite	Predation	Lion	Killed 1 cow	15,000	Morans followed that lion and killed it
18-11-02	Marite	Killing of wildlife	Lion	Killed by morans because of above		
20-11-02	Emesera	Predation	Lion	killed 1 cow	15,000	Lion escaped with minor spear injuries
21-11-02	Olorika	Predation	Hyena	killed 3 goats		Morans tried to follow but the elders intervened and agreed to report the matter to KWS
21-11-02	Nado enkare	predation'	Snake	killed a calf	5,000	Snake was not identified and hence no action taken
1/12/2002	Enkang	Predation	Hyena	killed 1 goat	1,000	Morans tried to follow and kill but no success
3/12/2002	Osiot	Predation	Cheater [sic] [Cheetah]	killed 1 sheep	2,000	
11/12/2002	Emeshenani	Predation	Lion	Killed 1 cow	21,000	Morans went after the lion but no success
12/12/2002	Emeshenani	Predation + human injury	same lion	killed 1 cow and injured 2 people	8,000	People of that area tried very much to kill the lion but failed
14-12-02	Risa	predation'	Buffalo	killed 1 cow	7,500	Morans received the message, reacted and killed the buffalo
14-12-03	Risa	Killing of	Buffalo	Killed by		

15-12-02	Park	Human injury	Lions?	morans because of above injured 1 moran	Moran was treated with traditional medicine
27-12-02	Risa	Predation	Hyena	Killed 1 sheep	The owner tried to rescue the sheep but in vain. The hyena escaped
29-12-02	Risa	Predation	Hyena	injured 1 calf	Since that incident occurred at night and it was so dark, morans tried their best to kill that hyena but no success
31-12-02	Risa	Predation	Hyena	killed 1 goat + injured 1 goat inside boma	The owner of the boma sacrificed himself to make sure he killed that hyena but no success
1/1/2003	Park	Killing of wildlife	Lion	Young morans went hunting and killed 1 lion	Since that lion had been disturbing the community around the park, those morans were welcomed by the elders in a heroic way
3/1/2003	Risa	Predation	Hyena	killed 1 lamb + killed 1 sheep but did not eat it - inside boma	Hyena escaped unharmed. The matter was reported to the local game scouts
4/1/2003	Emeshenani	Predation	Hyena	Killed 1 donkey	The community there tried to poison the carcass and managed to kill many hyenas
4/1/2003	Emeshenani	Killing of wildlife	Hyena	carcasses poisoned and many hyenas	Revenge for above
6/1/03	Inkiito	'predation'	Buffalo	Injured a cow badly and the cow died	The owner reported the matter to the Morans, who followed buffalo and killed it
6/1/2003	Inkiito	Killing of wildlife	Buffalo	Killed by morans because of above	

7/1/2003	Nado enkare	Predation	Lion	killed 1 goat in the bush	1,500	Napi Stanley ole Kitipai	Children saw the lion and called elders. Big boys made noise and scared the lion. Elders saw tracks and retrieved the dead goat. Matter reported to park's headquarters but no action taken. We just made noise for nothing.
8/1/2003	Emeshenani	Predation	Tiger [sic] [leopard/cheetah]	killed 1 goat	1,000		Morans killed that tiger [sic] on the spot
8/1/2003	Emeshenani	Killing of wildlife	Tiger [sic] [leopard/cheetah]	killed on the spot where he ate goat above			
9/1/2003	Incakita	Predation	Hyena	killed 1 calf in bush	1,500		Cows came home late, 1 after the other, so hyena came across 1 weak calf. Calf cried and people heard, came to rescue from home and found it dead. No action taken since the incident happened at night. Matter reported to game scouts
10/1/2003	Naorr enkare (park boundary)	Killing of wildlife	Buffalo	morans went out hunting and killed 1 buffalo		Morans	Game scouts found them and escorted them to the park HQ for sermoning.
13-1-03	Incakita	Killing of wildlife	Hyena	1 hyena killed by morans		Morans	No action taken
15-1-03	Inkiito	Predation	Lion	killed 1 cow	20,000		Matter reported to KWS HQ
18-1-03	Risa	predation'	Buffalo	injured 1 calf	5,000		Morans revenged by killing 3 buffaloes
18-1-03	Risa	Killing of wildlife	Buffalo	3 buffaloes killed by morans as revenge for above			
20-1-03	Emeshenani	Predation	Lion	Killed 1 cow	15,000		Matter reported to game scouts
21-1-03	Nairrabala	Killing of wildlife	Wildebeest	small boys killed 1 WB and ate it after slaughtering			The elders warned them that serious action will be taken against them if they repeat

22-1-03	Inkiito	Predation	Lion	Killed 1 gazelle		Due to migration of animals out of the park, the tension has risen since lions follow them
24-1-03	Emeshenani	predation'	Elephant	injured 1 cow	20,000	Matter reported to KWS staff and they promised to pay if that cow died
26-1-03	Emeshenani	Killing of wildlife	Gazelle	Boys killed 1 gazelle		Elders and KWS officials addressed the importance of wild animals to the boys and asked them not to kill wild animals
30-1-03	Incakita	Predation	Hyena	killed 9 goats and injured 2 goats	23,000	The matter was reported to KWS personnel and they came to witness the carcasses but no serious action was taken. The owner swore to find court advice if KWS does not pay back his goats
2/2/2003	Risa - injured moran from Risa	Human injury	Lion	attacked morans and injured one inside the park		Moran was flown to Loitokitok hospital. No action taken against that animal
4/2/2003	Risa	Predation	Hyena	Killed 1 calf	3,500	Calf injured in the bush but died at home [Bush = little shrubs, not widely spread, very open area where highest things are the houses of bomas (few) around and very few trees (so, really not a dense bush). Carcass was poisoned by owner]
6/2/2003	Emeshenani	Predation	Elephant	killed 1 cow	20,000	Elephant research team toured the scene and promised to pay
7/2/2003	Naorr enkare	Killing of wildlife	Warthog	boys killed 1 warthog		Elders told them that their action is illegal
10/2/2003	Emeshenani	Predation	Lion	Killed 1 cow	15,000	Elders met and decided to report the matter to KWS before any action
15-2-03	Inkiito	Predation	Hyaena	killed 1 goat	1,200	The owner decided to poison the carcass. In the following morning 4 hyenas were found dead some meters away from boma
16-2-03	Inkiito	Killing of wildlife	Hyaena	4 hyenas poisoned (because of above)		[Revenge for above]

18-2-03	Intemwa	Killing of wildlife	Lion	morans went on olamayio: killed 1 lion, other escaped	Morans	Game scouts advised community to warn the morans or serious action will be taken
19-2-03	Incakita	Predation	Hyena	Killed 4 goats + 6 sheep. Killed in bush at Nado Enkare (GPS coordinates)		Incident reported to KWS but owner complains that KWS did not take the matter seriously
6/3/2003	Risa	Predation	Hyena	Killed 2 sheep and injured 3 others - inside boma	Killed = 3,000; injured = 4,000	The owner reported the incident to the game scouts. No other action taken
6/3/2003	Risa	Killing of wildlife	Hyena	1 hyena trapped and killed		The game scouts discussed the matter with the community. Elders promised to cooperate with them and to protect the wild animals
7/3/2003	Incakita	Killing of wildlife	Wildebeest	Hunted and killed by boys	Boys	Morans were given the authority of caning and disciplining these boys
8/3/2003	Incakita	Predation	Leopard	Leopard killed 1 sheep	1,500	Morans and owner of sheep came with dogs to kill leopard but dogs feared the leopard and did not kill it. Happened during day
9/3/2003	Inkiito	Predation	Cheater [sic] [cheetah]	Killed 1 goat		Morans killed the animal on the spot
9/3/2003	Inkiito	Killing of wildlife	Cheetah	Killed by morans because of above		
10/3/2003	Inkiito	Predation	Elephant	Killed 1 cow	15,000	The owner reported the matter to the elephant research people and they promised to pay
11/3/2003	Inkiito	Killing of wildlife	Warthog	Boy killed 1 warthog	Boys	
12/3/2003	Incakita	Predation	Hyena	Killed 1 sheep	1,200	The owner poisoned the carcass

13-3-03	Iremito	Predation	Lion	Killed a cow	15,000	Elders reported the matter to KWS. No payment done
14-3-03	Intemwa	Killing of wildlife	Lion	Morans hunting lion	Morans	1 moran injured and taken to Loitokitok hospital
19-3-03	In the park, near Naorr Enkare	Predation	Hyena	Killed and smashed a cow	18,000	The owner reported the matter to KWS staff but no action was taken since the incident occurred inside the park
22-3-03	Naorr Enkare	Killing of Antelope wildlife	Antelope	Boys killed and slaughtered an antelope	Boys	KWS staff operating at Booster water station reported the incident to the park headquarters. No action taken
24-3-03	Incakita	Predation	Hyena	Killed a donkey in the bush.	4,000	[Donkeys went to take water at Risa, hyenas chased them and caught 1 at GPS location. Other donkeys broke into the boma so people knew that something went wrong. So they followed the tracks and found 1 dead donkey being eaten by hyenas. Nothing was done after. Donkeys either graze with cows or go by themselves (depends on owner's management)]
26-3-03	Incakita	Predation	Hyena	Injured 3 calves	15,000	The matter was reported to KWS staff
3/4/2003	Risa	Predation	Hyena	Killed 18 goats	38,000	
5/4/2003	Inkiito	Predation	Hyena	killed 2 goats in the bush	1,500 each/both?	
3/5/2003	Incakita	Predation	Hyena	Killed 1 calf in the bush	5,500	[Goats got lost. Stanley and others were asked to come and look for them. Heard goat crying at this location and saw hyena running away. They found that other goat killed here also. No action taken after this.]
18-5-03	Risa	Predation	Hyena	killed 8 small goats	4,000	A sick calf. People didn't realize it had failed to come home. At 8pm, people heard it attacked by hyena. Tried to rescue but found it dead already. nothing done
19-5-03	Endorko (park)	Human injury	Hyena	Nkuren		Owner reported to KWS but no action taken
						Lion escaped unharmed and moran going on healing his wounds

28-5-03	Incakita	Predation	Hyena	killed 1 bull	12,000	Owner poisoned carcass and killed 2 hyenas
28-5-03	Incakita	Killing of wildlife	Hyena	2 hyenas killed by poisoned carcass because of above		[Revenge for above]
29-5-03	Incakita	Predation	Leopard – [seen by Stan- 'olkinya losho']	killed 1 sheep in the bush	2,000	[Stanley saw that leopard. Found carcass and finished eating the sheep. Morans tried to find that leopard but no success]
30-5-03	Risa	Predation	Hyena	killed 2 calves	12,500	No action taken
1/6/2003	Intemwa	Killing of wildlife	Buffalo	morans went to hunt buffalos and killed 2		Elders of the area described the action as illegal and swore to take disciplinary action against the morans
4/6/2003	Inkiito	Predation	Leopard	killed 2 sheep and injured 1 sheep	killed = 4,000; injured = 1,500	Owner reported matter to KWS game scouts but no action taken
5/6/2003	Emeshenani	predation	Elephant	killed 1 calf	2,500	Morans revenged by killing another elephant and so no payment was done to calf owner
5/6/2003	Emeshenani	Killing of wildlife	Elephant	random elephant killed by morans because of above		Morans
6/6/2003	Emeshenani	Predation	Hyena	Killed 1 donkey	4,000	No action taken despite owner reporting to KWS
8/6/2003	Enkereyiani	Killing of wildlife	Wildebeest	Boys killed 1 WB		
9/6/2003	Incakita	Predation	Leopard	Killed 1 sheep	2,000	Owner took carcass for KWS staff to witness
15-6-03	Narraibala	Killing of wildlife	Wildebeest	Boys killed and slaughtered 1 WB		GPS points taken by Ngaitole, working with Elephant Research

16-6-03	Inkereyiani	Predation	Lion	Killed 1 cow	15,000	Morans followed lion but feared to spear it
17-6-03	Inkiito	Predation	Hyena	Killed 1 sheep inside boma.	4,500	Hyenas broke into the boma and ate 2 sheep: 1 killed and 1 injured. Owner tried to spear the hyena but instead he speared one sheep. Total: 2 sheep dead + 1 injured
19-6-03	Intemwa	predation'	Elephant	killed 1 cow	12,000	The matter was reported, but morans followed up and killed that elephant
19-6-03	Intemwa	Killing of wildlife	Elephant	morans killed the elephant responsible for above		Morans
21-6-03	Risa	Predation	Hyena	killed 1 sheep	2,000	No action taken
1/7/2003	Risa	Predation	Hyena	killed 3 donkeys	9,000	Carcasses were poisoned and 4 hyenas killed
1/7/2003	Risa	Killing of wildlife	Hyena	4 hyenas poisoned and killed because of above		
3/7/2003	Risa	Predation	Leopard	killed 2 sheep	4,500	Morans followed and killed 1 leopard
3/7/2003	Risa	Killing of wildlife	Leopard	1 leopard killed by morans because of above		Morans
14-7-03	Risa	Predation	Hyena	killed 1 goat + injured 1 sheep	Killed 1,500; injured 2,500	Hyena escaped unharmed
21-7-03	Incakita	Predation	Leopard	killed 1 sheep	1,500	The morans chased it but unable to kill it
23-7-03	Incakita	Predation	Leopard	killed 1 ram	2,500	
3/8/2003	Inkiito	Predation	Hyena	killed 1 goat inside boma	2,300	Stanley spent night in that boma. Hyena entered through gate left open by morans because they come through it at night. No personal reaction, nobody able to kill that hyena

7/8/2003	Inkiito	Predation	Hyena	killed a small goat	500	The owner speared the animal and recovered the carcass
11/8/2003	Inkiito	Theft	Hyena	stole a dry cow skin	300	No action taken
24-8-03	Risa	Predation	Hyena	killed 1 goat in the bush	2,500	Boys didn't look properly for the shoats [sheep and/or goats]. Didn't see hyena getting the goat. When came home, 1 goat missing so people followed tracks from where goat was snatched and found goat's carcass. Clear from tracks that it was hyena. matter reported to KWS but they took no action.
7/9/2003	Risa	Predation	Hyena	killed 2 donkeys in bush	8,000	Cows came home late; donkeys stayed behind and were caught, late evening. [GPS = location where carcasses found. no action taken after].
10/9/2003	Nado enkare	Killing of wildlife	Giraffe	young boys killed 1 giraffe		Game scouts advised their parents on the importance of wild animals hence everybody should learn to protect them
24-9-03	Inkereyiani	Predation	Cheetar [cheetah]	[sic] killed 1 goat	2,500	Shoats [sheep and/or goats] were grazing and herding boys sitting under tree. Goats scared by cheetah and ran away. Stan and other guys came to rescue, saw cheetah run away and found dead goat under this tree (GPS). Morans tried to kill the cheeter [sic] but it escaped unharmed
25-9-03	Inkiito	Predation	Lion	Killed an antelope but boys chased the lion and ate the antelope		Elders gave the boys a warning on the danger of wild animals
26-9-03	Laantaritik	Predation	Hyena Hyena	killed 1 donkey	4,000	

8/11/2003	Inkiito	Predation	Hyena	ate 1 goat at the boma	1,500	[Happened during day. Herding boy saw nothing. Boys herding cows found cheetah eating the goat. Following day, cows' boys brought wazee [elders] here, including Stanley.]
10/11/2003	Risa	Predation	Hyena	Ate 1 goat (lost in the bush)	1,500	
12/11/2003	Incakita	Predation	Leopard	killed 1 lost goat -	1,500	
14-11-03	Inkereyiani	Predation	Cheetah	killed 1 goat in the bush	2,000	
28-12-03	Olagarrama - not part of study area (part of Mbi North)	Predation	Cheetah	3 cheetahs killed 1 sheep	1,500	Stanley showed cheetah in pictures. For him, leopard = olkinya losho/sapuk lukunya. When we saw cheetah last December when going to park, according to Stanley, that was 'olowaru ker'. According to Stanley, leopard (olkinya losho) has bigger body so it can eat calves, but name also means that it is as big as a calf when it stands, not necessarily that it eats calves. Cheetah is much smaller and has smaller head than leopard (=> sapuk lukunya)
24-3-04	Inchakita	Predation	Cheetah - cheeter	killed 1 goat	3,500	The boy wanted to spear the olowaru ker [cheetah/leopard. Lit. 'spotted lion'] but missed it. [So Stan and brothers tried to kill but it climbed to tree and they couldn't kill it, with dogs and spears. Cheetah/Leopard didn't finish the goat so they took it for olpul [meat camp]].
4/4/2004	Klendorko	Predation	cheetah	injured a ram	6,000	Stanley [Stanley saw it so knows it is cheetah. Attacked ram in the bush. Noontomon, Stanley's wife saw it jump onto ram. She tried to scream to scare it but it didn't move so she threw her panga [machete] so cheetah escaped and ram ran into the herd but injured. Guys tried to kill it but it had disappeared. Noontomon was herding when it happened]
5/4/2004	Ngoloirere	Predation	Hyena	killed a cow in the bush	17,000	No action taken

15-4-04	???	Killing of wildlife	Lion	a moran killed a lion	Ntitika	Killed at Olamayio by son of Olentikoe. Elders held a meeting and told KWS that they also don't like it that that lion was killed. So KWS told them: 'get the moran involved'. They replied 'we don't know because he is not from this area' (not true: the moran is from Risa).
16-4-04	Inchakita	Killing of wildlife	Wildebbeest	Morans killed a wildebeest		No action taken since the WB was inside the manyata: hyenas chased the WB, which was already bitten by them. Then WB broke into morans' manyata. It became aggressive so morans killed it
6/5/2004	Inchakita	Disease	Wildebbeest	MCF killed 1 cow	brother of Stanley	MCF killed 1 cow which had just given birth 3 days ago

Human Wildlife-Conflict Diary, Osilalei area. Recorded by Raphael ole Taraya, Osilaley GR (GPS coordinates and names removed for confidentiality reasons).

Date	Location	Problem	Species	Cost (Ksh)	Name	Comments
1/10/2002	Enkii (just near Raphael's home)	Predation	Leopard			Goat gave birth in forest, just near boma and was eaten at night by leopard. Leopards are the most disturbing animals all over GR
8/10/2002	Ekaron (place people used to call Ilikung le tatio)	Predation	Lion			Cows chased by lion for short time, 1 cow got inside a hole (valley), 1 leg got broken, and it couldn't move up valley. Although death not caused directly by wild animals, loss was indirectly caused by lion. Later the whole cow was consumed by hyenas.
12/10/2002	Ololua	Predation	Leopard			Leopard ate the goat in forest during day
13/10/02	Enkaroni Very thick forest near hills - which hills?	Predation	Lion			Lion came across grazing herd and bit cow near mouth. Because of its injuries, it had a hard time grazing and lost a lot of weight and ended up dying. Morans defended the other cows (didn't kill the lion)
20/10/03	Olgos Lolalema (just near hills)	Predation	Leopard			4 leopards killed sheep when grazing. The leopards were seen later by young boys who later took the message to the wazee. Leopards were not killed but seen by the wazee.
25/10/02	Enkii	Predation	Hyena			5 sheep got lost, 4 were found, 1 spent night in forest and eaten by hyenas. Because of drought, sheep very weak and run mad. So sheep eaten by hyenas at night. Remains found 1 day later (explanation of owner)
6/11/02	Noorkoiyo	Predation	Leopard			Leopard killed sheep during day. Sheep was lost and looking for others when it was found by leopard. Owner complained a lot about leopards eating his shoats [sheep and/or goats] throughout the year.
25/11/02	Enkikuloi	Predation	Leopard			Goat caught by leopard during day when grazing. Leopards disturb shoats [sheep and/or goats] even during rainy season

29-11 to 15-12-02	Diseases occur at the month of December	"Anthrax" = <i>empuruo</i> = Black Quarter				
	Oloiborsoit	Disease	Anthrax	Anthrax killed 8 cows		
	Emashini	Disease	Anthrax	Anthrax also killed 5 cows of one mzee [elder]		
	Emisela	Disease	Anthrax	Anthrax (<i>empuruo</i>) seems to be very dangerous		
12/1/2003	Emashini	Predation	Hyaena	Donkeys spent night outside boma. Mzee [elder] complained of hyenas eating donkeys during night hours		
13/01/03	Emashini	Crop damage	Monkey	Monkeys are destroying people's maize before harvest		
25/1/03	Noonkoijo	Crop damage	Monkey	People living near the big river are complaining about monkeys eating maize		
25/01/03	Noonkoijo	Crop damage	Porcupine (kiSwa: nungunungu)	The mzee [elder] complained about the wild animals destroying maize		
27/01/03	Ekikuroi	Predation	Cheetah	The mzee complained about loss caused by wild animals every year and no action taken by government		
14/02/03	Eiti-edoo (Aroni)	Predation	Lion	Mzee said that he has lost big number of animals due to wildlife. Lions are sometimes seen at Enkaron near the hills. Cow was left grazing alone at the forest near home		
20/02/03	Oloiborsoit	Predation	Leopard	Owner's wife said that she lost a number of shoats [sheep and/or goats] because of wildlife every year.		
7/3/2003	Olgosloo lalema	Predation	Lion	Lion caught cow during day. Mzee said that he lost number of his properties due to wildlife every year		

12/3/2003	Ilkeek loomotonyi	Predation	Leopard	1 boy saw the leopard running with the goat during daytime. Mzee said he lost number of his shoats [sheep and/or goats] every year due to leopards. No action taken by the GOK
1/3/2003	Enkii	Snake bite	snake	Snake bit goat during grazing time. Such cases are not common but are there. Animal died immediately of snake bite. No treatment for this
24/03/03	Emisela Echani Echulai	Disturbance/predation	Lion	Night was dark and raining. Mzee said that lions always disturb bomas at night when raining
19/04/03	Enkii	Predation	Hyaena	Shoats [sheep and/or goats] reported to be lost during day. Spent the night in forest. At night, hyenas run looking for something to eat. So such shoats are easy to be eaten by hyenas. Mzee complained of losses because of wildlife every day.
5/5/03	Oloiborsoit	Predation	Hyena	Cow eaten at night, near boma. Cow ran away from boma for grazing at night. During night mostly when it's raining hyenas are likely to eat animals because of darkness. No payment by GOK for such loss
6/5/03	all over the GR, for the people cultivating	Crop damage	Birds (e.g. Ilanga, Ilwale)	After heavy rains (which start late April) many families start planting maize and beans. Birds start disturbing crops mostly during time that crops are growing. Many people said that the birds are the animals disturbing crops the most, disturbing (maize from planting to harvesting)
13/05/03	Ololua	Predation	Leopard	Mzee said leopards disturbing him everyday. Complained of losses caused by wild animals
20/05/03	Endonyo wuas	Predation	Leopard	Mzee said that almost every year he loses many shoats [sheep and/or goats] because of wild animals but no payment made
21/05/03	Emisela	Predation	Leopard + hyena	4 young sheep spent whole night at the forest. owner said that wild animals are disturbing a lot even during rainy season

27/05/03	Ekeju Olasho	Accident	Dam wall	Cows grazing near a river, 1 cow killed by a 'big river wall' falling on it. Such cases are not common but are there, especially during rainy season
30/05/03	Emashini	Predation	Hyena	Donkeys caught by hyenas at night. Killed 1. No action by government to pay for these losses
4/07/03	Echani	Predation	Lion	23 shoats [sheep and/or goats] lost at nearby Mailua GR and crossed to Osilalei GR. shoats stayed for 3 days without being found. On 3rd day, shoats were killed by 2 lions at Echani near Emisala. Lions are wild animals which can make a lot of damage to livestock. Such losses are very big and can't be recovered
5/7/2003	Oloiborsoit	Crop damage	Elephant	mzee said that such cases are very bad, elephants destroying maize planted for family
6/7/2003	Ekii	Crop damage	Elephant	about 3 bags = Ksh 3,000
5/07 to 12/07/03	Ekutoto area	Material damage	Elephant	Elephants destroyed public dam (water conserved for livestock) built by ADRA (NGO). People living near dam said that elephants from nearby game reserve (Amboseli) have brought lot of damage to the dam
22/07/03	Emisela	Predation	Leopard	Leopards are making losses every year
30/08/03	Emisela	Predation	Leopard	Goat got lost during the day and not found anymore. mzee said a number of shoats [sheep and/or goats] due to wildlife every year
21/09/03	Emashini	Predation	Leopard	Goat got lost during the day and disappeared at the forest near home, it was giving birth. Mzee said he suspected leopard for his lost goat. Such cases are common at bomas near the thick forest, mostly near rivers.
4/10/03	Njokoi	Predation	Leopard	7 shoats eaten by leopards at night when they got lost and spent night in the forest. Wazee from Saikong family complained of losses caused by wildlife near the hills every day and no payment by government

6/10/03	Oloitiko	Predation	Leopard	Mzee said shoat give birth in forest and spent night there. Both gave birth to twins (total of 4) and were eaten by a leopard. Mzee says that cases of leopard eating livestock occur every day and GOK is not taking any measures to control such cases
8/10/03	Ekii	Predation	Hyena	3 sheep got lost and spent night in forest. 1 eaten by hyenas and other 2 ran away and were found following day. The mzee said he lost many animals due to wildlife every year.
13/10/03	Enchani	Predation	Leopard	A leopard ran into grazing shoats [sheep and/or goats] and ate 1 very big goat. In October every year, such cases of leopards eating animals are common
19/10/03	Emashini	Predation	Hyena	Wazee heard noises from the bush of donkeys being chased by hyenas during night. Donkeys like to sleep outside bomas and many times they are eaten by wildlife. Some died and some injured.
27/10/03	Ekejo Olasho	Predation	Hyena	hyenas have been killing donkeys every day and no any payment from the government
2/11/03	Emashini	Predation	Hyena	1 hyena jumped over the fence during the night and ran away with a sheep. The others were left in the enclosure (boma). According to the mzee, no any profit the wananchi (members) of Osilalei are getting due to wildlife destruction
5/11/03	Everywhere the GR	within Crop damage	Birds	on this day, many people have already planted their shambas. Birds are a very big problem for the seeds, before they start growing. Mainly maize but also beans. Such case are common during planting and harvesting seasons
5/11/03	Ekikuloi	Predation	Leopard	2 sheep eaten by leopard after getting lost during day time. He said he had lost a lot of livestock due to wildlife every year
				3,500 total

6/11/03	Echani	Predation	Leopard	GR Chairman	leopards have been eating shoats [sheep and/or goats] every day but KWS is not paying for the loss
7/11/03	Echani	Predation	Leopard		the same leopards made this damage for the second day
14/12/03	Ekii	Crop damage	Zebra, wildebeests, gazelles		the mzee complained of wildlife destroying maize
25/12/03	Ekejo Olasho	Predation	Leopard		3 leopards were taking water near the boma, from a small well for the family to get water. The leopards stayed near the river until when they caught a goat, which belonged to the owner of the well. According to him, leopards destroyed the wall before eating the goat. it was a bad thing for him during the celebration of Christmas
10/1/04	Oloiborsoit	Predation	Hyena		Donkey eaten by hyena at night. The mzee said he lost a very healthy to wildlife
3/2/04	Ekikuloi	Predation	Cheetah		the mzee was feeling sad to have lost 2 calves at the same time
	Enkii, Emashini, Nookoikoo, Mashuuru, Oldarpoi, Oloiborsoit	Disease	Olkipiei	4 men	Many goats died from this disease from December. Still going on. This disease has not been seen for a long time
	all over the study area	Disease	Foot & Mouth Disease	Almost all bomas	Very bad disease but in many cases cows are not killed. Seen almost every year. Makes cows thin, they cannot be mated, calves born when not ready (abortion).
9/3/04	Oldarpoi	Crop damage	Monkeys	can't tell	Man is planting crop near the river (irrigation). Said he loses many crops every year
23/3/04	Oloinkati	Predation	Hyena		Losses such as this and no payment by the government

1/4/04	Enchani	Predation	Hyena	cant tell	A cow gave birth in the forest and spent the night there. Hyenas attacked and ate the calf
16/4/04	Enkii + Esilalei + Emashini	Crop damage	Birds	cant't tell	Such cases of birds destroying maize during planting season are common in the area
29/4/04	Esilalei	Predation	Leopard		None apart from the fact that he didn't like it.
6/5/04	Emisera	Predation	Cheetah	Ksh 2,000	The mzee said wild animals always attack shoats [sheep and/or goats] and no any payment from the government
17/5/04	Nookoiioo	Human death	Snake (cobra according to Raphael)		Such cases are very rare to happen.

Appendix 3. Sample of household head dependants and sizes of households.

Table 1. Interviewed household heads' dependants.

<i>Household heads' dependants</i>	<i>Frequency</i>	<i>Percent</i>
Brother	1	1.1
Grand-mother	1	1.1
Niece	1	1.1
Brother in law	1	1.1
Step brother	1	1.1
Mother	2	2.1
Daughter in law	2	2.1
Sister	3	3.2
Grand daughter	3	3.2
Daughter	10	10.5
Son	13	13.7
Wife	57	60.0
Total	95	100.0

Table 2. Household sizes across the study areas.

<i>Study area</i>	<i>Number of wives in the household</i>		<i>Total number of wives</i>		<i>Number of children in household</i>		<i>Total number of children</i>	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Swamps (n=32)	1.09	0.818	1.38	0.942	4.13	2.600	7.19	5.167
Meshenani (n=33)	2.82	1.334	3.30	1.510	8.94	6.837	13.31	9.816
Osilalei (n=31)	1.54	1.201	1.78	1.219	4.16	3.226	7.97	6.343
Total (n=96)	1.84	1.354	2.18	1.504	5.79	5.146	9.53	7.827

Appendix 4. Perceptions of competition for grazing and water

Table 1. Perceptions of competition for grass and water among household heads. df=2.

<i>Human-Wildlife Conflicts</i>	<i>Household heads</i>	<i>Study Areas</i>			<i>Test statistics</i>	
		<i>Swamps (n=32)</i>	<i>Emeshenani (n=32)</i>	<i>Osilalei (n=31)</i>	χ^2	p^*
Is competition for grass between your livestock and wild animals a problem for you?	74 (77.9%)	28 (87.5%)	22 (68.8%)	24 (77.4%)	3.273	.195
Is competition for water between your livestock and wild animals a problem for you?	30 (31.6%)	9 (28.1%)	14 (43.8%)	7 (22.6%)	3.532	.171

*95% significance level.

Appendix 5. Attitude 5-item scale reliability analysis (SPSS Output).

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	113	100.0
	Excluded (a)	0	.0
	Total	113	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.717	.721	5

Item Statistics

	Mean	Std. Deviation	N
W_good_bad_land_score	.80	.983	113
Illegal_Kill_good_score	1.05	.953	113
WRight_score	1.36	.936	113
W_good_bad_things_score	.57	.833	113
Like_Dislike_score	1.16	.882	113

Inter-Item Correlation Matrix

	W_good_bad_land_score	Illegal_Kill_good_score	WRight_score	W_good_bad_things_score	Like_Dislike_score
W_good_bad_land_score	1.000	.259	.285	.491	.552
Illegal_Kill_good_score	.259	1.000	.178	.299	.298
WRight_score	.285	.178	1.000	.238	.254
W_good_bad_things_score	.491	.299	.238	1.000	.557
Like_Dislike_score	.552	.298	.254	.557	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	.988	.566	1.363	.796	2.406	.097	5
Item Variances	.845	.694	.967	.273	1.393	.012	5
Inter-Item Covariances	.284	.159	.479	.320	3.011	.011	5
Inter-Item Correlations	.341	.178	.557	.378	3.119	.018	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
W_good_bad_land_score	4.14	6.158	.568	.372	.628
Illegal_Kill_good_score	3.88	7.210	.348	.126	.720
WRight_score	3.58	7.389	.321	.106	.729
W_good_bad_things_score	4.37	6.736	.571	.374	.635
Like_Dislike_score	3.78	6.424	.603	.424	.618

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
4.94	9.898	3.146	5

Appendix 6. Multinomial Logistic Regression Final Model (n =189) (SPSS output).

Case Processing Summary

		N	Marginal Percentage
Attitude_my_classification	negative	68	36.0%
	neutral/undecided	37	19.6%
	positive	84	44.4%
Christ__trad	Christian	115	60.8%
	Traditional	74	39.2%
Gender	Male	108	57.1%
	Female	81	42.9%
Land_tenure	Communal (GR)	128	67.7%
	Private	61	32.3%
Valid		189	100.0%
Missing		2	
Total		191	
Subpopulation		8	

Model Fitting Information

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	89.551	96.034	85.551			
Final	70.091	96.025	54.091	31.460	6	.000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson Deviance	6.307	8	.613
	5.924	8	.656

Pseudo R-Square

Cox and Snell	.153
Nagelkerke	.175
McFadden	.079

Likelihood Ratio Tests

Effect	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC of Reduced Model	BIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	70.091	96.025	54.091(a)	.000	0	.
Christ__trad	79.372	98.822	67.372	13.281	2	.001
Gender	79.825	99.276	67.825	13.735	2	.001
Land_tenure	73.224	92.674	61.224	7.133	2	.028

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Parameter Estimates

Attitude_my_classification(a)		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
neutral/undecided	Intercept	-.878	.528	2.763	1	.096			
	[Christ__trad=1]	.152	.453	.113	1	.737	1.164	.480	2.827
	[Christ__trad=2]	0(b)	.	.	0	.	.	.	.
	[Gender=1]	-.887	.456	3.773	1	.052	.412	.168	1.008
	[Gender=2]	0(b)	.	.	0	.	.	.	.
	[Land_tenure=1]	.920	.461	3.988	1	.046	2.509	1.017	6.189
positive	[Land_tenure=2]	0(b)	.	.	0	.	.	.	.
	Intercept	1.539	.475	10.475	1	.001			
	[Christ__trad=1]	1.264	.377	11.229	1	.001	3.540	1.690	7.415
	[Christ__trad=2]	0(b)	.	.	0	.	.	.	.
	[Gender=1]	.700	.377	3.445	1	.063	2.013	.962	4.213
	[Gender=2]	0(b)	.	.	0	.	.	.	.
		[Land_tenure=1]	.855	.363	5.540	1	.019	2.351	1.154
		[Land_tenure=2]	0(b)	.	.	0	.	.	.

a The reference category is: negative.

b This parameter is set to zero because it is redundant.

Classification

Observed	Predicted			
	negative	neutral/un decided	positive	Percent Correct
negative	26	5	37	38.2%
neutral/undecided	7	5	25	13.5%
positive	14	3	67	79.8%
Overall Percentage	24.9%	6.9%	68.3%	51.9%

Observed and Predicted Frequencies

Land_tenure Gender Christ__trad Attitude_my_classification				Frequency			Percentage	
				Observed	Predicted	Pearson Residual	Observed	Predicted
Communal (GR)	Male	Christian	negative	6	7.653	-.667	15.4%	19.6%
			neutral/undecided	3	3.829	-.446	7.7%	9.8%
			positive	30	27.518	.872	76.9%	70.6%
		Traditional	negative	14	13.495	.179	42.4%	40.9%
			neutral/undecided	7	5.799	.550	21.2%	17.6%
			positive	12	13.706	-.603	36.4%	41.5%
	Female	Christian	negative	12	10.749	.441	27.9%	25.0%
			neutral/undecided	13	13.051	-.017	30.2%	30.4%
			positive	18	19.200	-.368	41.9%	44.7%
		Traditional	negative	5	5.103	-.059	38.5%	39.3%
			neutral/undecided	5	5.322	-.182	38.5%	40.9%
			positive	3	2.575	.296	23.1%	19.8%
Private	Male	Christian	negative	5	5.130	-.072	35.7%	36.6%
			neutral/undecided	2	1.023	1.003	14.3%	7.3%
			positive	7	7.847	-.456	50.0%	56.0%
		Traditional	negative	15	13.722	.563	68.2%	62.4%
			neutral/undecided	1	2.350	-.932	4.5%	10.7%
			positive	6	5.929	.034	27.3%	26.9%
	Female	Christian	negative	9	8.468	.246	47.4%	44.6%
			neutral/undecided	4	4.098	-.054	21.1%	21.6%
			positive	6	6.435	-.211	31.6%	33.9%
		Traditional	negative	2	3.680	-1.409	33.3%	61.3%
			neutral/undecided	2	1.530	.441	33.3%	25.5%
			positive	2	.790	1.461	33.3%	13.2%

The percentages are based on total observed frequencies in each subpopulation.

Appendix 7. The creation of Amboseli National Park: “Cheating” narratives (verbatim).

Interview with an Ilnyankusi elder, Swamps.

Oloiptip was asked by *wazungu*⁷⁸ and government to give out that land, in order to take care of wildlife but he said "no because that is where we rear our livestock, our only source of water". Government said "We'll pump water outside the park to all directions of the dry season grazing areas". It was agreed and water was pumped to Busta, Risa, Inchakita, Meshenani and Morua Oldule.

Interview with an Iseuri elder, Swamps.

The government is a tougher moran⁷⁹ than us and always a tough moran can beat a weak moran because the government is tougher than Maasai people, they captured the few tough morans like Oloiptip by bribing them and they gave out the land. Tough morans took the land from the weak morans. Government wanted to protect wild animals for *ilashumpa*⁸⁰ to come and take pictures and pay them big sums of money. The same happened with Kimana sanctuary. But the one who gave out that land, the moment he ate that money he died because he was cursed. Same reason why Oloiptip died: also killed by eating soil. He was cursed by the senior elders.

Conversation with a Olgulului-Lolarrash GR member living in Imbirikani GR. Recorded by R. ole Supeet.

How Amboseli came into being as a NP. When Ilnyankusi were morans, in their early stages. The white man lived in Oltukai Orok Tented camp (Kelvin), the current Block Hotel venue. The Maasai chiefs by then were Kiminko (Iltuati) and Sakimba (Oltaretoi). Those guys were digging some dams (Illaingarinyoni; Ilturot Wuasin; Lerrap; Risa near Posta; Nairrabala; Lenkariti in Matapato; Engamata Olchoni, right at the border between us and Matapato). People were digging the dams by hand, Iltatua people [Tanzanians]. So, in the year 1962, cows were started to be refused to pass near the camp. In the year 1963, they start to make some boundaries. And they made two boreholes, one near Lakiito and the other one at Iremito [boreholes to provide water outside the park]. In 1969, the current boundaries were announced by the current director, called Ole Sintiyio and after that the cows were grazing in the park but after another warden called Moses Ololunya, he started refusing animal life to graze in the park. By then, that place was

⁷⁸ *Mzungu*, pl. *wazungu*: white person(s) (Kiswahili)

⁷⁹ Moran: “warrior”.

⁸⁰ *Olashumpai*, pl. *Ilashumpa*: white people (Maa)

owned by the county council, headed by a mzee called Alex Ole Legis (Chairman of Olkejuado County Council) and they were not in good terms with Oloiptip, who was member of parliament in the years 1971-72. And Oloiptip decided to give the area to the government to keep away the county council and for them to get money directly from the owners of the game park and in the process they promise six more boreholes, namely: Inkiito, Iremito, Enaiperra (Olmoti borehole), Ilmarba, Emurua oldule borehole, Emparinkoi. And people were not convinced. Government decided to go on drilling the boreholes. Maasai wanted to resist the work going on. Thus they arrest three morans, namely: Koyo Ole Soipei, Naisho Mantumo, Olkimunkush Olenkii [resistance during the drilling of boreholes]. They were sentenced to jail in Kajiado. And by then, a meeting was called. Meeting participants were asked to show by raising of hands and sign by thumb print if you don't want this place to be taken where almost everybody does and that one was passed in the year 1975 [Oloiptip did a wrongful translation, making people believe that he asked "who doesn't want this place taken away?", to which everyone raised hands to approve, when he asked the opposite]. In 1975, he signed on behalf of his people [cheating according to local perceptions]. And the few who did not show up their hands at the meeting were asked to contribute Ksh 2,000 each to be among the society to construct Serena Lodge and these were: Oloiptip (Illyankusi age-set), Ntipapa (Illyankusi), Oloishiro ole Matui (Iseuri age-set), Oloishiro ole Ntawuasa (Illyankusi), Saudi (a Somali mzee). And that was passed and President Moi when he was vice-president opened Serena Lodge officially. He landed at the airstrip with Oloiptip in 1974, the second day after Ilaitayiok morans (Ilkishimu) selected their chief officially (Kirrinkel ole Musa). And Moi was addressing the congregation. He told them who between all of you is seeing the back of this neck. Then everybody answered nobody. And he said "that is the same with this place, you'll never see it [meaning "it's not your place anymore"] and instead you should employ your sons here because it is already a national park". And the following were employed that day: John Marinka, Jonathan Leboo, Ole Melita, Ole Kinyala, David Ngisia ole Munyei, Simon Ole Kool, Joseph Melompuki⁸¹. And that is how Amboseli NP came into being.

Interview with Richard ole Supeet's father, Iseuri elder, swamps.

When we were big boys [in 1940's], a white man came and put up a tent. He came like he was bringing vaccination against *olkipiei* [pleuro-pneumonia] to livestock when he saw lots of animals of different species. He realized place was good to make a park. He consulted the chief ole Kirrinkol, the Sr. chief of all people. He requested a small area to put tents and to take pictures of animals. "Because we've helped you with vaccination". So, he was given a small area for 3 tents. He stayed and requested more space. They made agreement and continued vaccination. People liked the white people because they were vaccinating against several diseases (also *olodua*⁸²). That area increased and increased until it was enclosed as a park. In Oloiptip's time, he declared the park and gave it out completely. They refused cows in park, where there are good swamps, with good grass, and animals

⁸¹ Manager of the Public Campsite on Olgulului-Lolarrash GR at time of fieldwork.

⁸² *Olodua* ("the one which is bitter"): rinderpest.

never die when taken there during droughts. Maasai started to refuse. Morans wanted to kill Oloiptip because he was giving land out. Oloiptip went away [informant repeats frequently heard story about raising of hands, cheating by Oloiptip etc] When guys came to inject the animal, Menye Richard's steer slaughtered, sold to white people for only Ksh 100.00.

Interview with Iseuri elder, Emeshenani.

I hated it so much. I was a moran by then, but when we moved out completely, I was a junior elder). Oloiptip moved people away

Q: why?

A: because he was selling that land

Q: why selling? To whom?

A: because first there was a small land given away, by Kirrinkol, the chief of all the Kisonko Maasai of Kenya. He was given a bull by the government. Then Oloiptip gave away the rest of the land to that company called Serikali [Kiswahili: government]

Q: why did the government buy this land? For which purpose?

A: because the land was full of wild animals

Q: why would they want such a land full of wild animals?

A: it is a good land for wild animals

Q: why buying a land for wild animals?

A: they just wanted to own it like they're doing now. That's why they have taken too much of our land.

Interview with Ilkishimu elder, Emeshenani.

We hated it so much. It started with a Mzungu [Kiswahili: white person] putting just a small tent. Then he asked people to give him just ¼ acre to put a house. He built the house and fenced that ¼ acre. Oloiptip came and took the whole thing by saying "How many people want this land to be taken to be protected for wild animals"? And very few people raised their hands. Then he asked "How many people don't want?" And almost everybody raised their hands. He said "The majority wants this land protected". So it was signed and the land was given out. Then Oloiptip, after this, he was promoted to minister

Q: didn't the people hate him for doing this?

A: I don't know *tukul* [at all]. People were not well learned by then. But we felt really bad. Some Ilnyankusi [elders] were arrested, like Napi's father, because they were protesting against the park by holding meetings where they were telling people that this was a very bad thing. This was under Kenyatta government.

Interview with Ilnyankusi elder, Emeshenani.

We were cheated and then it was taken [ANP]. They, the "game" [KWS] promised they will supply water. But right after we moved out of the park, water stopped. Even the booster, we have not taken even calves there, leave alone cows. Because there is not enough water there even for calves.

[...]

ANP started as a small area given to some *wazungu* by the Maasai leader called Kirrinkol, from Iltuati age-set, who gave out a small area just as a friend. And they built some small tents. That place given out had some stones put around it. When the Maasai moved out in the rains, the Ilashumpa enlarged that area and moved the stones more widely. When it rains, Amboseli is not the best place for cows because it is swampy. The Ilashumpa said: "We are just increasing the space so that birds lay eggs and other Ilashumpa come and see them". So the Maasai said "Ok, no problem". So, this is how the park was taken, slowly, slowly, until it became the way it is now.

Interview with Ilnyankusi elder, Emeshenani.

In this land, the wild animals have increased a lot. White people came and asked for permission to have a kind of enclosure to put Wild animals so that they take pictures. So the community said "we don't have". So they insisted "please, give us. We just need a very small area". "We don't give because we have a lot of flies for our livestock and they will end up disturbing you". A *mzungu* [white person] called Deborah [?] said "Please, give us because your cows will be grazing around my house and I don't mind as long as they don't enter inside the house. I have no problem". The moment they put the house there, they started expanding, saying "don't let the cows come here", "don't let the cows here". They kept on expanding until they ended up being as big a national park (*Empaka Amboseli*) as you can see now.

Then they asked again to live at Oltukai Orok [area now inside the park]. The community said "we don't allow you to stay there". By then, if cows from the other side of Amboseli were migrating to this side, they just went freely. They just came straight if they wanted to come here. And now there is a big problem because now cows have to make a very big circle to come here. So that's how strong people (the government) harassed weak people (us, the Maasai). The community went to Kajiado, including me (when I was a GRC member) to tell the government "Don't harass us because these wild animals even belong to us. They are here because of us". We even went up to Oldoinyo Keri [Mt Kenya].

Q: to do what?

A: when we were morans, to fight the Kikuyus. We were taken there by *wazungus*. [...]

A: the other problem is that they (the government) cheated us (Maasai) like children. They asked us "Please, get out of here and we'll make 4 water tanks outside ANP: Busta, Risa, Inchakita and Meshenani". Some of them have broken down and have no water. And they are refusing cows to go to the park to take water. The first time the government made these tanks, the white people were really doing it because they would say "We provide gas for the machine to pump water 24h unless the cows are not there to get water". This was under the white government. After this government took power, at first, they were saying "Just pump water for 7 hours, and then let the machine rest". Until now, when they're not even pumping at all!

[...] The 2 worse things about these people is the fact that they don't allow our cows to graze inside the park and these wild animals are grazing all around our bomas

and inside our own grazing areas [*endaat ooinkishu*; where cows graze]. The second thing is that the only *osupuko*⁸³ we have is that one of Amboseli, which was taken away from us.

Interview with Ilkimunyak elder, Emeshenani

Although we were children then, we are still feeling the pain because it was mistranslated, because the majority of the elders had said “We will not give the land out”. But the leader [Oloitiptip] at that time said [translated as] “We want to give out that land” and he, Oloitiptip, did that for his own benefit only.

JRP: what did people lose by getting out of that land?

Elder: we lost our water. I'm sure if you want to make your *emparnat* [permanent settlement], you have to consider where water is. That's the biggest problem, why we hate coming out of that land.

JRP: When Amboseli NP was created, how did you feel about it?

Elder: Bad. We just heard stories because we were very young so we are not sure what they meant, why the government agreed for one person to make the majority suffer. Now the man is dead. And when the current leaders are trying to discuss the matter again, they are told: it was passed by Oloitiptip and that cannot be discussed again.

Interview with Iseuri elder, Emeshenani.

Q: when you moved out of the park, how did you feel about that?

A: so bad! We were chased from that place inside water (*atua enkare*) with good grass

Q: why did that happen? Why were people chased?

A: I don't know. We say government took it by force

Q: to do what with that land? What was the government's purpose?

A: for this work, pretending that they are protecting the WA's

Q: what's the use of protecting WA's? When there were so many WA's in Maasailand anyway?

A: it is for them to have a central point to settle houses, because the wild animals inside the park are not as many as the ones outside of the park. They wanted to get money in a hidden place, without our knowledge because a thief does his things in a hidden place.

⁸³ *Osupuko*: literally highland; also fertile, humid area.

Appendix 8. Research assistants' reports on the survey of non-Maasai households that they carried out. Transcribed verbatim from their notes. January 2003.

R. ole Supeet. Kalesirua/Isinet area

22-12-02 - I met Mr. K. preparing to go out to his shamba to whom I introduced the work I want to do and he agreed and then we continue without any problem because he understood after I finished. I asked if he had any question and said no. So I thanked him for his kind co-operation.

24-12-02 - It was around 11 o'clock in the morning when I met this old man whom I knew for quite long time. Mr. M. was resting after from being weeding his shamba of onions. I greets him and he responds so nicely then without wasting any time I introduce my work and we continue without any problem. And after we finished I ask questions and he said I am just very happy that some people are presenting farmers problems caused by wildlife to the policy makers because they are causing a lot of troubles to us.

24-12-02 - I. is a learned friend of mine whom I told him this work even before so he took it very quickly after he goes through the whole questionnaire. After we finished, I thanks him for giving me his time

27-12-02 - O. was staying together with I. so he told me to write the same as with I. but I refused and after he answered his own questions, he noticed that there were many differences especially in the sense of like and dislikes. But anyway he loved the interview and he wished the feedback will be sent back to them. I thanks him for his co-operation

27-12-02 - I knew him so we did not waste time on introducing each other but instead we go straight to work after short explanation of the survey and we finished without any problem .I thanked him.

27-12-02 - S. usually sells us hot porridges (*uji moto*) She is very old but determined. I explained the work because she already knew me and vise-versa and she liked it very much. I thanks her for good work.

28-12-02 - M. stays inside swamp and I missed him severally but finally after I met him he liked the survey and he asked me to give back the feedback. For they want to see what the policy makers will do about these wild animals that were disturbing them.

28-12-02 - W. was very excited to see me again for quite very long time so he cooked me some tea while I am introducing what I want to do and he like it very much and so we did it without any problem.

29-12-02 - I met him working in his onion garden and I requested time to do the survey and after I explained to him he agreed and we worked without any problem

29-12-02 - I told J. this work ahead of time and so it is easy for me and after I explained thoroughly he like it.

30-12-02 - I went to check M. several time but unfortunately I didn't meet him but finally after I saw him he was happy for the work and he asked me to bring back the results because it is very interesting

2-1-03 - He moved from Kalesirua to Isinet so I knew him for long and when I introduced him to the work, he agreed and we did without any problem. I thanked him very much.

2-1-03 - I introduced myself to this old man though he knew me and I explained the work and he likes it. He told me to make sure that the policy makers got this information very clearly because these wildlife are destroying their life by destroying their crops.

2-1-03 - J. was very excited that the information was being gathered to tackle the wild life conflicts with people. And is to be taken into account with the policy makers. So we did without problem.

2-1-03 - D. came to visit me, where I am spending a night at the lodging, after he heard that I have been looking for him so we did the survey without any problem and he also asked me to bring back the whatever results "but please inform the government that these wild life as destroying our crops". I thanked him for his kind cooperation to bring himself to where I was.

3-1-03 - I met this old mama at her house at night because during the day she usually goes to work at her shamba. So in introduced the work I want to do and she agrees and we did it without any problem.

3-1-03 - H. is also a good friend of mine, I told him the work ahead of time and after I visited him at night he was very happy and especially when I told I am looking at conflicts between people and wildlife and he said these elephants have become a burden to the farmers. But we did the survey without any problem.

4-1-03 - K. stays together with H. who is his older brother. But I requested him to stay outside while I'm interviewing H. so that I get real information between the two guys. And I really thanked him for his cooperation.

4-1-03 - I met M. when he's weeding his tomatoes inside the swamps and I requested him his time and he agreed we go inside his house and we did the interview without any problem and we ate ugali at his house and I gain more power

to go through a lot of water in the swamps. And again he showed me the house of F.M. which is about 2 km inside the swamps from this house.

4-1-03 – This guy is the most staying at the end of the swamp so he's among the most suffering from these conflicts with the wild animals according to his statement. So he is very happy that this problem is being taken into account. I thanked him for his good work.

6-1-03 – I also met S. at his shamba working so hard and I requested his time and he really gave me all I needed. I thanked him very much

6-1-03 – M. is a very young guy who is also staying inside the swamp whom I introduced the work and he likes it and we did it without any problem

7-1-03 – M. (the one without teeth), I know him for quite a long time and introduced him to what I want to do. He's happy and we do it without any problem.

7-1-03 – he used to sell me pilipili and so I know him also and introduce him what I want to do and he understood and we go on without any problem.

8-1-03 – I introduce myself to K. and the work I want to do and he understood and we do it without any trouble whatsoever.

8-1-03 – I met M. when he was resting in the evening after a very hard day according to what he told me and without wasting time I introduced him to the work. And he agreed and we finished without any problem.

8-1-03 – F. came to meet me at the lodge where I am spending a night after he heard that I have been looking for him and I introduced the work and he liked it.

9-1-03 – I visited this mama at her house at night because she used to be very busy during the day. And together with her husband in their sitting room we did the survey and they both liked it very much that some people are concerned about the problems caused by wild animals. And I thanked them both for their kind cooperation.

9-1-03 – I met J. working in his shamba and after I introduced my work he requested from me 20 minutes to finish what he was doing and I definitely gave him. While I am taking *chai* [tea] that was cooked by his friend. After he finished we do the work without problem.

10-1-03 – This is not Richard Supeet but Richard M. who stays just next to J.J. I introduced the work that I want to do and he also likes it because it is concerning wildlife and their crops and he said these animals have been a big trouble to the crop farmers.

10-1-03 - I missed this guy several times because he has been in hospital with his wife admitted in Loitokitok. So 1 night I met him very busy with his young children because the mama is absent. But anyway I waited until he settled all that he wanted to accomplish and in introduce him the work and we do it without any problem.

11-1-03 - I met Mr N. when he was going to the shamba at the end of the swamps. So I stop him and we go under a big tree and after he went through the questionnaire he agrees and we finish without any problem. And I finally thanked him for giving me his time.

11-1-03 - M. is the oldest man in this survey and I met him digging his shamba and I introduce myself to him and he did the same. I introduce him the work and we sit under a big tree and we do it without any problem. I thanked him very much.

13-1-03 - M. is the one I spent most time trying to get. I finally found him in town playing cards and requested him his short time and I took him to my room which I used to spend the night and introduced the work and he loves it and we continue without any problem.

13-1-03 - He came to me at night at the rooms where I spent my nights in town after he heard that I was looking for him. So in introduce him the work and we did it without problems. I thanked him for being so cooperative.

13-1-03. - This one stays at Mpoonjo and after I thought that I will not find him he finally came to see me at my house and we do the work and we finished without problem.

14-1-03 - C. is also very happy that we are doing something concerning these wildlife and he really likes what I am doing and he asked me to take it very seriously because crop framers are really not happy about the wildlife

14-1-03 - W. stays at Illasit for quite a long time that is where we knew each other and after we went through the questionnaire, he likes what we are doing and asked him if there is any question but he says no but we just wait to see what will happen. I thanked him very much for being very cooperative.

Non-Maasai household survey records, by Simayo ene Somoire.

16-1-03 - Survey area = Marura (swamp) - It was so muddy and wet, I decided to enter into one of the bomas to seek help and I found 2 women busy chatting. I was so lucky one offered to take me to the shambas. The woman knew the people well and they knew her as well. Well, we left for Marura area where the shambas and the Ilmeek are. The woman had a shamba there too, though she was not among the interviewees. At first, M. was so scared but on seeing his colleague (the woman), he

was at ease and became so welcoming. He answered the questions well without being scared and I think it went well due to the conversant mood all during the interview.

16-1-03 - Marura (swamp) - The volunteer (the good woman) was still with me and she made it very easy for me. We were welcomed well and my interview went quite fast. I was through all the questions in 20 minutes and I think the interview went quite well, still owing to the fact that I was with this woman who was familiar to them.

16-1-03 - Marura - The woman and I found him busy weeding his shamba and at 1st he didn't want to leave his work for the interview but after much begging from the woman, whom he knew quite well, he accepted and was cooperative. Although he asked for favors (pay him or buy him a soda). But explaining further he was contented, thus making the interview a success.

16-1-03 - Marura - Being the last interviewee he was eavesdropping on what we were asking his friend. He was at ease when I told him he was next on line. Like his friend, he mentioned all his friends (fellow farmers) problems, in return expecting immediate possible solutions. He was brilliant and cooperative, especially with the presence of my woman friend who sat quietly until I finished my interviews. In general, I owe it all to that woman for familiarizing me to her colleagues and more so for promising to assist wholeheartedly until I finished and expecting no payment. She told me to find her in her Marura shamba so that we could finish the remaining interviews.

17-1-03 - Being my host's relative, he even prepared us a cup of tea. He willingly answered all questions well but was anxious for immediate possible solutions. It was a success.

17-1-03 - Being almost at the furthest corner of Marura, he was scared of seeing 2 women heading straight to his hut. He was adamant at first but when my friend told him she was so and so's wife, and one of the Marura people at that, he started becoming positive and answered questions though he was still scared of answering some questions he thought would endanger his life as a poor peasant. All was a success; there was not much ado except the mud. Having finished the Isinet area, my God sent woman friend promised to introduce me to a sister in Namelok who would take me all the way round in Namelok. After the 2 surveys, I left for Namelok where I started off.

[Scary questions = W meat + KWS – he thought Simayo was KWS].

17-1-03 - Namelok - I must confess that going there itself was not an easy task. Accompanied by the Good Samaritan friend, the sun scorched on us badly. On reaching, we had to walk down to the shambas. The informant was shy and after much probing and introduction of my friend's husband (a farmer) in Isinet, he helped us. Robert answered all the questions rightly and I appreciated that.

17-1-03 - Namelok (Olmakao) - It was confusing between Mama A. and Mama O. (a mother and a daughter). The daughter took us to the mother making her to be at ease with us. She was so funny and much interested by the questions. Well, I was through quite successfully. O. O. is the son and so she directed us to him.

18-1-03 - Namelok - We found him busy weeding and he was hesitant at 1st. after nagging him, he agreed but was also so inquisitive and we spent much time with him. He answered all questions well.

18-1-03 - Namelok – Mama O. son. He made a success (K's colleague)

18-1-03 - Namelok – K. lives with O. O. (M. W.'s son) and we found them together. We informed them that Mama O. had directed us to where we would find them. They were so [?] and bright, the interview took quite a shorter time.

18-1-03 - Namelok – we found her and her husband sitting outside their house. After I fully explained the introduction, they were a very welcoming couple and helped us a big deal. All went well.

19-1-03 - Namelok – Robert was still in our midst. As it was getting late (7pm), people started surrounding us and Robert was so good in expounding what I had told him (introduction) thus making his friends friendly [*At sunset, Simayo coming from shamba. Everyone looking @ Simayo. Never seen such thing happening there before. Simayo totally surrounded by curious people. Then, Simayo and interviewee had to move out to a hotel*]

19-1-03 - Namelok - This interview we were conducting late at night almost past 8pm as we didn't know what time they would leave town (where they live) for the shamba but I was lucky. My 1st interviewee (R.) was still with us and familiarized me with his friends. All was a success.

19-1-03 - Namelok - J. was a jovial funny bicycle hire man [boda-boda = bicycle hirer: carries people around using own bicycle]. After introduction, he was so open and provided me with all the information I needed.

19-1-3 - Namelok – tracing him alone was such a problem. With the help of R. (1st interviewee) we traced him and on seeing that his friend Robert was also interviewed he became free and made it a success.

Appendix 9. Correlation matrix.

Variables	Study area	Economic benefits	Human-wildlife conflict	Land tenure	Land use	Wealth	Education	Religion	Age	Gender
Study area	---	<0.001	0.865	<0.001	<0.001	<0.001	0.001	0.001	---	---
Economic benefits (yes/no)	<0.001	---	0.852	<0.001	0.826	<0.001	0.451	0.653	0.044	0.017
Human-wildlife conflict (low /high)	0.865	0.852	---	0.385	0.011	0.174	0.622	0.971	---	---
Land tenure (GR/private)	<0.001	<0.001	0.385	---	<0.001	0.006	0.404	0.248	---	---
Land use (livestock only/livestock + cultivation)	<0.001	0.826	0.011	<0.001	---	<0.001	0.106	0.121	---	---
Wealth (Poor/Medium/Rich)	<0.001	<0.001	0.174	0.006	<0.001	---	0.310	0.007	---	---
Education (yes/no)	0.001	0.451	0.622	0.404	0.106	0.310	---	<0.001	0.001	0.097
Religion (Traditional/Christian)	0.001	0.653	0.971	0.248	0.121	0.007	<0.001	---	0.002	<0.001
Age (young/old)	---	0.044	---	---	---	---	0.001	0.002	---	---
Gender (Male/Female)	---	0.017	---	---	---	---	0.097	<0.001	---	---

Appendix 10. Narratives on women, children and lions in the Greater Amboseli Ecosystem, Kisonko section.

Stories told by an Ilkimunyak elder (Swamps):

If a lion comes across a child or a woman, it will not do anything to them, It won't kill them or eat them. But if it comes across grown up man (whether a moran looking for a lion to kill, or just by chance), it will kill that man. There is no memory of a woman or child ever being killed by lions. There are many stories of women being protected by lions.

Here is a true story that happened in Imbirikani North, towards the Chyulu Hills, close to Noongyia: a *mama* was coming from Olbili to Esampu, running away from her husband and going to her parents' *boma*, while carrying a baby on her back. She decided to leave at 3 pm. She had to walk for a long distance (about 40 km). She walked until very late. A lion appeared to her. But she did not see the lion at first. The lion followed her slowly. When she sat under a tree, the lion also sat, hiding behind her. She followed on, walking a little bit more, then decided to sleep under a big tree. She fell asleep, with the lion very close to her. The lion went around that tree all night. The mama did not really know what was happening. In the morning, she woke up and saw the tracks of the lion. But she decided to go on with her journey. She was almost getting to her parents' *boma* when she saw the lion still behind her and got shocked. She went to the *boma*. Then, the lion went away. Her people went back to the tree under which she spent the night and saw the tracks of the lion, but also the tracks of hyenas and jackals circling the lion's tracks. The lion spent the night surrounding the *mama*. So, it is thought that the lion protected the *mama* from the jackal and the hyenas.

Another true story, which happened early 1990's, on North side of Chyulu Hills, at Lenkiloroti: A herding boy got lost grazing the cows. The cows disappeared from him. He staid in a very dense bush and decided to sleep under a tree. A lion came, got really close and went around the boy all night. When people came a night to find the boy, they found the tree surrounded by the lion tracks. The boy was safe. Stories of this kind are very common. These things have always happened.

A story told by a Ilkimunyak elder from Emeshenani Ridge:

Q: do you know any stories of mamas and children never being eaten by lions?

A: yes, one of these mamas is still alive. She had taken donkeys from Oltukai to bomas at Olchakitai. She started coming out of Oltukai around 5pm. She was in middle of park at sunset. When it was a bit dark, a lion just appeared to her. The mama saw the lion. She knows there is a lion there. But she just told the lion "Let me go". She wasn't scared. She took her donkeys *pole-pole* (Kiswahili: slowly) and reached her *boma* at Olchakitai at midnight. When she gets into the boma, someone put a flashlight outside the *boma* and sees the lion and shouts "there is a lion here!" But the old man of *boma* said "don't kill it". He ordered his morans to take out a goat, kill it outside the *boma* and leave it "because we have to thank this lion for not having killed this mama and having protected her against other wild animals".

A woman's perspective (Swamps; age: 50's)

Hyenas always disturb my sleep... because lion, even if it is in the bush and I go through, it cannot eat me... and elephant is so big I see it from far. I can pass a lion without any problem but a buffalo goes straight for you. If we hear that a buffalo is in close bush people are not comfortable anymore.

A conversation with a *olmurrani*, with whom I was strolling through the bush at the end of the day at Entepes Olamayio (Imbirikani GR). He graduated from high-school and had spent the day in camp with us.

According to Simentei, "You (people in general) have nothing to fear from lions when you walk in the bush: it will not get you. Lions are only dangerous if you spear them, if you provoke them. Otherwise, you can pass on their side and they will do nothing to you. They also protect you in the bush at night, especially children and women. Lions will protect them against other bad animals (e.g. hyenas) and in the morning, they will bring them to their bomas".

Me: "So, it's a good animal?"

Simentei: "No! It's a very bad animal! Because, why does it eat our animals?"

Appendix 11. Feared wildlife species

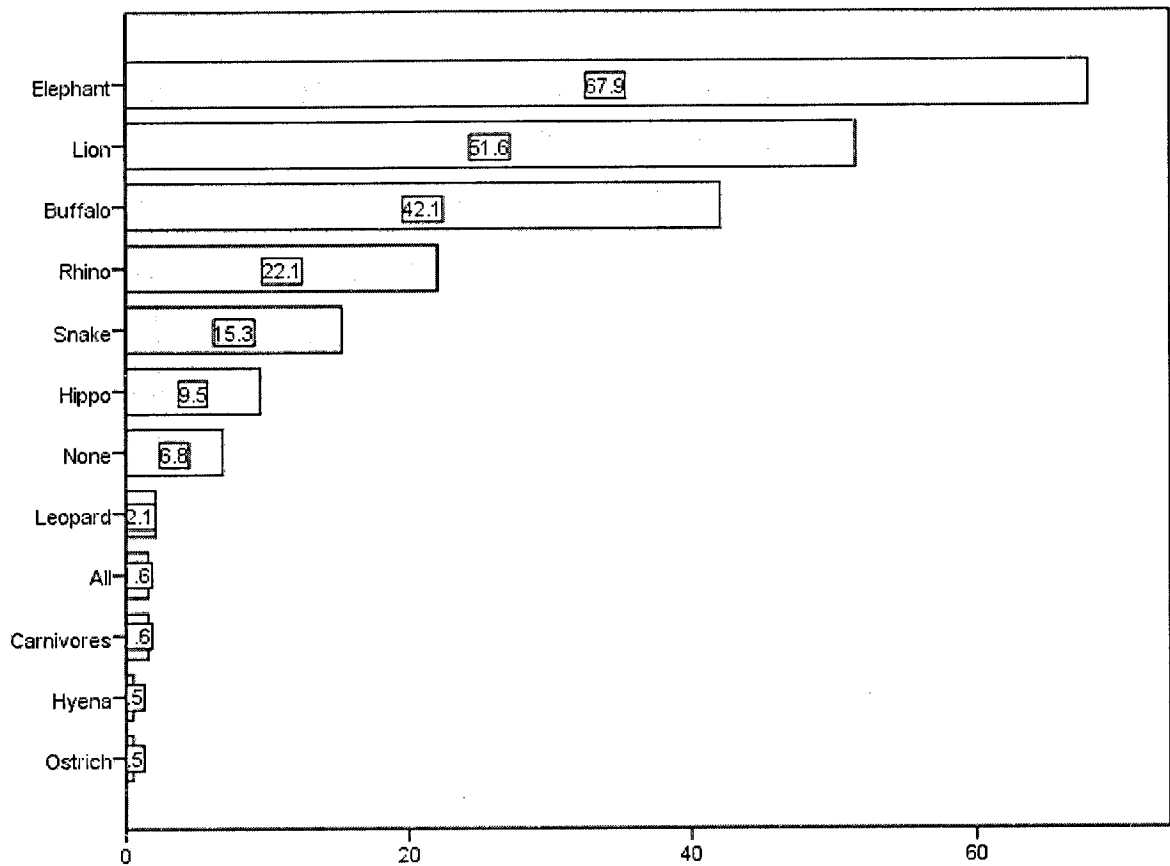


Figure 1. Feared wildlife species (free list data; n=191). All figures are percentages (number of times a species was mentioned as being feared).

Appendix 12. Wildlife species that should never be killed. Numbers in parentheses are percentages of informants who mentioned the particular species (n = 191).

<i>Wildlife species never to be killed (n=191)</i>	<i>Number of mentions</i>	<i>Why?</i>	<i>Consequence/penalty if killed</i>
"Innocent" animals	8 (4.2)	Animals should only be killed for self-defense and after they caused a problem never "for nothing" (<i>pesho</i>). Boys are an exception to this rule, as they "kill anything".	
Aardvark	5 (2.6)	Considered a lucky animal (<i>kemunyak</i>) (brings luck). Very rare to see it. In between a sheep and a warthog.	Curse
Animals engaged in reproductive activities (mating; being pregnant; giving birth; new born)	13 (6.8)	"Very bad to kill an animal with the afterbirth flowing."; "Never, so that you will not pour the afterbirth on the ground (<i>pee mibukoki inkipa enkop</i>)"; "it is horrible to kill anything that is giving birth". All this reflects Maasai utmost respect for life and fertility.	Terrible curse.
Birds (except for initiates)	1 (0.5)		
Domestic cat	3 (1.6)	Lucky and 'polite' animal	Curse; the killer will not be successful; bad luck.
Dove	3 (1.6)	Holy (<i>sinyati</i>) animal. Even initiates who kill birds do not kill the dove. It is like an 'angel': it has the color of the sky (the color of God). When an age-set is to be started, a dove is held, one eye is punched, one feather is broken, leaving the dove blind and limping (but not dead). This closes the age-set: no boys are circumcised after that.	The killer will not be successful in life
Eland with <i>olmasi</i> (eland with black head and long hairs on his face)	7 (3.7)	All people with <i>olmasi</i> (uncut, long hair) are in a holy, liminal state (e.g. newborns; young mother; recently circumcised youth) and nobody harms them. The eland with <i>olmasi</i> is seen as holy and as praying every morning on behalf of the herd of elands.	
A non-attacking/non-threatening elephant	1 (0.5)		Curse
Frog	2 (1.1)	Not known	Not known

Hedgehog	1 (0.5)	Lucky animal. Rarely seen.	
Kuku Tungani (the "human monster"; also called Nenaunerr)	1 (0.5)	Yeti-like creature inhabiting the forests of Mt Kilimanjaro.	The killer becomes not normal and crazy; the family will not be successful anymore.
Lion with a big mane	1 (0.5)	Morans should not kill two lions with a big mane in their whole lives. They are only supposed to kill one.	
Ostrich	62 (32.6)	Lucky, holy animal (<i>sinyati</i>). One of the "sacred" animals (<i>engues entomono</i>) Also, 'very innocent' and 'polite'. Recently circumcised boys put on its feathers (which they gather from the floor); Babies wear its eggshell around the wrists.	A curse and bad luck will befall killers and their descendants; Killer and descendants not allowed to use ostrich feathers at circumcision (one informant mentioned being beaten, as a boy, by the elders when together with other boys they would bring home young ostriches to sell to tourists). To lift the curse, milk is to be sprinkled at the place where the ostrich was killed and apologies uttered.
Owl (<i>emotonyi oonkiyia</i>: the bird with ears)	1 (0.5)	Never killed; when it appears, everybody will go and see it. If it goes to a tree, that tree will be cut down. Seeing it near a <i>boma</i> is bad omen: "if it comes to your <i>boma</i> , you have to check what is wrong".	
Snakes (by specific clans and subclans)	2 (1.1)	Black Mambas are not killed by Ilaiserr clan members; Iltaataseero subclan (Ilmolelian clan) members also do not kill snakes; put them around their necks. Also Ilsikon subclan from Ilaitayok clan never kill snakes. In these two subclans, snake skin is mixed with ghee and given to babies; when wives give birth, a real snake in is their bed.	
Squirrel	1 (0.5)	In oral literature, the squirrel is the chief of all the wild animals.	If killed by mistake, 49 stones are put around it (49 cows is the price paid after killing a person).
Wild dog	2 (1.1)		If killed, the killer has to pay as if he had killed a person (49 cows). You place 49 stones around its body or 49 fruits of the Sodom apple if there are no stones.

Appendix 13. Bird species killed by *ilaibartak* (recently circumcised youth)

Table 1. Bird species targeted by *ilaibartak* for their feathers, size and colors (many different is better).

Maa name	Scientific name	English common name	Comments
Enkurle	<i>Francolinus coqui</i>		Only young ones are killed; the name derives from its sound.
Orkirr	<i>Vanellus coronatus</i>	Crowned plover	Its name derives from its sound.
Beheheie (?)	<i>Criniferoides leucogaster</i>	White-bellied-go-away bird	
Elube	<i>Centropus superciliosus</i>	White Browed Coucal	The name has no meaning
Olakidongoi	<i>Colius leucocephalus</i>	White headed moosebird	"The one of the tail"
Olanke	<i>Halcyon senegalensis</i>	Woodland Kingfisher	The name has no meaning
Olmongo	<i>Upupa epops</i>	Hoopoe	"The left-overs"
Olayioni	<i>Trachyphonus darnaudii</i>	D'Arnaud's Barbet.	"The boy"; No.3 favorite of Richard Supeet (research assistant).
Nenkoti	<i>Tockus deckeni</i>	Von der Decken's hornbill	"The one with the calabash" because of beak like a calabash
Otilo	<i>Tockus alboterminatus</i>	Nubian wood pecker	"The bad luck" because its noise on the tree trunk means the boy be beaten or will hear sad news
Otilo odo lukunya		Red headed woodpecker	"Otilo with red head"
Olkirapash	<i>Macronyx croceus</i>	Yellow throated longclaw.	"The yellow one"; A favorite that all boys try to get and love to have; its name has no meaning
Olorokgos	<i>Macronyx ameliae</i>	Rosy breasted longclaw.	"The one with black neck/throat"; No. 2 that boys love to have.
Empurdudu	<i>Bubalornis niger</i>	Red billed buffalo weaver	The name has no meaning
Oljurle	<i>Bubalornis albirostris</i>	White billed buffalo weaver	The name derives from its color, a mix of black & white (like the cow color <i>enkiteng jurle</i>)
Emakuria	<i>Passer griseus</i>	Grey headed sparrow	The name has no meaning
Enkolikolo	<i>Lamprotornis hildebrandii</i> + <i>L. superbus</i> + <i>Cosmopsarus regius</i>	all the starlings (Hildebrand's; Superb ; Golden breasted)	The name has no meaning
Olarriaki	<i>Buphagus</i>	Redbilled oxpecker	The name has no meaning

Box 1. The *Olayioni* song.

This is a song that the bird Olarrianchoi (the red and yellow barbet: *Trychyphonus Lybius erythrocephalus*) sings, to tease herding boys. And this is why boys love to kill it. This song was reported to us by an elder in Osilalei, while we interviewed him, as this bird was singing in the tree under which we were sitting.

*Ilooshi ayiok, oimalimal,
ore peeoshi, naok-irkiyi
Ore peedoti, naok-osarge
Ore peegili, naok-intolo*

*Those boys who don't take proper care of livestock
When they are beaten, I drink their tears
When they are injured, I drink their blood
When they are broken, I drink their marrow*

(Translation by Richard ole Supeet)

Appendix 14. Lion names

Table 1. List of “lion names” in the Amboseli Ecosystem Kisonko and Matapato sections).

Lion name (<i>enkarna olowaru</i>)	Maasai meaning (when applicable or known)
Kidiri; Kedere	Specifically means that he was injured at <i>olamayio</i> and carried away (Richard). Name given when the moran has killed the lion but lion has injured another moran
Kimani	The popular one
Kisioki	The fastest one
Kitisia	
Masarie; Macharia	You will not deny him the chance
Meiagie	
Meijo	He who does not hesitate; don't wait
Meiseyieki	'Don't touch' (... that moran because he is very aggressive)
Meishololo [?]	
Meiteri enanga; Meterienanga; Meiterienanka	The one with a/the beautiful <i>shuka</i>
Meitiaki	The one who stands his ground
Mekuretu	Name in Matapato section
Melita	
Melompuki	He who does not go to other places
Melubo	The one who is not hungry
Mepukori	
Merishi	Nobody can fight him
Mingati; Mengati; Meingati	The one who will get the lion for sure (I think this means “the enemy”)
Napi Rongai	Name in Matapato
Olaitotioni	The-one-who-feeds; the generous one; the one who takes care of the guests: feeds even the vultures!
Olamayiani; Olomaiyani	The blessed one
Olasarani	Name in Matapato
Oloibor Olowaru	The white lion [Matapato]

Oloishirro	He-who-is-prospering; the one who bled (was injured at <i>olamayio</i>).
Olongasani	The one who does it quickly.
Olongoyana	The one who moves around a lot
Oltingidi	
Osidai Olenye	The one with the good lion [Matapato]
Parkirowua	The hot one
Parkisalie	
Pilananka	The one with the very red <i>shuka</i>
Sainepunne	
Saipuda	He has double lions (might be from two different lion hunts)
Saitoti	The generous one
Sarbabi	
Sariam	The one who brings two lions at the same time
Saruni	The one who rescues
Siokino	No meaning

Appendix 15. Traditional uses of wildlife species in the Amboseli Ecosystem.

Table 1. Traditional uses of wildlife species in Amboseli.

<i>Species</i>	<i>Parts used</i>	<i>Use</i>	<i>Maasai name</i>	<i>When used</i>	<i>How get?</i>
Aardvark	Dung	Medicine given to cows that are "badly eyed" (looked at by a person "with eyes": a condition caused by jealousy and that provokes misfortune in people and livestock) and with heart coming out of their "pockets" (<i>natapokunye oltau</i>)	<i>Inkiik enaishirr dama</i>	Current	Collected
Baboon	Skin	Worn by elders at ceremonies		Past	
Birds	Whole animal	Stuffed and made into headdresses worn by recently circumcised boys (<i>ilaibartak</i>)		In the past in Osilalei; Currently in Imbirikani and Olgulului-Lolarrash GRs (see figures 1 and 2)	Shot with small bows and stunted arrows by <i>ilaibartak</i> (see appendix 11)
Buffalo	Skin	To make shields of <i>ilmurran</i> (make three shields out of one buffalo: two from the back; one from the neck)		Past (last used at Ilkimunyak age-set)	Killed by <i>ilmurran</i> at <i>olamayio</i> ; found dead
	Skin	To make straps/ropes	<i>Enkeene</i>	Current	Killed by <i>ilmurran</i> at <i>olamayio</i> ; found dead.
	Horn (<i>esekekua olosowan</i>)	Used as a drinking vessel for <i>enkare pus</i> ("blue water": milk and water, a medicine against colds).	<i>Enkidonget</i> , pl. <i>inkidongeta</i>	Current	Killed by <i>ilmurran</i> at <i>olamayio</i> ; found dead.
	Horn	Burned when <i>murran</i> select their <i>emanyata</i> or at Olnghesherr ceremony		Current	Killed by <i>ilmurran</i> at <i>olamayio</i> ; found dead.
	Horn	Used to grind things		Current	Killed by <i>ilmurran</i> at <i>olamayio</i> ; found dead
Colobus monkey	Tail	Attire for women at ceremonies, attached to large necklace; for <i>ilmurran</i> , tied to their hair	<i>Enkoro</i>	Current	Not local (lives in the Kilimanjaro highlands); purchased.
Elands	Skin	Extremely resistant ropes/straps	<i>Enkeene</i>	Current	Found dead

		(“the best ones”) to carry firewood and water; to tie sick cows.			
	Skin	To make shields		Past	Found dead
	Skin	Mattresses		Current	Found dead
	Skin	Belt to hold cattle bell	<i>Emaitai</i>	Current	Found dead
	Fat	Medicine		Past	Killed
	Fat	Food when serious drought (no milk, cows away), for mamas and children,		Past	Killed
Elephant	Ivory	Jewelry (rings, bangles)		Past	Killed at <i>olamayio</i> ; found dead.
	Ivory	Small piece tied around neck of cow to make her successful (charm)	<i>Etataruaki to lalai lolkancaoi (ataru: to prevent death by means of a charm)</i>	Past	Killed at <i>olamayio</i> ; found dead.
	Ivory	Small piece tied around neck of red bull or red cow for beauty (white and red combination).		Past	Killed at <i>olamayio</i> ; found dead.
	Ivory	Flywhisk handle		Past	Killed at <i>olamayio</i> ; found dead.
	Ivory	Tobacco containers		Past	Killed at <i>olamayio</i> ; found dead.
	Dung	Boiled and given to a pregnant woman as a drink; “the mama then delivers baby very easily”	<i>Imodiok lokanchaoi</i>		Collected
	Dung	Used to ‘tie” cows (<i>aen inkishu</i>): a magic protection against predators and thieves	<i>Imodiok lokanchaoi</i>	Current	Collected
	Ear	Breeding control device			Found dead
	Placenta	Brings good luck	<i>Emudong olkanchaoi</i>		
Gazelles	Skins	Mattresses			
	Horn	Needle	<i>Esekekua</i>		
	Horn	Breeding control device			
	Horn	Bell for sheep	<i>Enkorkorr</i>		

			<i>emowuo enkoilii</i>		
	Horn	Container of ghee for babies	<i>Esekekua enkerai</i> (nowadays, any container for ghee, even made of plastic, has that name)		
Giraffe	Tail hairs	Fly whisk		Current	Collected; found dead
	Skin	Shield		Past	Found dead
	Skin	Ropes/straps	<i>Enkeene</i>	Current	Found dead
	Skin	Mattresses		Current	Found dead
	Fat	Medicine for young goats (during droughts)		Past	
	Fat	Medicine for peoples' stomach		Current	Trapped in Matapato
	Fat	Food when serious drought (no milk, cows away), for mamas and children.		Past	
	Hooves	Medicine for joints: burned or roasted; collect the burned powder and mix with sheep fat and drink		Current	Trapped in Matapato
	Marrow	Medicine for children, make them resistant to many diseases		Current	Trapped in Matapato
Greater kudu	Horn	To blow for sound as instruments (each <i>emanyata</i> should have at least one)		Current	Not local; bought
Hare	Liver	Medicine to treat cow's disease (hairs grow long and rough)			
Leopard	Skin	Used as clothing for elders and women		Past	
Lion	Mane	Headdress for <i>ilmurran</i>		Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
	Mane	Beaded and made into a flag for <i>emanyata</i>	<i>Olowaru orepa</i>	Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
	Fat	Medicine for seriously sick people			Past

	Teeth	Used in necklaces for children		Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
	Claws	Used in necklaces for children and babies; also sometimes used by mamas around their necks when really want to give birth to a boy.	<i>Oloisotoo lolowaru</i>	Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
	Heart	A small piece is eaten after a lion is killed at <i>olamayio</i> "to make you stronger, superior, like medicine". A moran is selected to eat it (not necessarily the owner of the lion).		Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
	Skin	Small rope made of lion skin: used to magically "tie" cows (<i>aen inkishu</i>) that got lost, so that they do not get eaten by hyenas and lions.		Current	Illegal; killed by <i>ilmurran</i> at <i>olamayio</i> .
Oryx	Horn	"Family planning device" for shoats		Current	Found dead; killed by boys with dogs.
	Skin	"Family planning device" for shoats		Current	Found dead; killed by boys with dogs.
	Skin	Ropes/straps;		Current	Found dead; killed by boys with dogs.
	Skin	Belt to hold cattle bell	<i>Emaitai</i>	Current	Found dead; killed by boys with dogs.
	Skin	Cattle bells	<i>Ingorkorri oonkishu</i>	Current	Found dead; killed by boys with dogs.
Ostrich	Feathers	Worn by <i>ilaibartak</i> (feathers only)	<i>Ilopir</i>	Current	Collected from the floor (no ostrich is ever killed for its feathers)
	Feathers	Headdress made of leather and feathers, for <i>ilmurran</i>	<i>Osidai</i>	Current	Collected from the floor (no ostrich is ever killed for its feathers)
	Egg	Container for collecting heifer's first milk (brings good luck)		Current	
	Egg	Piece of the shell is tied to a child's wrist to protect against curses; also tied on a string		Current	

		around the waist or ankle of newly circumcised girl and boys			
Python	Skin	Medicine used by <i>iloibonok</i> to heal people			
Rhino	Dung	Placed in small container around neck of cow who gave birth and does not like her calf, as medicine/charm.			Past (rhinos are extinct in the Amboseli Ecosystem except for a few that have remained in the Chyulu Hills and that were recently found)
	Horn	Carved into a <i>rungu</i> (club)			Past
	Horn	Tool to castrate sheep and goats			Past
Snake	Skin	Within the Ilaitayok clan (Isimaga subclan) When an Ilatayiok child is born, ghee is mixed with powdered dried snake skin that is left from molting. The mixture is then given as food to the baby. It gives the power to curse things and people. It sharpens your natural powers. If a snake bites, nothing will happen;			
Tree hyrax	Skin	Beaded and worn as clothing	<i>Oldeer</i>		Past
Warthog	Skin	A "family planning device" for rams ¹			
	Ivory	A piece is put around of a cow's neck to make her successful			
	Skin	A small strap is used as medicine if a cow is not successful in taking care of her young one			
Wildebeest	Tail hairs	Fly whisk ("every old man needs one")	<i>Olkuatiti</i>	Current	Hairs collected from wildebeests' sleeping places; when killed by boys; when found dead
	Skin	Straps/ropes		Current	When killed by boys; when found dead

	Skin	Mattresses		Current	When killed by boys; when found dead
	Skin	Belt to hold cattle bell	<i>Emaitai</i>	Current	When killed by boys; when found dead
Zebra	Fat ²	Medicine for children's stomach		Current	In Osilalei: trapped at entrance of <i>esilanke</i> (to protect <i>esilanke</i>) or if found drowned inside the <i>esilanke</i>
	Fat	Medicine against infectious diseases (bad cough, tuberculosis), mixed with honey.		Current	Done in Kaputei section
	Skin	Small strap used as medicine if cow is not successful in taking care of her young one		Current	

1 Actually, as my assistants and I have witnessed, Land Rover mudguards also can as contraception devices for rams. Our car had lost one mudguard and one of my assistants was in charge of screening the bush and asking around if someone had found it. During the next field trip, we learned the fate of the mudguard. A boy had seen a man find it and reported this. This man then came to inform my assistant that he had taken it as he did not know the owner. He cut it in two and made two "ram breeding control devices" out of it.

2 In Osilalei, vegetal oil provided as part of relief by the World Food Program in 2000 was locally called "zebra oil" because it smelled like zebra fat.

Appendix 16. religious denominations and churches present in the study areas.

Table 1. Denominations, churches and their locations. Numbers in parentheses are percentages of informants per church per study area.

<i>RELIGIOUS AFFILIATION</i>	<i>STUDY AREA AND % INFORMANTS (N=191)</i>	<i>LOCATION</i>
ROMAN CATHOLIC (N=32; 16.8%)	SWAMPS (4.7); EMESHENANI (41.5); OSILALEI (3.2)	LENKISEM (OLGULULUI- LOLARRASH GR) AND OUTSTATIONS
PROTESTANT (MAINLINE) ⁸⁴ (N=19; 10.0%)		
PRESBYTERIAN CHURCH OF EAST AFRICA (PCEA)	SWAMPS (10.9)	KALESIRUA, NAMELOK
LUTHERAN	OSILALEI (19.4)	EMASHINI (OSILALEI GR)
BAPTIST	OSILALEI (3.2)	AT A PRIVATE BOMA (OWNER IS A PASTOR).
PROTESTANT (EVANGELICAL/PENTECOSTAL) (N=63; 33.2%)		
KENYA ASSEMBLIES OF GOD	SWAMPS (51.6) EMESHENANI (1.5)	KALESIRUA, NAMELOK
FOUNTAIN OF LIFE	SWAMPS (10.9)	NAMELOK
FREE PENTECOSTAL FELLOWSHIP OF KENYA (FPFK)	EMESHENANI (3.1)	NAMELOK
GOSPEL TABERNACLE	OSILALEI (1.6)	EMASHINI (OSILALEI GR)

⁸⁴ These churches are possibly Charismatic. It seems that speaking in tongues also occurs in these churches; and their members also call themselves 'Saved' (Born Again). My data on this are conflicting.

EMANUEL

SWAMPS (1.6)

NAMELOK

SPIRIT OF JESUS (JAPANESE)

OSILALEI (25.8)

OLOIBORSOIT
(OSILALEI GR)

TRADITIONAL MAASAI RELIGION (N=76; 40.0%)

SWAMPS (20.3);
EMESHENANI (52.3);
OSILALEI (46.8)

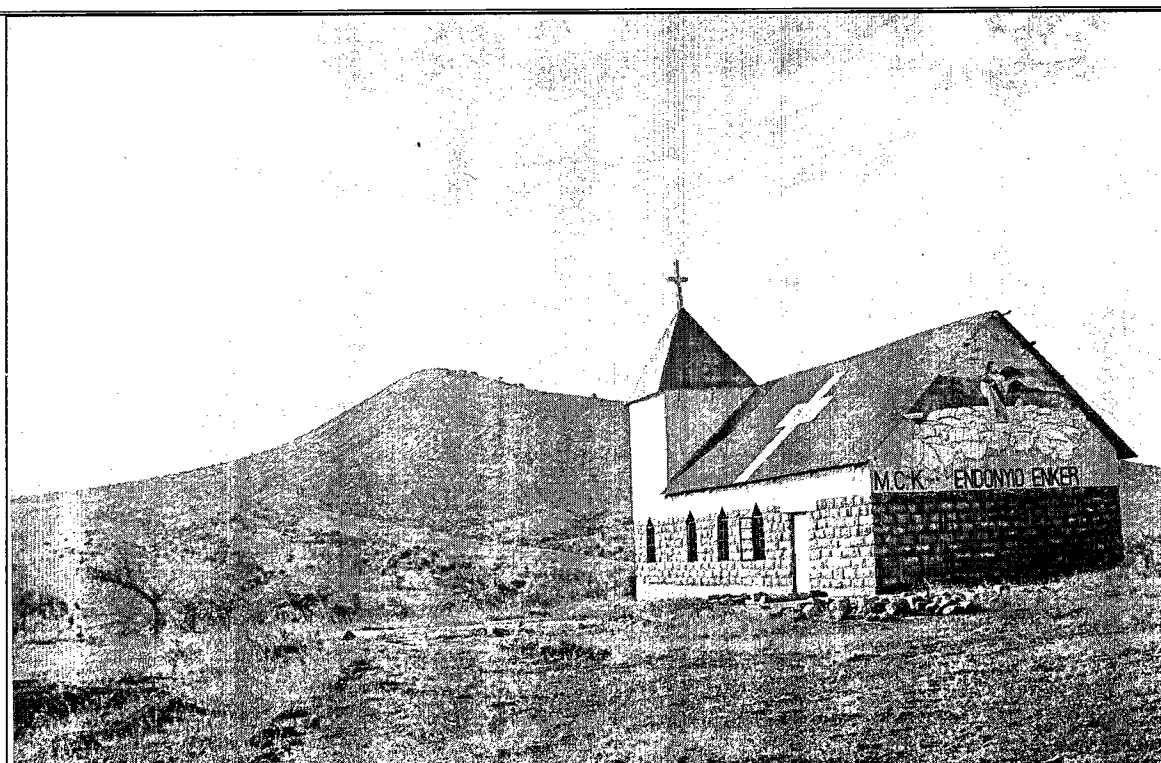


Figure 1. Methodist church at Endonyio Enker ("the Hill of the Sheep"), not far from Osilalei study area.

Appendix 17. NVIVO Node structure (Coding system)

NVivo revision 2.0.163 Licensee: joana roque de pinho

Project: Nvivo 30-05-06 2 4 2 2 2 3 User: Administrator Date: 11/23/2008 - 6:04:43

PM

FREE NODES

Nodes in Set: All Nodes

Created: 5/22/2007 - 5:03:17 PM

Modified: 11/23/2008 - 6:04:34 PM

Number of Nodes: 2045

- 1 ~EYES~
- 2 ~Maasai are conservationists~ discou
- 3 ~staying together~
- 4 ~W more imprt than people~ discourse
- 5 ~W only in Maasailand~ discourse
- 6 Aardvark
- 7 age & wildlife
- 8 ANP
- 9 Anti-W strategies
- 10 ATGSA
- 11 BEAUTY
- 12 Beauty TEXT SEARCH
- 13 Beer
- 14 Bird shooting
- 15 birds
- 16 Blessings
- 17 bomas
- 18 Bribes~corruption
- 19 CHAI
- 20 COLORS
- 21 commodification of LS
- 22 Commodification of W
- 23 Compensation
- 24 DATES~CALENDAR
- 25 DISEASES
- 26 DOGS
- 27 Domestication of W
- 28 Donkeys
- 29 ecological reasoning~observation
- 30 Electric fence
- 31 Elephants
- 32 epiphenomenal conservation
- 33 Esilanke
- 34 fences
- 35 fire
- 36 Flies
- 37 FOODS
- 38 Game cropping
- 39 Game Scouts
- 40 GENDER
- 41 good QUOTES
- 42 Grazing
- 43 grazing mngt
- 44 GROUND
- 45 GR's
- 46 Household
- 47 Houses
- 48 Husbands
- 49 Hyenas
- 50 Ilaibartak
- 51 Ilayiok le shoo
- 52 Illoibonok
- 53 Iloogolala people
- 54 impact W conservation on culture

55	kill W for nothing~
56	Kimana W Sanctuary
57	Kitirua Concession area
58	Kuku Tungani
59	Lack of knowledge of benefits
60	LAND TENURE effects
61	Leadership
62	LOVE
63	LS breeds
64	LS mixing with~following WA's
65	Lucky unlucky WAs
66	Maasai Sayings~stories
67	medicine
68	metaphors
69	MOBILITY
70	names
71	Not Counting
72	ODW lodge
73	Olmarei
74	Oloiptip
75	Oltiemeleteti flowers
76	Ostrich
77	Osupuko~olpulkan
78	Outsiders perceptions of Maasai
79	Paradise Hotel
80	place names
81	Poison
82	Politics~politicians
83	Pregnancy
84	Public campsite
85	Respect
86	RESPECT FOR THE LAW
87	Rhino Sanctuary
88	Seasons
89	SECTIONS
90	Selling LAND
91	SEPARATEDNESS~boundaries
92	SHOATS
93	SNAKES
94	the BUSH
95	Tortilis Camp
96	TRANSLATIONS
97	Trees
98	VOMIT
99	W & emotions
100	W & POLITICS
101	W behavior observations
102	W stories
103	Warthog
104	WA's like COWS
105	wealth of God~the land
106	wild dogs
107	Witchcraft~curses
TREE NODES	
108	(1) /WEALTH
109	(1 1) /WEALTH/Wealth status
110	(1 1 3) /WEALTH/Wealth status/Rich
111	(1 1 4) /WEALTH/Wealth status/Poor
112	(1 1 5) /WEALTH/Wealth status/Medium
113	(1 6) /WEALTH/Not counting
114	(1 6 1) /WEALTH/Not counting/NOT counting cows
115	(1 6 2) /WEALTH/Not counting/NOT counting children
116	(2) /CLANS
117	(2 1) /CLANS/Ilaitayio
118	(2 2) /CLANS/Ilaiserr
119	(2 3) /CLANS/Ilmolelian
120	(2 6) /CLANS/SUBCLANS
121	(2 6 1) /CLANS/SUBCLANS/Iltaatasero
122	(2 6 2) /CLANS/SUBCLANS/Illoodokishu

123 (4) /Weather - Rain
 124 (4 1) /Weather - Rain/Seasons
 125 (4 2) /Weather - Rain/Sacrifices
 126 (4 3) /Weather - Rain/DROUGHT
 127 (4 4) /Weather - Rain/El Nino
 128 (4 5) /Weather - Rain/TREES & RAIN
 129 (4 12) /Weather - Rain/Weather forecast
 130 (4 12 1) /Weather - Rain/Weather forecast/Weather forecast with W
 131 (4 41) /Weather - Rain/RAIN PATTERNS
 132 (4 41 1) /Weather - Rain/RAIN PATTERNS/decreased
 133 (4 41 1 1) /Weather - Rain/RAIN PATTERNS/decreased/God
 134 (4 41 1 2) /Weather - Rain/RAIN PATTERNS/decreased/don't know why
 135 (4 41 1 3) /Weather - Rain/RAIN PATTERNS/decreased/tree cutting
 136 (4 41 2) /Weather - Rain/RAIN PATTERNS/increased
 137 (4 41 3) /Weather - Rain/RAIN PATTERNS/same
 138 (4 41 4) /Weather - Rain/RAIN PATTERNS/I dont know
 139 (6) /Alcohol
 140 (6 1) /Alcohol/Osilalei Alcohol
 141 (7) /FIELDWORK
 142 (7 1) /FIELDWORK/SAMPLING
 143 (7 1 1) /FIELDWORK/SAMPLING/SAMPLING
 144 (7 2) /FIELDWORK/Feedback workshops
 145 (7 3) /FIELDWORK/Wealth ranking
 146 (7 4) /FIELDWORK/Maa
 147 (7 5) /FIELDWORK/Interview issues
 148 (8) /Wildlife likeCows
 149 (8 1) /Wildlife likeCows/W as Maasai cows
 150 (8 1 1) /Wildlife likeCows/W as Maasai cows/staying with them
 151 (8 1 2) /Wildlife likeCows/W as Maasai cows/meat
 152 (8 1 4) /Wildlife likeCows/W as Maasai cows/economic benefits
 153 (8 2) /Wildlife likeCows/W NOT like cows
 154 (8 3) /Wildlife likeCows/W as Government's cows
 155 (8 4) /Wildlife likeCows/Women's cows
 156 (8 5) /Wildlife likeCows/behave~look like cows
 157 (9) /CEREMONIES
 158 (9 1) /CEREMONIES/Eunoto
 159 (9 2) /CEREMONIES/Olngesherr
 160 (9 4) /CEREMONIES/Circumcision
 161 (10) /EDUCATION
 162 (10 1) /EDUCATION/W education
 163 (10 1 1) /EDUCATION/W education/habits
 164 (10 1 2) /EDUCATION/W education/God's creation
 165 (10 1 3) /EDUCATION/W education/trips to PA's
 166 (10 1 4) /EDUCATION/W education/don't remember
 167 (10 1 5) /EDUCATION/W education/\$ benefits~tourism
 168 (10 1 6) /EDUCATION/W education/Kenya W + PA's
 169 (10 1 7) /EDUCATION/W education/not to kill W
 170 (10 1 8) /EDUCATION/W education/'endangered spp'
 171 (10 2) /EDUCATION/Teachers' interviews
 172 (10 2 1) /EDUCATION/Teachers' interviews/What teach about W
 173 (10 3) /EDUCATION/school bomas
 174 (10 4) /EDUCATION/Educational value of W for Maasai
 175 (10 5) /EDUCATION/value of EDUCATION
 176 (11) /TRADITION~MODERNITY
 177 (11 1) /TRADITION~MODERNITY/Tradition
 178 (11 1 1) /TRADITION~MODERNITY/Tradition/negative perceptions
 179 (11 1 3) /TRADITION~MODERNITY/Tradition/positive perceptions
 180 (11 2) /TRADITION~MODERNITY/Modern
 181 (11 2 1) /TRADITION~MODERNITY/Modern/negative perceptions
 182 (11 2 1 1) /TRADITION~MODERNITY/Modern/negative perceptions/respect decreased
 183 (11 2 1 2) /TRADITION~MODERNITY/Modern/negative perceptions/individualism
 184 (11 2 1 3) /TRADITION~MODERNITY/Modern/negative perceptions/bad care of cows
 185 (11 2 1 4) /TRADITION~MODERNITY/Modern/negative perceptions/'doign nothing~
 186 (11 2 4) /TRADITION~MODERNITY/Modern/positive perceptions
 187 (11 2 4 1) /TRADITION~MODERNITY/Modern/positive perceptions/business~employment
 188 (11 2 4 2) /TRADITION~MODERNITY/Modern/positive perceptions/education~knowledge~wisdom
 189 (11 2 4 3) /TRADITION~MODERNITY/Modern/positive perceptions/cultivation
 190 (11 2 4 4) /TRADITION~MODERNITY/Modern/positive perceptions/not kill WAs
 191 (11 2 4 5) /TRADITION~MODERNITY/Modern/positive perceptions/cleanliness

192 (11 2 4 6) /TRADITION~MODERNITY/Modern/positive perceptions/ChristianitySalvation
 193 (11 2 4 7) /TRADITION~MODERNITY/Modern/positive perceptions/permanent houses
 194 (11 2 4 8) /TRADITION~MODERNITY/Modern/positive perceptions/new LS rearing
 195 (11 2 4 9) /TRADITION~MODERNITY/Modern/positive perceptions/wearing clothes
 196 (11 2 4 10) /TRADITION~MODERNITY/Modern/positive perceptions/individualism
 197 (11 2 4 11) /TRADITION~MODERNITY/Modern/positive perceptions/not marry daughters to old men
 198 (11 2 4 12) /TRADITION~MODERNITY/Modern/positive perceptions/monogamy
 199 (11 2 4 13) /TRADITION~MODERNITY/Modern/positive perceptions/new foods
 200 (11 2 4 14) /TRADITION~MODERNITY/Modern/positive perceptions/market economy
 201 (11 2 4 15) /TRADITION~MODERNITY/Modern/positive perceptions/productivity
 202 (11 2 4 16) /TRADITION~MODERNITY/Modern/positive perceptions/health
 203 (11 2 4 17) /TRADITION~MODERNITY/Modern/positive perceptions/transportation
 204 (11 21) /TRADITION~MODERNITY/social change
 205 (11 21 1) /TRADITION~MODERNITY/social change/the land is changing
 206 (11 21 14) /TRADITION~MODERNITY/social change/CAUSES
 207 (11 21 14 1) /TRADITION~MODERNITY/social change/CAUSES/subdivision
 208 (11 21 14 2) /TRADITION~MODERNITY/social change/CAUSES/God~natural change
 209 (11 21 14 3) /TRADITION~MODERNITY/social change/CAUSES/mix other tribes
 210 (11 21 14 4) /TRADITION~MODERNITY/social change/CAUSES/Market economy
 211 (11 21 14 5) /TRADITION~MODERNITY/social change/CAUSES/W conservation
 212 (11 21 14 6) /TRADITION~MODERNITY/social change/CAUSES/sedentarization
 213 (11 21 14 8) /TRADITION~MODERNITY/social change/CAUSES/cultivation
 214 (11 21 14 9) /TRADITION~MODERNITY/social change/CAUSES/Education
 215 (11 21 14 10) /TRADITION~MODERNITY/social change/CAUSES/Maendeleo
 216 (11 21 14 11) /TRADITION~MODERNITY/social change/CAUSES/Religion~christianity
 217 (11 21 15) /TRADITION~MODERNITY/social change/EFFECTS
 218 (11 21 15 1) /TRADITION~MODERNITY/social change/EFFECTS/Alcohol
 219 (11 21 15 2) /TRADITION~MODERNITY/social change/EFFECTS/reflected in food changes
 220 (11 21 15 3) /TRADITION~MODERNITY/social change/EFFECTS/Respect decreased
 221 (11 21 15 4) /TRADITION~MODERNITY/social change/EFFECTS/cleanliness
 222 (11 21 15 5) /TRADITION~MODERNITY/social change/EFFECTS/Earlier circumcision
 223 (11 21 15 6) /TRADITION~MODERNITY/social change/EFFECTS/different dress
 224 (11 21 15 7) /TRADITION~MODERNITY/social change/EFFECTS/different houses
 225 (11 21 15 8) /TRADITION~MODERNITY/social change/EFFECTS/W more important then COWS
 226 (11 21 15 9) /TRADITION~MODERNITY/social change/EFFECTS/People don't like cows anymore
 227 (11 21 15 12) /TRADITION~MODERNITY/social change/EFFECTS/INDIVIDUALISM
 228 (11 21 15 13) /TRADITION~MODERNITY/social change/EFFECTS/laziness
 229 (12) /MAGIC
 230 (12 2) /MAGIC/Witchcraft
 231 (12 3) /MAGIC/Curses
 232 (14) /Ilmeek GENERAL
 233 (14 1) /Ilmeek GENERAL/Swamps
 234 (14 2) /Ilmeek GENERAL/Tanzanians
 235 (14 3) /Ilmeek GENERAL/Kikuyu
 236 (14 10) /Ilmeek GENERAL/Kambas
 237 (15) /Study areas
 238 (15 1) /Study areas/Swamps
 239 (15 2) /Study areas/Meshenani
 240 (15 3) /Study areas/Osilalei
 241 (16) /FOOD restrictions
 242 (16 1) /FOOD restrictions/Gender separation
 243 (16 2) /FOOD restrictions/Milk and Meat
 244 (17) /KWS
 245 (17 1) /KWS/Conflict Resolution Committee
 246 (18) /Wild animals as human beings
 247 (18 1) /Wild animals as human beings/elephant
 248 (18 2) /Wild animals as human beings/rhino
 249 (18 3) /Wild animals as human beings/donkey
 250 (18 4) /Wild animals as human beings/primates
 251 (18 5) /Wild animals as human beings/ostrich
 252 (19) /W products markets
 253 (19 1) /W products markets/Ivory
 254 (19 2) /W products markets/Rhino horn
 255 (19 3) /W products markets/skins
 256 (19 5) /W products markets/Ostrich
 257 (20) /Questionnaire
 258 (20 1) /Questionnaire/RELIGION~CHURCH
 259 (20 1 1) /Questionnaire/RELIGION~CHURCH/God's creation
 260 (20 1 1 1) /Questionnaire/RELIGION~CHURCH/God's creation/Creation Maasai

261	(20 1 1 2) /Questionnaire/RELIGION~CHURCH/God's creation/Creation Christian
262	(20 1 1 3) /Questionnaire/RELIGION~CHURCH/God's creation/Gods bad creations
263	(20 1 2) /Questionnaire/RELIGION~CHURCH/prophets
264	(20 1 3) /Questionnaire/RELIGION~CHURCH/Devil
265	(20 1 4) /Questionnaire/RELIGION~CHURCH/Sin
266	(20 1 5) /Questionnaire/RELIGION~CHURCH/Christianity
267	(20 1 5 1) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians
268	(20 1 5 1 1) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/against
moranhoo~olamayio	
269	(20 1 5 1 2) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/against Maasai culture
~general~	
270	(20 1 5 1 3) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/against boys killing
birds	
271	(20 1 5 1 4) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/food restrictions
272	(20 1 5 1 4 1) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/food
restrictions/against wmeat	
273	(20 1 5 1 4 2) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/food
restrictions/sukuku meat	
274	(20 1 5 1 5) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/no alcohol & tobacco
275	(20 1 5 1 6) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/Western clothes
276	(20 1 5 1 7) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/speaking in tongues
277	(20 1 5 1 8) /Questionnaire/RELIGION~CHURCH/Christianity/Saved Christians/respect for laws of the
land	
278	(20 1 5 2) /Questionnaire/RELIGION~CHURCH/Christianity/Devil worship
279	(20 1 5 3) /Questionnaire/RELIGION~CHURCH/Christianity/Churches
280	(20 1 5 3 1) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/KAG
281	(20 1 5 3 2) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Lutheran
282	(20 1 5 3 3) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Spirit of Jesus
283	(20 1 5 3 4) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Catholic
284	(20 1 5 3 5) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/AOG
285	(20 1 5 3 6) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Baptist
286	(20 1 5 3 7) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Traditional
287	(20 1 5 3 8) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Gospel Tabernacle
288	(20 1 5 3 9) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/PCEA Presbyterian
289	(20 1 5 3 10) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Fountain of Life
290	(20 1 5 3 11) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Emmanuel
291	(20 1 5 3 12) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/FPPK Free Pentecostal
Fellowship Ken	
292	(20 1 5 3 13) /Questionnaire/RELIGION~CHURCH/Christianity/Churches/Methodist
293	(20 1 5 4) /Questionnaire/RELIGION~CHURCH/Christianity/Church and women
294	(20 1 5 5) /Questionnaire/RELIGION~CHURCH/Christianity/Christian NGO's
295	(20 1 5 8) /Questionnaire/RELIGION~CHURCH/Christianity/Bible statements
296	(20 1 5 9) /Questionnaire/RELIGION~CHURCH/Christianity/alcohol
297	(20 1 5 10) /Questionnaire/RELIGION~CHURCH/Christianity/Against christianity
298	(20 1 6) /Questionnaire/RELIGION~CHURCH/GOD
299	(20 1 6 1) /Questionnaire/RELIGION~CHURCH/GOD/God Christian
300	(20 1 6 2) /Questionnaire/RELIGION~CHURCH/GOD/God Maasai concept
301	(20 1 6 2 1) /Questionnaire/RELIGION~CHURCH/GOD/God Maasai concept/God & rain
302	(20 1 6 3) /Questionnaire/RELIGION~CHURCH/GOD/God Mix Maasai-Christian
303	(20 2) /Questionnaire/Attitudes MORANHOOD
304	(20 2 1) /Questionnaire/Attitudes MORANHOOD/Negative
305	(20 2 1 1) /Questionnaire/Attitudes MORANHOOD/Negative/to old model
306	(20 2 1 1 1) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/school better
307	(20 2 1 1 2) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/church~salvation better
308	(20 2 1 1 3) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/kill WA's
309	(20 2 1 1 4) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/maendeleo better
310	(20 2 1 1 5) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/morans stealing
311	(20 2 1 1 6) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/dirty-immoral
312	(20 2 1 1 7) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/useless-waste of time
313	(20 2 1 1 8) /Questionnaire/Attitudes MORANHOOD/Negative/to old model/dangerous
314	(20 2 1 2) /Questionnaire/Attitudes MORANHOOD/Negative/to new model
315	(20 2 1 2 1) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/don't eat meat
316	(20 2 1 2 2) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/not real morans
317	(20 2 1 2 3) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/individualism
318	(20 2 1 2 4) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/don't raid
319	(20 2 1 2 5) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/don't kill lions
320	(20 2 1 2 6) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/not good care of
LS~people	
321	(20 2 1 2 7) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/no respect

322 (20 2 1 2 8) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/don't like cows anymore
 323 (20 2 1 2 9) /Questionnaire/Attitudes MORANHOOD/Negative/to new model/too young
 324 (20 2 2) /Questionnaire/Attitudes MORANHOOD/Positive
 325 (20 2 2 1) /Questionnaire/Attitudes MORANHOOD/Positive/to new model
 326 (20 2 2 1 1) /Questionnaire/Attitudes MORANHOOD/Positive/to new model/go to school
 327 (20 2 2 1 3) /Questionnaire/Attitudes MORANHOOD/Positive/to new model/individualism
 328 (20 2 2 1 4) /Questionnaire/Attitudes MORANHOOD/Positive/to new model/new foods
 329 (20 2 2 7) /Questionnaire/Attitudes MORANHOOD/Positive/to old model
 330 (20 2 2 7 1) /Questionnaire/Attitudes MORANHOOD/Positive/to old model/useful
 331 (20 2 3) /Questionnaire/Attitudes MORANHOOD/I don't know
 332 (20 2 4) /Questionnaire/Attitudes MORANHOOD/Neutral
 333 (20 2 5) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL
 334 (20 2 5 1) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/Olpui Meat camp
 335 (20 2 5 2) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/types of morans
 336 (20 2 5 2 1) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/types of morans/olamayio
 337 (20 2 5 2 2) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/types of morans/olamal
 338 (20 2 5 2 3) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/types of morans/empikas
 339 (20 2 5 2 4) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/types of morans/enjure
 340 (20 2 5 3) /Questionnaire/Attitudes MORANHOOD/Moranhood GENERAL/Moran duties
 341 (20 2 6) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES
 342 (20 2 6 2) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES
 343 (20 2 6 2 1) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/decreased respect
 344 (20 2 6 2 2) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/religion~salvation
 345 (20 2 6 2 3) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/education
 346 (20 2 6 2 4) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/maendeleo
 347 (20 2 6 2 5) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/government
 348 (20 2 6 2 6) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/other tribes
 349 (20 2 6 2 7) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/fewer cows
 350 (20 2 6 2 8) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/God~natural
 change
 351 (20 2 6 2 9) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/W conservation
 352 (20 2 6 2 10) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/fewer lions
 353 (20 2 6 2 11) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/marry quickly
 354 (20 2 6 2 12) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/CAUSES/subdivision
 355 (20 2 6 3) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/EFFECTS
 356 (20 2 6 3 1) /Questionnaire/Attitudes MORANHOOD/PERCEIVED CHANGES/EFFECTS/fewer morans
 357 (20 3) /Questionnaire/TAXONOMY
 358 (20 3 1) /Questionnaire/TAXONOMY/Inguesi
 359 (20 3 2) /Questionnaire/TAXONOMY/Ilchangit
 360 (20 3 3) /Questionnaire/TAXONOMY/Illwarak
 361 (20 3 4) /Questionnaire/TAXONOMY/Inkukuuni
 362 (20 3 5) /Questionnaire/TAXONOMY/aggressive~harmful ones
 363 (20 3 6) /Questionnaire/TAXONOMY/polite ones
 364 (20 3 7) /Questionnaire/TAXONOMY/no category
 365 (20 3 8) /Questionnaire/TAXONOMY/W as non-LS
 366 (20 3 9) /Questionnaire/TAXONOMY/Carnivores
 367 (20 3 10) /Questionnaire/TAXONOMY/Snakes
 368 (20 3 11) /Questionnaire/TAXONOMY/cheetah vs~ leopard
 369 (20 3 12) /Questionnaire/TAXONOMY/Gazelles
 370 (20 3 13) /Questionnaire/TAXONOMY/lack of knowledge~interest
 371 (20 3 14) /Questionnaire/TAXONOMY/knowledge
 372 (20 3 15) /Questionnaire/TAXONOMY/Birds
 373 (20 3 16) /Questionnaire/TAXONOMY/CRITERIA
 374 (20 3 16 1) /Questionnaire/TAXONOMY/CRITERIA/size
 375 (20 3 16 2) /Questionnaire/TAXONOMY/CRITERIA/not at home
 376 (20 3 16 3) /Questionnaire/TAXONOMY/CRITERIA/like cows
 377 (20 3 16 25) /Questionnaire/TAXONOMY/CRITERIA/species 'close to home'
 378 (20 3 16 29) /Questionnaire/TAXONOMY/CRITERIA/don't stay together
 379 (20 3 17) /Questionnaire/TAXONOMY/Bushbuck
 380 (20 3 18) /Questionnaire/TAXONOMY/wild dog
 381 (20 3 19) /Questionnaire/TAXONOMY/Fox
 382 (20 3 20) /Questionnaire/TAXONOMY/Duiker
 383 (20 3 21) /Questionnaire/TAXONOMY/Francolin
 384 (20 3 22) /Questionnaire/TAXONOMY/Dikdik
 385 (20 3 23) /Questionnaire/TAXONOMY/Colobus
 386 (20 3 24) /Questionnaire/TAXONOMY/Gerenuk
 387 (20 3 26) /Questionnaire/TAXONOMY/Hedgehog
 388 (20 3 27) /Questionnaire/TAXONOMY/Honey badger
 389 (20 3 28) /Questionnaire/TAXONOMY/kUDU

390 (20 4) /Questionnaire/FREE LIST
391 (20 5) /Questionnaire/HH SOURCES OF FOOD
392 (20 5 1) /Questionnaire/HH SOURCES OF FOOD/Wmeat
393 (20 5 1 1) /Questionnaire/HH SOURCES OF FOOD/Wmeat/Yes
394 (20 5 1 2) /Questionnaire/HH SOURCES OF FOOD/Wmeat/No
395 (20 5 2) /Questionnaire/HH SOURCES OF FOOD/Crops
396 (20 5 2 1) /Questionnaire/HH SOURCES OF FOOD/Crops/Yes
397 (20 5 2 2) /Questionnaire/HH SOURCES OF FOOD/Crops/No
398 (20 5 3) /Questionnaire/HH SOURCES OF FOOD/Purchased food
399 (20 5 4) /Questionnaire/HH SOURCES OF FOOD/Relief food
400 (20 5 5) /Questionnaire/HH SOURCES OF FOOD/Wild plants
401 (20 5 5 1) /Questionnaire/HH SOURCES OF FOOD/Wild plants/Yes
402 (20 5 5 2) /Questionnaire/HH SOURCES OF FOOD/Wild plants/No
403 (20 6) /Questionnaire/SPP LIKED
404 (20 6 1) /Questionnaire/SPP LIKED/WHY liked
405 (20 6 1 1) /Questionnaire/SPP LIKED/WHY liked/Attract tourists~picture
406 (20 6 1 2) /Questionnaire/SPP LIKED/WHY liked/Beautiful~interesting
407 (20 6 1 3) /Questionnaire/SPP LIKED/WHY liked/Economic benefits
408 (20 6 1 4) /Questionnaire/SPP LIKED/WHY liked/Useful
409 (20 6 1 5) /Questionnaire/SPP LIKED/WHY liked/Harmless~polite
410 (20 6 1 6) /Questionnaire/SPP LIKED/WHY liked/Like LS
411 (20 6 1 7) /Questionnaire/SPP LIKED/WHY liked/God's creation
412 (20 6 1 8) /Questionnaire/SPP LIKED/WHY liked/Meat
413 (20 6 1 9) /Questionnaire/SPP LIKED/WHY liked/Lucky WA
414 (20 6 1 10) /Questionnaire/SPP LIKED/WHY liked/Moranhoo
415 (20 6 1 11) /Questionnaire/SPP LIKED/WHY liked/Just like naturally
416 (20 6 23) /Questionnaire/SPP LIKED/W spp liked
417 (20 6 23 2) /Questionnaire/SPP LIKED/W spp liked/Aardvark
418 (20 6 23 3) /Questionnaire/SPP LIKED/W spp liked/Birds
419 (20 6 23 4) /Questionnaire/SPP LIKED/W spp liked/Bufalo
420 (20 6 23 5) /Questionnaire/SPP LIKED/W spp liked/Eland
421 (20 6 23 6) /Questionnaire/SPP LIKED/W spp liked/Elephant
422 (20 6 23 7) /Questionnaire/SPP LIKED/W spp liked/Gazelles
423 (20 6 23 8) /Questionnaire/SPP LIKED/W spp liked/Giraffe
424 (20 6 23 9) /Questionnaire/SPP LIKED/W spp liked/Hippo
425 (20 6 23 10) /Questionnaire/SPP LIKED/W spp liked/Kudu
426 (20 6 23 11) /Questionnaire/SPP LIKED/W spp liked/Leopard~cheetah
427 (20 6 23 12) /Questionnaire/SPP LIKED/W spp liked/Lion
428 (20 6 23 12 1) /Questionnaire/SPP LIKED/W spp liked/Lion/aesthetics
429 (20 6 23 12 2) /Questionnaire/SPP LIKED/W spp liked/Lion/fascination~interest
430 (20 6 23 12 3) /Questionnaire/SPP LIKED/W spp liked/Lion/brings tourists~\$
431 (20 6 23 12 4) /Questionnaire/SPP LIKED/W spp liked/Lion/polite
432 (20 6 23 12 5) /Questionnaire/SPP LIKED/W spp liked/Lion/olamayio
433 (20 6 23 13) /Questionnaire/SPP LIKED/W spp liked/Oryx
434 (20 6 23 14) /Questionnaire/SPP LIKED/W spp liked/Ostrich
435 (20 6 23 15) /Questionnaire/SPP LIKED/W spp liked/Hare~Rabbit
436 (20 6 23 16) /Questionnaire/SPP LIKED/W spp liked/Rhino
437 (20 6 23 17) /Questionnaire/SPP LIKED/W spp liked/WB
438 (20 6 23 18) /Questionnaire/SPP LIKED/W spp liked/Zebra
439 (20 6 23 19) /Questionnaire/SPP LIKED/W spp liked/ALL
440 (20 6 23 20) /Questionnaire/SPP LIKED/W spp liked/NONE
441 (20 6 23 21) /Questionnaire/SPP LIKED/W spp liked/Waterbuck
442 (20 6 23 22) /Questionnaire/SPP LIKED/W spp liked/HB
443 (20 7) /Questionnaire/SPP BEAUTIFUL
444 (20 7 1) /Questionnaire/SPP BEAUTIFUL/tourism impact
445 (20 7 17) /Questionnaire/SPP BEAUTIFUL/WHY beautiful
446 (20 7 17 1) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/useful
447 (20 7 17 2) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/color~patterns
448 (20 7 17 3) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/interesting~entertaining
449 (20 7 17 4) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/tourism~good picture
450 (20 7 17 5) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/size
451 (20 7 17 6) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/moranhoo
452 (20 7 17 7) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/look like LS
453 (20 7 17 7 1) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/look like LS/like cow~bull
454 (20 7 17 7 2) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/look like LS/like shoats
455 (20 7 17 7 3) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/look like LS/like donkey
456 (20 7 17 8) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/God's creation
457 (20 7 17 10) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/posture~shape~movement
458 (20 7 17 11) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/harmless~polite~good personality

459 (20 7 17 12) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/variety
 460 (20 7 17 13) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/Parts of the body
 461 (20 7 17 14) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/Rare
 462 (20 7 17 15) /Questionnaire/SPP BEAUTIFUL/WHY beautiful/Naturally beautiful
 463 (20 7 21) /Questionnaire/SPP BEAUTIFUL/W spp beautiful
 464 (20 7 21 1) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Eland
 465 (20 7 21 2) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Zebra
 466 (20 7 21 3) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Giraffe
 467 (20 7 21 4) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Lion
 468 (20 7 21 5) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Elephants
 469 (20 7 21 6) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Buffalo
 470 (20 7 21 7) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Rhino
 471 (20 7 21 8) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Oryx
 472 (20 7 21 9) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Cheetah~leopard
 473 (20 7 21 10) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Gazelles
 474 (20 7 21 11) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/WB
 475 (20 7 21 12) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Ostrich
 476 (20 7 21 13) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Kudu
 477 (20 7 21 14) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Birds
 478 (20 7 21 15) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/ALL
 479 (20 7 21 16) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/NONE
 480 (20 7 21 16 1) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/NONE/WHY NONE beautiful
 481 (20 7 21 16 1 1) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/NONE/WHY NONE beautiful/Useless
 482 (20 7 21 16 1 2) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/NONE/WHY NONE beautiful/only
 cow beautiful
 483 (20 7 21 18) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Hippo
 484 (20 7 21 19) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Baboon
 485 (20 7 21 20) /Questionnaire/SPP BEAUTIFUL/W spp beautiful/Waterbuck
 486 (20 8) /Questionnaire/SPP HATED
 487 (20 8 1) /Questionnaire/SPP HATED/WHY hated
 488 (20 8 1 1) /Questionnaire/SPP HATED/WHY hated/eat~kill people
 489 (20 8 1 2) /Questionnaire/SPP HATED/WHY hated/eat~kill LS
 490 (20 8 1 3) /Questionnaire/SPP HATED/WHY hated/no benefit
 491 (20 8 1 4) /Questionnaire/SPP HATED/WHY hated/Crop damage
 492 (20 8 1 5) /Questionnaire/SPP HATED/WHY hated/Disturb people
 493 (20 8 1 6) /Questionnaire/SPP HATED/WHY hated/Disease transmission
 494 (20 8 1 7) /Questionnaire/SPP HATED/WHY hated/Eat grass
 495 (20 8 1 8) /Questionnaire/SPP HATED/WHY hated/Destroy esilanke
 496 (20 8 1 9) /Questionnaire/SPP HATED/WHY hated/Personnality
 497 (20 8 1 10) /Questionnaire/SPP HATED/WHY hated/Ugly
 498 (20 8 1 11) /Questionnaire/SPP HATED/WHY hated/Only cows are good
 499 (20 8 1 12) /Questionnaire/SPP HATED/WHY hated/Hate naturally
 500 (20 8 23) /Questionnaire/SPP HATED/W spp hated
 501 (20 8 23 2) /Questionnaire/SPP HATED/W spp hated/Buffalo
 502 (20 8 23 3) /Questionnaire/SPP HATED/W spp hated/Eagle
 503 (20 8 23 4) /Questionnaire/SPP HATED/W spp hated/Eland
 504 (20 8 23 5) /Questionnaire/SPP HATED/W spp hated/Elephant
 505 (20 8 23 6) /Questionnaire/SPP HATED/W spp hated/Hippo
 506 (20 8 23 7) /Questionnaire/SPP HATED/W spp hated/Hyena
 507 (20 8 23 8) /Questionnaire/SPP HATED/W spp hated/Jackal
 508 (20 8 23 9) /Questionnaire/SPP HATED/W spp hated/Leopard~cheetah
 509 (20 8 23 10) /Questionnaire/SPP HATED/W spp hated/Lion
 510 (20 8 23 10 1) /Questionnaire/SPP HATED/W spp hated/Lion/dangerous
 511 (20 8 23 10 1 1) /Questionnaire/SPP HATED/W spp hated/Lion/dangerous/kills people
 512 (20 8 23 10 1 2) /Questionnaire/SPP HATED/W spp hated/Lion/dangerous/kills LS
 513 (20 8 23 10 1 3) /Questionnaire/SPP HATED/W spp hated/Lion/dangerous/kills people & LS
 514 (20 8 23 11) /Questionnaire/SPP HATED/W spp hated/Porcupine
 515 (20 8 23 12) /Questionnaire/SPP HATED/W spp hated/Rhino
 516 (20 8 23 13) /Questionnaire/SPP HATED/W spp hated/Snake
 517 (20 8 23 14) /Questionnaire/SPP HATED/W spp hated/Warthog
 518 (20 8 23 15) /Questionnaire/SPP HATED/W spp hated/WB
 519 (20 8 23 16) /Questionnaire/SPP HATED/W spp hated/Zebra
 520 (20 8 23 17) /Questionnaire/SPP HATED/W spp hated/Baboons
 521 (20 8 23 18) /Questionnaire/SPP HATED/W spp hated/ALL
 522 (20 8 23 19) /Questionnaire/SPP HATED/W spp hated/NONE
 523 (20 8 23 20) /Questionnaire/SPP HATED/W spp hated/Gazelles
 524 (20 8 23 21) /Questionnaire/SPP HATED/W spp hated/Ostrich
 525 (20 8 23 22) /Questionnaire/SPP HATED/W spp hated/Carnivores
 526 (20 9) /Questionnaire/SPP UGLY

527 (20 9 18) /Questionnaire/SPP UGLY/WHY ugly
528 (20 9 18 1) /Questionnaire/SPP UGLY/WHY ugly/bad behaviors~personality
529 (20 9 18 2) /Questionnaire/SPP UGLY/WHY ugly/posture~shape~movement
530 (20 9 18 3) /Questionnaire/SPP UGLY/WHY ugly/color~patterns
531 (20 9 18 4) /Questionnaire/SPP UGLY/WHY ugly/parts of the body
532 (20 9 18 5) /Questionnaire/SPP UGLY/WHY ugly/Size
533 (20 9 18 6) /Questionnaire/SPP UGLY/WHY ugly/Don't attract tourism~picture
534 (20 9 18 7) /Questionnaire/SPP UGLY/WHY ugly/Freakish animals~like humans
535 (20 9 18 9) /Questionnaire/SPP UGLY/WHY ugly/Useless
536 (20 9 18 9 8) /Questionnaire/SPP UGLY/WHY ugly/Useless/Scary
537 (20 9 18 10) /Questionnaire/SPP UGLY/WHY ugly/Different from LS
538 (20 9 18 11) /Questionnaire/SPP UGLY/WHY ugly/Dirty
539 (20 9 18 12) /Questionnaire/SPP UGLY/WHY ugly/naturally ugly
540 (20 9 32) /Questionnaire/SPP UGLY/W spp ugly
541 (20 9 32 1) /Questionnaire/SPP UGLY/W spp ugly/Aardvark
542 (20 9 32 2) /Questionnaire/SPP UGLY/W spp ugly/Buffalo
543 (20 9 32 3) /Questionnaire/SPP UGLY/W spp ugly/Elephant
544 (20 9 32 4) /Questionnaire/SPP UGLY/W spp ugly/Hartebeest
545 (20 9 32 5) /Questionnaire/SPP UGLY/W spp ugly/Hippo
546 (20 9 32 6) /Questionnaire/SPP UGLY/W spp ugly/Hyena
547 (20 9 32 7) /Questionnaire/SPP UGLY/W spp ugly/Jackal
548 (20 9 32 8) /Questionnaire/SPP UGLY/W spp ugly/Kudu
549 (20 9 32 9) /Questionnaire/SPP UGLY/W spp ugly/Leopard~cheetah
550 (20 9 32 10) /Questionnaire/SPP UGLY/W spp ugly/Lion
551 (20 9 32 11) /Questionnaire/SPP UGLY/W spp ugly/Ostrich
552 (20 9 32 12) /Questionnaire/SPP UGLY/W spp ugly/Rhino
553 (20 9 32 13) /Questionnaire/SPP UGLY/W spp ugly/Snake
554 (20 9 32 14) /Questionnaire/SPP UGLY/W spp ugly/Warthog
555 (20 9 32 15) /Questionnaire/SPP UGLY/W spp ugly/WB
556 (20 9 32 16) /Questionnaire/SPP UGLY/W spp ugly/ALL
557 (20 9 32 17) /Questionnaire/SPP UGLY/W spp ugly/NONE
558 (20 9 32 17 1) /Questionnaire/SPP UGLY/W spp ugly/NONE/WHY none ugly
559 (20 9 32 17 1 2) /Questionnaire/SPP UGLY/W spp ugly/NONE/WHY none ugly/all beautiful
560 (20 9 32 19) /Questionnaire/SPP UGLY/W spp ugly/Giraffe
561 (20 9 32 20) /Questionnaire/SPP UGLY/W spp ugly/Honey badger
562 (20 9 32 21) /Questionnaire/SPP UGLY/W spp ugly/Porcupine
563 (20 9 32 22) /Questionnaire/SPP UGLY/W spp ugly/Gorilla
564 (20 9 32 23) /Questionnaire/SPP UGLY/W spp ugly/Crocodile
565 (20 9 32 24) /Questionnaire/SPP UGLY/W spp ugly/Crabs
566 (20 9 32 25) /Questionnaire/SPP UGLY/W spp ugly/Baboon
567 (20 9 32 26) /Questionnaire/SPP UGLY/W spp ugly/Fox
568 (20 9 32 27) /Questionnaire/SPP UGLY/W spp ugly/Tortoise
569 (20 9 32 28) /Questionnaire/SPP UGLY/W spp ugly/Eland
570 (20 9 32 29) /Questionnaire/SPP UGLY/W spp ugly/Pig
571 (20 9 32 30) /Questionnaire/SPP UGLY/W spp ugly/Zebra
572 (20 9 32 31) /Questionnaire/SPP UGLY/W spp ugly/Snails
573 (20 10) /Questionnaire/SPP FEARED
574 (20 10 1) /Questionnaire/SPP FEARED/WHY feared
575 (20 10 2) /Questionnaire/SPP FEARED/Spp feared
576 (20 10 2 1) /Questionnaire/SPP FEARED/Spp feared/elephant
577 (20 10 2 2) /Questionnaire/SPP FEARED/Spp feared/snake
578 (20 10 2 3) /Questionnaire/SPP FEARED/Spp feared/lion
579 (20 10 2 4) /Questionnaire/SPP FEARED/Spp feared/buffalo
580 (20 10 2 5) /Questionnaire/SPP FEARED/Spp feared/hippo
581 (20 10 2 6) /Questionnaire/SPP FEARED/Spp feared/rhino
582 (20 10 2 7) /Questionnaire/SPP FEARED/Spp feared/All
583 (20 10 2 8) /Questionnaire/SPP FEARED/Spp feared/leo~cheetah
584 (20 10 2 9) /Questionnaire/SPP FEARED/Spp feared/none
585 (20 10 2 10) /Questionnaire/SPP FEARED/Spp feared/ostrich
586 (20 10 2 11) /Questionnaire/SPP FEARED/Spp feared/hyena
587 (20 11) /Questionnaire/SPP TO DISAPPEAR
588 (20 11 1) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear
589 (20 11 1 1) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Eat~kill people
590 (20 11 1 2) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Eat~kill LS
591 (20 11 1 3) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/No benefit
592 (20 11 1 4) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Disease
593 (20 11 1 5) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Ugly
594 (20 11 1 6) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Crop damage
595 (20 11 1 7) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Eat grass

596	(20 11 1 8) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Personality
597	(20 11 1 9) /Questionnaire/SPP TO DISAPPEAR/WHY to disappear/Bad behaviours
598	(20 11 23) /Questionnaire/SPP TO DISAPPEAR/WHAT IF all W disappear
599	(20 11 27) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear
600	(20 11 27 1) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Porcupine
601	(20 11 27 2) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/ALL
602	(20 11 27 3) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/NONE
603	(20 11 27 4) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Buffalo
604	(20 11 27 5) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Eland
605	(20 11 27 6) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Elephant
606	(20 11 27 7) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Hippo
607	(20 11 27 8) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Hyena
608	(20 11 27 9) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Jackal
609	(20 11 27 10) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Lion
610	(20 11 27 11) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Leopard~cheetah
611	(20 11 27 12) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Rhino
612	(20 11 27 13) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Snake
613	(20 11 27 14) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/WB
614	(20 11 27 15) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Zebra
615	(20 11 27 16) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Gazelles
616	(20 11 27 17) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Ostrich
617	(20 11 27 18) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Giraffe
618	(20 11 27 19) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Squirrels
619	(20 11 27 20) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Warthog
620	(20 11 27 21) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Wild dog
621	(20 11 27 22) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Crocodile
622	(20 11 27 24) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/carnivores
623	(20 11 27 25) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/baboon
624	(20 11 27 26) /Questionnaire/SPP TO DISAPPEAR/Spp to disappear/Cheetah
625	(20 12) /Questionnaire/SPP TO RESCUE
626	(20 12 1) /Questionnaire/SPP TO RESCUE/WHY to rescue
627	(20 12 1 1) /Questionnaire/SPP TO RESCUE/WHY to rescue/Attract tourists
628	(20 12 1 2) /Questionnaire/SPP TO RESCUE/WHY to rescue/Harmless~polite
629	(20 12 1 3) /Questionnaire/SPP TO RESCUE/WHY to rescue/Beautiful~interesting
630	(20 12 1 4) /Questionnaire/SPP TO RESCUE/WHY to rescue/Meat
631	(20 12 1 5) /Questionnaire/SPP TO RESCUE/WHY to rescue/Economic benefits
632	(20 12 1 6) /Questionnaire/SPP TO RESCUE/WHY to rescue/Useful
633	(20 12 1 7) /Questionnaire/SPP TO RESCUE/WHY to rescue/Like LS
634	(20 12 1 8) /Questionnaire/SPP TO RESCUE/WHY to rescue/God's creation
635	(20 12 1 9) /Questionnaire/SPP TO RESCUE/WHY to rescue/Holly
636	(20 12 1 10) /Questionnaire/SPP TO RESCUE/WHY to rescue/No other place to go to
637	(20 12 18) /Questionnaire/SPP TO RESCUE/W spp to rescue
638	(20 12 18 2) /Questionnaire/SPP TO RESCUE/W spp to rescue/ALL
639	(20 12 18 3) /Questionnaire/SPP TO RESCUE/W spp to rescue/NONE
640	(20 12 18 4) /Questionnaire/SPP TO RESCUE/W spp to rescue/Birds
641	(20 12 18 5) /Questionnaire/SPP TO RESCUE/W spp to rescue/Eland
642	(20 12 18 6) /Questionnaire/SPP TO RESCUE/W spp to rescue/Elephant
643	(20 12 18 7) /Questionnaire/SPP TO RESCUE/W spp to rescue/Gazelle
644	(20 12 18 8) /Questionnaire/SPP TO RESCUE/W spp to rescue/Giraffe
645	(20 12 18 9) /Questionnaire/SPP TO RESCUE/W spp to rescue/Hare
646	(20 12 18 10) /Questionnaire/SPP TO RESCUE/W spp to rescue/Lion
647	(20 12 18 11) /Questionnaire/SPP TO RESCUE/W spp to rescue/Oryx
648	(20 12 18 12) /Questionnaire/SPP TO RESCUE/W spp to rescue/Ostrich
649	(20 12 18 13) /Questionnaire/SPP TO RESCUE/W spp to rescue/Rhino
650	(20 12 18 14) /Questionnaire/SPP TO RESCUE/W spp to rescue/WB
651	(20 12 18 15) /Questionnaire/SPP TO RESCUE/W spp to rescue/Zebra
652	(20 12 18 16) /Questionnaire/SPP TO RESCUE/W spp to rescue/Leopard~cheetah
653	(20 12 18 17) /Questionnaire/SPP TO RESCUE/W spp to rescue/Buffalo
654	(20 13) /Questionnaire/WILDMEAT
655	(20 13 1) /Questionnaire/WILDMEAT/Wmeat NOW
656	(20 13 1 1) /Questionnaire/WILDMEAT/Wmeat NOW/Which wild animals do you eat now
657	(20 13 1 2) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from
658	(20 13 1 2 1) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/Like
cow's ~meat~	
659	(20 13 1 2 2) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/Like
goat's ~meat~	
660	(20 13 1 2 3) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/Sweet
meat	
661	(20 13 1 2 4) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/Fat meat

smell	662	(20 13 1 2 5) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/No bad
good~	663	(20 13 1 2 6) /Questionnaire/WILDMEAT/Wmeat NOW/Why do you like eating the meat from/Not very
	664	(20 13 1 3) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~
by lion	665	(20 13 1 3 1) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/found killed
game scouts or military	666	(20 13 1 3 2) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Killed by
boys	667	(20 13 1 3 3) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/killed by
morans	668	(20 13 1 3 4) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/killed by
friends	669	(20 13 1 3 5) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Given by
other people	670	(20 13 1 3 6) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Trapped by
	671	(20 13 1 3 7) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/found dead
other people	672	(20 13 1 3 8) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Killed by
	673	(20 13 1 3 9) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Killed by us
us	674	(20 13 1 3 10) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Snared by
sold	675	(20 13 1 3 11) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Meat is
bird shooters	676	(20 13 1 3 12) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Killed by
by electric fence	677	(20 13 1 3 13) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Shocked
cropping	678	(20 13 1 3 14) /Questionnaire/WILDMEAT/Wmeat NOW/Where~how do you get this meat~/Game
	679	(20 13 1 4) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why
donkey	680	(20 13 1 4 1) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Zebra why never &
	681	(20 13 1 4 2) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/elephant why never
	682	(20 13 1 4 3) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/hyena why never
	683	(20 13 1 4 4) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/lion why never
	684	(20 13 1 4 5) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/carnivores why never
	685	(20 13 1 4 6) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/porcupine why never
	686	(20 13 1 4 7) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/rhino why never
	687	(20 13 1 4 8) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/hippo why never
	688	(20 13 1 4 9) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Buff why never
	689	(20 13 1 4 10) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/WB why never
	690	(20 13 1 4 11) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Warthog why never
never	691	(20 13 1 4 12) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Ostrich & birds why
	692	(20 13 1 4 13) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/All why never
	693	(20 13 1 4 14) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Kudu why never
	694	(20 13 1 4 15) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Hare why never .
	695	(20 13 1 4 16) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Snakes why never
	696	(20 13 1 4 17) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Grant's gazelle
	697	(20 13 1 4 18) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Duiker ~Ironko~
	698	(20 13 1 4 19) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Baboon
	699	(20 13 1 4 20) /Questionnaire/WILDMEAT/Wmeat NOW/Animals never eat why/Tommi gazelle
	700	(20 13 1 5) /Questionnaire/WILDMEAT/Wmeat NOW/eating wmeat more less 10 yrs ago
	701	(20 13 1 5 1) /Questionnaire/WILDMEAT/Wmeat NOW/eating wmeat more less 10 yrs ago/More Why
	702	(20 13 1 5 2) /Questionnaire/WILDMEAT/Wmeat NOW/eating wmeat more less 10 yrs ago/Less Why
	703	(20 13 1 5 3) /Questionnaire/WILDMEAT/Wmeat NOW/eating wmeat more less 10 yrs ago/As much as
Why	704	(20 13 2) /Questionnaire/WILDMEAT/Wmeat in the PAST
	705	(20 13 2 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/which ate in past
	706	(20 13 2 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/why liked to eat these spp
	707	(20 13 2 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat
	708	(20 13 2 3 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/killed by Boys
	709	(20 13 2 3 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/killed by others
	710	(20 13 2 3 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/killed by lions
Morans	711	(20 13 2 3 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/killed by

someone	712	(20 13 2 3 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/Given by
	713	(20 13 2 3 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/found dead
	714	(20 13 2 3 7) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/Trapped by us
	715	(20 13 2 3 8) /Questionnaire/WILDMEAT/Wmeat in the PAST/where how got that meat/Killd by us
	716	(20 13 2 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past
	717	(20 13 2 4 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past/As
children	718	(20 13 2 4 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in
past/Drought	719	(20 13 2 4 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past/Snared
in shamba	720	(20 13 2 4 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in
past/Deceived	721	(20 13 2 4 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past/Killed
by poachers	722	(20 13 2 4 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past/Offered
by someone	723	(20 13 2 4 7) /Questionnaire/WILDMEAT/Wmeat in the PAST/why did you eat these spp in past/Don't
know	724	(20 13 2 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now
	725	(20 13 2 5 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Not for adults
	726	(20 13 2 5 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Not for people with
LS	727	(20 13 2 5 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Not available
	728	(20 13 2 5 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Against Maasai
culture	729	(20 13 2 5 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Tastes differently
from LS	730	(20 13 2 5 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/W protected, illegal
to kill	731	(20 13 2 5 7) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/No need now
	732	(20 13 2 5 8) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Not for Christians
	733	(20 13 2 5 9) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/W is beneficial, bad
to kill	734	(20 13 2 5 10) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/No reason
	735	(20 13 2 5 11) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/W meat unhealthy,
unknown	736	(20 13 2 5 12) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Only for Dorobos
	737	(20 13 2 5 13) /Questionnaire/WILDMEAT/Wmeat in the PAST/why not eating now/Ridiculous
	738	(20 13 2 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat
	739	(20 13 2 6 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/yes
	740	(20 13 2 6 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/no
	741	(20 13 2 6 7) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat if
starving	742	(20 13 2 6 7 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/Giraffe	743	(20 13 2 6 7 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/Oryx	744	(20 13 2 6 7 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/Buffalo	745	(20 13 2 6 7 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/Eland	746	(20 13 2 6 7 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/Gazelle	747	(20 13 2 6 7 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/if starving would eat/which spp wld eat
if starving/WB	748	(20 13 2 8) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving
	749	(20 13 2 8 1) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/animals with neck not properly cut	750	(20 13 2 8 2) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/zebra
why never	751	(20 13 2 8 3) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/warthog why never	752	(20 13 2 8 4) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/birds
why never	753	(20 13 2 8 5) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/elephant why never		

why never	754	(20 13 2 8 6) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/fish
why never	755	(20 13 2 8 7) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/hippo
why never	756	(20 13 2 8 8) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/hyena
why never	757	(20 13 2 8 9) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/lion
why never	758	(20 13 2 8 10) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/All
WAs why never	759	(20 13 2 8 11) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/Rhino
why never	760	(20 13 2 8 12) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Aardvark	761	(20 13 2 8 13) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Rabbit	762	(20 13 2 8 14) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Porcupine why never	763	(20 13 2 8 15) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Ostrich why never	764	(20 13 2 8 16) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Hartebeest	765	(20 13 2 8 17) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Carnivores why never	766	(20 13 2 8 18) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Baboon why never	767	(20 13 2 8 19) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if
starving/Duiker, dikdik, why never	768	(20 13 2 8 20) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/Kudu
why never	769	(20 13 2 8 21) /Questionnaire/WILDMEAT/Wmeat in the PAST/spp wld never eat even if starving/Buff
why never	770	(20 13 3) /Questionnaire/WILDMEAT/Wmeat NEVER
	771	(20 13 3 1) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten
	772	(20 13 3 1 2) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Makes you sick, unhealthy
	773	(20 13 3 1 3) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/No reason
	774	(20 13 3 1 4) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/For Imeek only
	775	(20 13 3 1 5) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Not for Christians
	776	(20 13 3 1 6) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/because never ate before
	777	(20 13 3 1 7) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/No need
	778	(20 13 3 1 9) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Not food
	779	(20 13 3 1 10) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Bad smell, bad color
	780	(20 13 3 1 11) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Against Maasai culture
	781	(20 13 3 1 12) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/For Dorobos only
	782	(20 13 3 1 13) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Not done in family
	783	(20 13 3 1 14) /Questionnaire/WILDMEAT/Wmeat NEVER/why never eaten/Badly affects your LS
	784	(20 13 3 2) /Questionnaire/WILDMEAT/Wmeat NEVER/if starving would eat
	785	(20 13 3 2 1) /Questionnaire/WILDMEAT/Wmeat NEVER/if starving would eat/Yes why
	786	(20 13 3 2 2) /Questionnaire/WILDMEAT/Wmeat NEVER/if starving would eat/No why not
	787	(20 13 3 2 3) /Questionnaire/WILDMEAT/Wmeat NEVER/if starving would eat/I don't know
	788	(20 13 3 2 4) /Questionnaire/WILDMEAT/Wmeat NEVER/if starving would eat/which ones wld eat if
starving	789	(20 13 3 4) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving
	790	(20 13 3 4 1) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/All why
never		
never	791	(20 13 3 4 2) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Fish why
never	792	(20 13 3 4 3) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Zebra why
never	793	(20 13 3 4 4) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Elephant
why never	794	(20 13 3 4 5) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Lion why
never	795	(20 13 3 4 6) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Hippo why
never	796	(20 13 3 4 7) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Rhino why
never	797	(20 13 3 4 8) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Carnivores
why never		

798	(20 13 3 4 9) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Ostrich &
birds why never	
799	(20 13 3 4 10) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Hyena
why never	
800	(20 13 3 4 11) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/WB why
never	
801	(20 13 3 4 12) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Buffalo
why never	
802	(20 13 3 4 13) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Rabbit
why never	
803	(20 13 3 4 14) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Warthog
why never	
804	(20 13 3 4 15) /Questionnaire/WILDMEAT/Wmeat NEVER/spp wld never eat even if starving/Grant's
gazelle why never	
805	(20 13 4) /Questionnaire/WILDMEAT/Wmeat eaters
806	(20 13 4 1) /Questionnaire/WILDMEAT/Wmeat eaters/people here eating
807	(20 13 4 2) /Questionnaire/WILDMEAT/Wmeat eaters/who eating
808	(20 13 4 2 1) /Questionnaire/WILDMEAT/Wmeat eaters/who eating/Maasai
809	(20 13 4 2 2) /Questionnaire/WILDMEAT/Wmeat eaters/who eating/non-Maasai
810	(20 13 4 2 3) /Questionnaire/WILDMEAT/Wmeat eaters/who eating/Both
811	(20 13 4 3) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago
812	(20 13 4 3 1) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less Why
813	(20 13 4 3 1 1) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less
Why/Illegal W protected	
814	(20 13 4 3 1 2) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less
Why/Wmeat less available	
815	(20 13 4 3 1 3) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less
Why/Adult now	
816	(20 13 4 3 1 4) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less
Why/Other sources of food	
817	(20 13 4 3 1 5) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/Less
Why/People richer more cows	
818	(20 13 4 3 2) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/More Why
819	(20 13 4 3 2 1) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/More
Why/people poorer~more droughts	
820	(20 13 4 3 2 2) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/More
Why/mix with non-Maasai	
821	(20 13 4 3 2 3) /Questionnaire/WILDMEAT/Wmeat eaters/people eating more less 10 yrs ago/More
Why/more people	
822	(20 13 4 4) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat
823	(20 13 4 4 1) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why
824	(20 13 4 4 1 1) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/if edible
harmless ok	
825	(20 13 4 4 1 2) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/because less
cows more poverty	
826	(20 13 4 4 1 3) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/personal
choice	
827	(20 13 4 4 1 4) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/Maasai have
depended on Wmeat in pas	
828	(20 13 4 4 1 5) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/if nothing else
to eat	
829	(20 13 4 4 1 6) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/if found dead
830	(20 13 4 4 1 7) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/they're food
831	(20 13 4 4 1 9) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/Yes why/if allowed
832	(20 13 4 4 2) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not
833	(20 13 4 4 2 1) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Bec illegal
W protected	
834	(20 13 4 4 2 2) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Maasai
have LS meat	
835	(20 13 4 4 2 3) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Wmeat bad
not food	
836	(20 13 4 4 2 4) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/W bring
benefits	
837	(20 13 4 4 2 5) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Not for
Maasai	
838	(20 13 4 4 2 6) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Bad for LS
to eat wmeat	
839	(20 13 4 4 2 7) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/unhealthy

840	(20 13 4 4 2 8) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/Only
during droughts	
841	(20 13 4 4 2 9) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/No why not/not reliable
842	(20 13 4 4 3) /Questionnaire/WILDMEAT/Wmeat eaters/ok for Maasai to eat/I don't know
843	(20 13 4 5) /Questionnaire/WILDMEAT/Wmeat eaters/opiion of wmeat eaters
844	(20 13 4 5 1) /Questionnaire/WILDMEAT/Wmeat eaters/opiion of wmeat eaters/positive
845	(20 13 4 5 2) /Questionnaire/WILDMEAT/Wmeat eaters/opiion of wmeat eaters/negative
846	(20 13 4 5 3) /Questionnaire/WILDMEAT/Wmeat eaters/opiion of wmeat eaters/neutral
847	(20 13 5) /Questionnaire/WILDMEAT/Matapato rhino eaters
848	(20 13 6) /Questionnaire/WILDMEAT/Emutai & Droughts
849	(20 13 6 1) /Questionnaire/WILDMEAT/Emutai & Droughts/Emutai
850	(20 13 6 2) /Questionnaire/WILDMEAT/Emutai & Droughts/1963
851	(20 13 6 3) /Questionnaire/WILDMEAT/Emutai & Droughts/1990's-2000
852	(20 13 6 4) /Questionnaire/WILDMEAT/Emutai & Droughts/Undated ~40's~
853	(20 13 6 5) /Questionnaire/WILDMEAT/Emutai & Droughts/1971
854	(20 13 7) /Questionnaire/WILDMEAT/Dorobos
855	(20 13 8) /Questionnaire/WILDMEAT/Biblical food restrictions
856	(20 13 9) /Questionnaire/WILDMEAT/Bushmeat trade
857	(20 13 9 1) /Questionnaire/WILDMEAT/Bushmeat trade/Mboga
858	(20 13 10) /Questionnaire/WILDMEAT/Kambas & wmeat
859	(20 13 11) /Questionnaire/WILDMEAT/~Maasai don't eat~ DISCOURSE
860	(20 13 12) /Questionnaire/WILDMEAT/Mbirikani game cropping
861	(20 13 13) /Questionnaire/WILDMEAT/Morans killing non-dangerous WAs
862	(20 13 14) /Questionnaire/WILDMEAT/~inkiri oolchangit~
863	(20 13 15) /Questionnaire/WILDMEAT/Matapato eating Wmeat
864	(20 13 16) /Questionnaire/WILDMEAT/Wmeat to feed dogs
865	(20 13 17) /Questionnaire/WILDMEAT/Poaching
866	(20 13 18) /Questionnaire/WILDMEAT/Gender and Wmeat
867	(20 13 19) /Questionnaire/WILDMEAT/Age and Wmeat
868	(20 13 19 1) /Questionnaire/WILDMEAT/Age and Wmeat/Boys hunting
869	(20 13 20) /Questionnaire/WILDMEAT/WB
870	(20 13 21) /Questionnaire/WILDMEAT/Reasons for eating wmeat
871	(20 13 21 1) /Questionnaire/WILDMEAT/Reasons for eating wmeat/curiosity
872	(20 13 21 2) /Questionnaire/WILDMEAT/Reasons for eating wmeat/killing for fun as children
873	(20 13 22) /Questionnaire/WILDMEAT/reasons for not eating wmeat
874	(20 13 22 1) /Questionnaire/WILDMEAT/reasons for not eating wmeat/Health status unknown
875	(20 13 22 2) /Questionnaire/WILDMEAT/reasons for not eating wmeat/Body rejects it
876	(20 13 22 3) /Questionnaire/WILDMEAT/reasons for not eating wmeat/Negatively affects pastoralism
877	(20 13 22 4) /Questionnaire/WILDMEAT/reasons for not eating wmeat/Cannibalism
878	(20 13 23) /Questionnaire/WILDMEAT/Class and wmeat
879	(20 13 24) /Questionnaire/WILDMEAT/Black meat
880	(20 13 25) /Questionnaire/WILDMEAT/wmeat and Otherness
881	(20 13 25 1) /Questionnaire/WILDMEAT/wmeat and Otherness/against Maasai values
882	(20 13 25 20) /Questionnaire/WILDMEAT/wmeat and Otherness/Identity and wmeat
883	(20 13 25 20 5) /Questionnaire/WILDMEAT/wmeat and Otherness/Identity and wmeat/Matapato rhino
eaters	
884	(20 13 26) /Questionnaire/WILDMEAT/EDIBLE spp
885	(20 13 27) /Questionnaire/WILDMEAT/KWS involved in wild meat
886	(20 13 28) /Questionnaire/WILDMEAT/Zebra use in Matapato
887	(20 13 29) /Questionnaire/WILDMEAT/INEDIBLE spp
888	(20 13 29 1) /Questionnaire/WILDMEAT/INEDIBLE spp/Birds, chickens
889	(20 13 29 28) /Questionnaire/WILDMEAT/INEDIBLE spp/Donkeys & zebras
890	(20 13 30) /Questionnaire/WILDMEAT/Eland
891	(20 13 31) /Questionnaire/WILDMEAT/Giraffes in Matapato
892	(20 13 32) /Questionnaire/WILDMEAT/Ostrich use in Matapato
893	(20 13 33) /Questionnaire/WILDMEAT/Ilmeek & wmeat
894	(20 13 34) /Questionnaire/WILDMEAT/poverty & wmeat
895	(20 13 35) /Questionnaire/WILDMEAT/Wmeat NOT a benefit
896	(20 14) /Questionnaire/RHINOS
897	(20 14 1) /Questionnaire/RHINOS/seen rhino~
898	(20 14 2) /Questionnaire/RHINOS/rhinos here~
899	(20 14 2 1) /Questionnaire/RHINOS/rhinos here~/yes
900	(20 14 2 2) /Questionnaire/RHINOS/rhinos here~/no
901	(20 14 2 2 1) /Questionnaire/RHINOS/rhinos here~/no/migrated~taken to special place
902	(20 14 2 2 2) /Questionnaire/RHINOS/rhinos here~/no/killed
903	(20 14 2 2 3) /Questionnaire/RHINOS/rhinos here~/no/God took away
904	(20 14 3) /Questionnaire/RHINOS/how feel rhinos not here~
905	(20 14 3 1) /Questionnaire/RHINOS/how feel rhinos not here~/I like
906	(20 14 3 2) /Questionnaire/RHINOS/how feel rhinos not here~/I don't like

907 (20 14 4) /Questionnaire/RHINOS/how feel children not seen rhinos~
 908 (20 14 4 1) /Questionnaire/RHINOS/how feel children not seen rhinos~/I like
 909 (20 14 4 2) /Questionnaire/RHINOS/how feel children not seen rhinos~/I don't like
 910 (20 15) /Questionnaire/SPP IMPORT FOR CULTURE
 911 (20 15 1) /Questionnaire/SPP IMPORT FOR CULTURE/I don't know
 912 (20 15 2) /Questionnaire/SPP IMPORT FOR CULTURE/Culture
 913 (20 15 3) /Questionnaire/SPP IMPORT FOR CULTURE/Yes
 914 (20 15 3 1) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important
 915 (20 15 3 1 1) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Moranhoo
 916 (20 15 3 1 2) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Economic benefits
 917 (20 15 3 1 3) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Ceremonies
 918 (20 15 3 1 4) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Useful
 919 (20 15 3 1 5) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/God's creation
 920 (20 15 3 1 6) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Meat
 921 (20 15 3 1 7) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/Beauty
 922 (20 15 3 1 8) /Questionnaire/SPP IMPORT FOR CULTURE/Yes/WHY important/magic
 923 (20 15 4) /Questionnaire/SPP IMPORT FOR CULTURE/No
 924 (20 15 4 1) /Questionnaire/SPP IMPORT FOR CULTURE/No/not important now
 925 (20 15 5) /Questionnaire/SPP IMPORT FOR CULTURE/I don't like
 926 (20 15 20) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important
 927 (20 15 20 5) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Lion
 928 (20 15 20 6) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Ostrich
 929 (20 15 20 7) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Eland
 930 (20 15 20 8) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Grasshoppers
 931 (20 15 20 9) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Buffalo
 932 (20 15 20 10) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Elephant
 933 (20 15 20 11) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Warthog
 934 (20 15 20 12) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/WB
 935 (20 15 20 13) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Oryx
 936 (20 15 20 14) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Gazelles
 937 (20 15 20 15) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/Giraffe
 938 (20 15 20 16) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/birds
 939 (20 15 20 17) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/All
 940 (20 15 20 18) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/I dont know
 941 (20 15 20 19) /Questionnaire/SPP IMPORT FOR CULTURE/W spp important/rhinos
 942 (20 16) /Questionnaire/BOYS & BIRDS
 943 (20 16 1) /Questionnaire/BOYS & BIRDS/less
 944 (20 16 1 1) /Questionnaire/BOYS & BIRDS/less/culture changing
 945 (20 16 1 1 1) /Questionnaire/BOYS & BIRDS/less/culture changing/lazy
 946 (20 16 1 1 2) /Questionnaire/BOYS & BIRDS/less/culture changing/bec of school~education
 947 (20 16 1 1 3) /Questionnaire/BOYS & BIRDS/less/culture changing/maendeleo~kiasumpu
 948 (20 16 1 1 4) /Questionnaire/BOYS & BIRDS/less/culture changing/getting Saved~christianity
 949 (20 16 1 1 5) /Questionnaire/BOYS & BIRDS/less/culture changing/circumcized young
 950 (20 16 1 2) /Questionnaire/BOYS & BIRDS/less/natural change
 951 (20 16 1 3) /Questionnaire/BOYS & BIRDS/less/want birds around
 952 (20 16 2) /Questionnaire/BOYS & BIRDS/as much as before
 953 (20 16 3) /Questionnaire/BOYS & BIRDS/Osilalei Boys & Birds
 954 (20 17) /Questionnaire/Uses of wildlife
 955 (20 17 1) /Questionnaire/Uses of wildlife/Skins
 956 (20 17 2) /Questionnaire/Uses of wildlife/Horns
 957 (20 17 3) /Questionnaire/Uses of wildlife/Medicine
 958 (20 17 4) /Questionnaire/Uses of wildlife/Used in hh
 959 (20 17 5) /Questionnaire/Uses of wildlife/Ceremonies~ritual
 960 (20 17 6) /Questionnaire/Uses of wildlife/W Species
 961 (20 17 6 1) /Questionnaire/Uses of wildlife/W Species/Buffalo
 962 (20 17 6 2) /Questionnaire/Uses of wildlife/W Species/WB
 963 (20 17 6 3) /Questionnaire/Uses of wildlife/W Species/Giraffe
 964 (20 17 6 4) /Questionnaire/Uses of wildlife/W Species/Eland
 965 (20 17 6 5) /Questionnaire/Uses of wildlife/W Species/Ostrich
 966 (20 17 6 6) /Questionnaire/Uses of wildlife/W Species/Birds
 967 (20 17 6 7) /Questionnaire/Uses of wildlife/W Species/Lion
 968 (20 17 6 8) /Questionnaire/Uses of wildlife/W Species/Rhino
 969 (20 17 6 9) /Questionnaire/Uses of wildlife/W Species/Elephant
 970 (20 17 6 10) /Questionnaire/Uses of wildlife/W Species/Oryx
 971 (20 17 6 11) /Questionnaire/Uses of wildlife/W Species/Kudu
 972 (20 17 6 12) /Questionnaire/Uses of wildlife/W Species/Hare
 973 (20 17 6 13) /Questionnaire/Uses of wildlife/W Species/zebra
 974 (20 17 6 14) /Questionnaire/Uses of wildlife/W Species/warthog
 975 (20 17 6 15) /Questionnaire/Uses of wildlife/W Species/gazelle

976 (20 17 6 16) /Questionnaire/Uses of wildlife/W Species/baboon
 977 (20 17 6 17) /Questionnaire/Uses of wildlife/W Species/hyrax
 978 (20 17 6 18) /Questionnaire/Uses of wildlife/W Species/leopard
 979 (20 17 6 19) /Questionnaire/Uses of wildlife/W Species/Colobus
 980 (20 17 6 20) /Questionnaire/Uses of wildlife/W Species/snake
 981 (20 17 6 21) /Questionnaire/Uses of wildlife/W Species/aardvark
 982 (20 18) /Questionnaire/lion hunt
 983 (20 18 1) /Questionnaire/lion hunt/Olamayio
 984 (20 18 1 1) /Questionnaire/lion hunt/Olamayio/Difference Kisonko~Matapato
 985 (20 18 2) /Questionnaire/lion hunt/Olkiyioi
 986 (20 18 3) /Questionnaire/lion hunt/Empikas
 987 (20 18 4) /Questionnaire/lion hunt/Past~ spoil your spear
 988 (20 18 5) /Questionnaire/lion hunt/questionnaire QUESTIONS
 989 (20 18 5 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt
 990 (20 18 5 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/decrease lion
 pop~teach lions
 991 (20 18 5 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/revenge cow
 killed
 992 (20 18 5 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/practice
 moranhood~Maasai culture
 993 (20 18 5 1 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/practice with
 the spear
 994 (20 18 5 1 9) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/stupidity
 995 (20 18 5 1 10) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion hunt/for
 fun~enjoyment
 996 (20 18 5 1 11) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion
 hunt/Bravery~prestige
 997 (20 18 5 1 11 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion
 hunt/Bravery~prestige/prestige
 998 (20 18 5 1 11 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion
 hunt/Bravery~prestige/bravery~selection~test
 999 (20 18 5 1 11 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion
 hunt/Bravery~prestige/new name
 1000 (20 18 5 1 11 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/purposes of lion
 hunt/Bravery~prestige/girls
 1001 (20 18 5 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai culture
 1002 (20 18 5 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai culture/imprt
 in the PAST
 1003 (20 18 5 2 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes
 1004 (20 18 5 2 1 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/show bravery~selection~test
 1005 (20 18 5 2 1 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/reduce lion pop~teach lions
 1006 (20 18 5 2 1 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/prestige
 1007 (20 18 5 2 1 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/new name
 1008 (20 18 5 2 1 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/girls
 1009 (20 18 5 2 1 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/practice with spear
 1010 (20 18 5 2 1 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/enjoyment
 1011 (20 18 5 2 1 1 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/revenge
 1012 (20 18 5 2 1 1 9) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/yes/culture
 1013 (20 18 5 2 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/no
 1014 (20 18 5 2 1 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/no/only to morans
 1015 (20 18 5 2 1 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/no/only recently
 1016 (20 18 5 2 1 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/no/stupidity
 1017 (20 18 5 2 1 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt in the PAST/no/dangerous

1018 (20 18 5 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai culture/imprt
 NOW
 1019 (20 18 5 2 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes
 1020 (20 18 5 2 2 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/show bravery~morans selection~test
 1021 (20 18 5 2 2 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/reduce lion pop~teach lions
 1022 (20 18 5 2 2 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/prestige
 1023 (20 18 5 2 2 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/shows respect for culture
 1024 (20 18 5 2 2 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/girls
 1025 (20 18 5 2 2 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/new name
 1026 (20 18 5 2 2 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/happiness
 1027 (20 18 5 2 2 1 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/revenge
 1028 (20 18 5 2 2 1 9) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/yes/culture
 1029 (20 18 5 2 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no
 1030 (20 18 5 2 2 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/illegal
 1031 (20 18 5 2 2 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/no benefit
 1032 (20 18 5 2 2 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/only to morans
 1033 (20 18 5 2 2 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/school more important
 1034 (20 18 5 2 2 2 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/stupidity
 1035 (20 18 5 2 2 2 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/no lions
 1036 (20 18 5 2 2 2 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/olamayio imprt Maasai
 culture/imprt NOW/no/dangerous
 1037 (20 18 5 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio
 1038 (20 18 5 3 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/yes - how
 many times
 1039 (20 18 5 3 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/no - why
 not
 1040 (20 18 5 3 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/no - why
 not/in school
 1041 (20 18 5 3 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/no - why
 not/Saved
 1042 (20 18 5 3 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/no - why
 not/no benefit
 1043 (20 18 5 3 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/no - why
 not/no lions
 1044 (20 18 5 3 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/how many
 lions killed by manyata
 1045 (20 18 5 3 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/you killed
 a lion
 1046 (20 18 5 3 5 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/you
 killed a lion/yes - how many~
 1047 (20 18 5 3 5 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/you
 killed a lion/no
 1048 (20 18 5 3 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/morans~
 will go until elder
 1049 (20 18 5 3 6 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in
 Olamayio/morans~ will go until elder/yes
 1050 (20 18 5 3 6 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in
 Olamayio/morans~ will go until elder/no
 1051 (20 18 5 3 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/killed
 other WA's~
 1052 (20 18 5 3 7 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/Participation in Olamayio/killed
 other WA's~/why killed others~

1053 (20 18 5 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago
1054 (20 18 5 6 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes
1055 (20 18 5 6 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago
1056 (20 18 5 6 1 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/elders don't want
1057 (20 18 5 6 1 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/illegal
1058 (20 18 5 6 1 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/culture decreasing
1059 (20 18 5 6 1 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/weak~too young
1060 (20 18 5 6 1 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/school
1061 (20 18 5 6 1 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/church
1062 (20 18 5 6 1 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/fewer morans
1063 (20 18 5 6 1 1 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/less 10 yrs ago/fewer lions
1064 (20 18 5 6 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/as much as 10 yrs ago
1065 (20 18 5 6 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/yes/more 10 yrs ago
1066 (20 18 5 6 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no
1067 (20 18 5 6 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/protected
1068 (20 18 5 6 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/illegal
1069 (20 18 5 6 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/morans too weak~young
1070 (20 18 5 6 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/elders don't want
1071 (20 18 5 6 2 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/education
1072 (20 18 5 6 2 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/no morans
1073 (20 18 5 6 2 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/fewer~no lions
1074 (20 18 5 6 2 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/culture changing
1075 (20 18 5 6 2 9) /Questionnaire/lion hunt/questionnaire QUESTIONS/Olamayio happens here ~ 10 yrs ago/no/Christianity
1076 (20 18 5 9) /Questionnaire/lion hunt/questionnaire QUESTIONS/which WA's killed as boy-why
1077 (20 18 5 10) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~
1078 (20 18 5 10 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked
1079 (20 18 5 10 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked/prestige
1080 (20 18 5 10 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked/part of Maasai culture
1081 (20 18 5 10 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked/happy~lively
1082 (20 18 5 10 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked/reduce lion pop~teaches lions
1083 (20 18 5 10 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I liked/beautiful
1084 (20 18 5 10 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how felt about olamayio when young~/I didn't like
1085 (20 18 5 11) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~
1086 (20 18 5 11 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I like
1087 (20 18 5 11 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I like/happy~lively
1088 (20 18 5 11 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I don't like

1089 (20 18 5 11 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I
 don't like/bec lions have \$ benefits
 1090 (20 18 5 11 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I
 don't like/illegal
 1091 (20 18 5 11 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I
 don't like/dangerous
 1092 (20 18 5 11 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I
 don't like/no benefit
 1093 (20 18 5 11 2 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamayio now~/I
 don't like/silly
 1094 (20 18 5 12) /Questionnaire/lion hunt/questionnaire QUESTIONS/Boys~ will go after circumcised~
 1095 (20 18 5 12 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Boys~ will go after
 circumcised~/yes
 1096 (20 18 5 12 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Boys~ will go after
 circumcised~/no
 1097 (20 18 5 12 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Boys~ will go after
 circumcised~/no/school
 1098 (20 18 5 13) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio illegal~
 1099 (20 18 5 13 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Allowed
 1100 (20 18 5 13 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio illegal~/Not
 allowed
 1101 (20 18 5 13 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like
 1102 (20 18 5 13 2 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/W \$ benefits
 1103 (20 18 5 13 2 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/compensation
 1104 (20 18 5 13 2 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/olamayio waste of time
 1105 (20 18 5 13 2 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/olamayio dangerous
 1106 (20 18 5 13 2 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/illegal
 1107 (20 18 5 13 2 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I like/God's creation
 1108 (20 18 5 13 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I don't like
 1109 (20 18 5 13 2 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I don't like/reduce pop~teaches lions
 1110 (20 18 5 13 2 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I don't like/olamayio as compensation
 1111 (20 18 5 13 2 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I don't like/part of culture
 1112 (20 18 5 13 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/how feel about olamyio
 illegal~/Not allowed/I don't care
 1113 (20 18 5 14) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio
 1114 (20 18 5 14 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/yes
 1115 (20 18 5 14 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/yes/reduce W pop~teach W
 1116 (20 18 5 14 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/yes/new
 names
 1117 (20 18 5 14 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/yes/prestige
 1118 (20 18 5 14 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/yes/revenge
 1119 (20 18 5 14 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/yes/test
 1120 (20 18 5 14 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/yes/happy
 1121 (20 18 5 14 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/yes/beauty
 1122 (20 18 5 14 1 8) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/yes/win
 girls
 1123 (20 18 5 14 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/no
 1124 (20 18 5 14 2 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/no/useless
 1125 (20 18 5 14 2 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/no/econ
 benefits of W

1126 (20 18 5 14 2 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/no/illegal
 1127 (20 18 5 14 2 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of
 olamayio/no/dangerous
 1128 (20 18 5 14 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/Good things of olamayio/I don't
 know
 1129 (20 18 5 15) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio
 1130 (20 18 5 15 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes
 1131 (20 18 5 15 1 1) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of
 olamayio/yes/compensation
 1132 (20 18 5 15 1 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes/W
 economic benefits
 1133 (20 18 5 15 1 3) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of
 olamayio/yes/dangerous
 1134 (20 18 5 15 1 4) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes/illegal
 1135 (20 18 5 15 1 5) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes/waste
 of time
 1136 (20 18 5 15 1 6) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes/econ
 loss
 1137 (20 18 5 15 1 7) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/yes/sin
 1138 (20 18 5 15 2) /Questionnaire/lion hunt/questionnaire QUESTIONS/bad things of olamayio/no
 1139 (20 18 6) /Questionnaire/lion hunt/Politics
 1140 (20 18 7) /Questionnaire/lion hunt/LION names
 1141 (20 18 8) /Questionnaire/lion hunt/LIONS
 1142 (20 18 9) /Questionnaire/lion hunt/lion hunt narratives
 1143 (20 18 10) /Questionnaire/lion hunt/people-lion close relation~identific
 1144 (20 18 11) /Questionnaire/lion hunt/Eremore
 1145 (20 18 12) /Questionnaire/lion hunt/emotional~
 1146 (20 18 13) /Questionnaire/lion hunt/Women & Lions
 1147 (20 18 14) /Questionnaire/lion hunt/NOT kill lions for nothing
 1148 (20 18 15) /Questionnaire/lion hunt/Kill lions for nothing
 1149 (20 18 37) /Questionnaire/lion hunt/OK for lions to 'eat'
 1150 (20 19) /Questionnaire/AMBOSELI NP
 1151 (20 19 1) /Questionnaire/AMBOSELI NP/living in park
 1152 (20 19 2) /Questionnaire/AMBOSELI NP/LS goes to park
 1153 (20 19 3) /Questionnaire/AMBOSELI NP/Purpose of ANP
 1154 (20 19 4) /Questionnaire/AMBOSELI NP/Feeling when created
 1155 (20 19 5) /Questionnaire/AMBOSELI NP/Feeling nowadays good things
 1156 (20 19 5 1) /Questionnaire/AMBOSELI NP/Feeling nowadays good things/Water tanks
 1157 (20 19 5 2) /Questionnaire/AMBOSELI NP/Feeling nowadays good things/Using it
 1158 (20 19 5 3) /Questionnaire/AMBOSELI NP/Feeling nowadays good things/NO
 1159 (20 19 5 4) /Questionnaire/AMBOSELI NP/Feeling nowadays good things/Jobs
 1160 (20 19 6) /Questionnaire/AMBOSELI NP/bad things now
 1161 (20 19 6 1) /Questionnaire/AMBOSELI NP/bad things now/Chase Beat people
 1162 (20 19 6 2) /Questionnaire/AMBOSELI NP/bad things now/No water
 1163 (20 19 6 3) /Questionnaire/AMBOSELI NP/bad things now/Benefits not equitable
 1164 (20 19 6 4) /Questionnaire/AMBOSELI NP/bad things now/Restrictions on use
 1165 (20 19 6 5) /Questionnaire/AMBOSELI NP/bad things now/source of W pbs
 1166 (20 19 6 6) /Questionnaire/AMBOSELI NP/bad things now/stolen land
 1167 (20 19 7) /Questionnaire/AMBOSELI NP/ANP for other uses
 1168 (20 19 7 1) /Questionnaire/AMBOSELI NP/ANP for other uses/Yes
 1169 (20 19 7 1 1) /Questionnaire/AMBOSELI NP/ANP for other uses/Yes/for grazing
 1170 (20 19 7 1 2) /Questionnaire/AMBOSELI NP/ANP for other uses/Yes/for cultivation
 1171 (20 19 7 1 3) /Questionnaire/AMBOSELI NP/ANP for other uses/Yes/reduced~developed
 1172 (20 19 7 2) /Questionnaire/AMBOSELI NP/ANP for other uses/No
 1173 (20 19 7 2 1) /Questionnaire/AMBOSELI NP/ANP for other uses/No/not possible to undo
 1174 (20 19 7 2 2) /Questionnaire/AMBOSELI NP/ANP for other uses/No/ok for W conservation
 1175 (20 19 7 2 3) /Questionnaire/AMBOSELI NP/ANP for other uses/No/some M people benefited
 1176 (20 19 7 3) /Questionnaire/AMBOSELI NP/ANP for other uses/I don't know
 1177 (20 20) /Questionnaire/LAND conservation
 1178 (20 20 1) /Questionnaire/LAND conservation/Eramatata enkop
 1179 (20 20 1 1) /Questionnaire/LAND conservation/Eramatata enkop/Planting~Not cutting trees
 1180 (20 20 1 2) /Questionnaire/LAND conservation/Eramatata enkop/grazing~settlement mngt
 1181 (20 20 1 3) /Questionnaire/LAND conservation/Eramatata enkop/not burning land
 1182 (20 20 1 4) /Questionnaire/LAND conservation/Eramatata enkop/not selling land
 1183 (20 20 1 5) /Questionnaire/LAND conservation/Eramatata enkop/protecting W
 1184 (20 20 1 6) /Questionnaire/LAND conservation/Eramatata enkop/LS
 1185 (20 20 1 7) /Questionnaire/LAND conservation/Eramatata enkop/People
 1186 (20 20 1 7 1) /Questionnaire/LAND conservation/Eramatata enkop/People/children

	1187	(20 20 1 8) /Questionnaire/LAND conservation/Eramatata enkop/Water
	1188	(20 20 1 9) /Questionnaire/LAND conservation/Eramatata enkop/infrastructure & maendeleo
	1189	(20 20 1 10) /Questionnaire/LAND conservation/Eramatata enkop/Peace & Unity & respect & love
	1190	(20 20 1 11) /Questionnaire/LAND conservation/Eramatata enkop/leadership
	1191	(20 20 1 12) /Questionnaire/LAND conservation/Eramatata enkop/cultivation
	1192	(20 20 1 13) /Questionnaire/LAND conservation/Eramatata enkop/God & rain
	1193	(20 20 1 14) /Questionnaire/LAND conservation/Eramatata enkop/separating~scaring W
	1194	(20 20 1 15) /Questionnaire/LAND conservation/Eramatata enkop/Fencing
	1195	(20 20 1 16) /Questionnaire/LAND conservation/Eramatata enkop/Do subdivision~own ranch
	1196	(20 20 1 17) /Questionnaire/LAND conservation/Eramatata enkop/Have separate areas
	1197	(20 20 1 18) /Questionnaire/LAND conservation/Eramatata enkop/stop moranhood
	1198	(20 20 1 19) /Questionnaire/LAND conservation/Eramatata enkop/Western concept
	1199	(20 20 1 20) /Questionnaire/LAND conservation/Eramatata enkop/Maasai concept
	1200	(20 20 2) /Questionnaire/LAND conservation/The LAND
	1201	(20 20 2 2) /Questionnaire/LAND conservation/The LAND/Land as body
	1202	(20 20 2 4) /Questionnaire/LAND conservation/The LAND/Blessed land
	1203	(20 20 3) /Questionnaire/LAND conservation/Useful PLANTS conservation
	1204	(20 20 3 1) /Questionnaire/LAND conservation/Useful PLANTS conservation/No
	1205	(20 20 3 1 1) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/only God
	1206	(20 20 3 1 2) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/inside the park
	1207	(20 20 3 1 3) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/cannot get finished
	1208	(20 20 3 1 4) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/unrelated to people's
actions	1209	(20 20 3 1 5) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/too many
	1210	(20 20 3 1 6) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/only cows conserved
not trees	1211	(20 20 3 1 7) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/Maasai don't know
how to	1212	(20 20 3 1 8) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/they're not here
	1213	(20 20 3 1 9) /Questionnaire/LAND conservation/Useful PLANTS conservation/No/because land not
subdivided	1214	(20 20 3 2) /Questionnaire/LAND conservation/Useful PLANTS conservation/Yes
	1215	(20 20 3 3) /Questionnaire/LAND conservation/Useful PLANTS conservation/I don't know
	1216	(20 20 3 4) /Questionnaire/LAND conservation/Useful PLANTS conservation/not asked
	1217	(20 20 6) /Questionnaire/LAND conservation/Is gvt conserving the land
	1218	(20 20 6 1) /Questionnaire/LAND conservation/Is gvt conserving the land/not asked~I don't know
	1219	(20 20 6 2) /Questionnaire/LAND conservation/Is gvt conserving the land/yes
	1220	(20 20 6 2 1) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how
	1221	(20 20 6 2 1 3) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/protect W
	1222	(20 20 6 2 1 7) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/protect trees
	1223	(20 20 6 2 1 8) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people	1224	(20 20 6 2 1 8 1) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/relief food	1225	(20 20 6 2 1 8 2) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/education	1226	(20 20 6 2 1 8 3) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/cultivation	1227	(20 20 6 2 1 8 4) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/peace & order	1228	(20 20 6 2 1 8 5) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/health services	1229	(20 20 6 2 1 8 6) /Questionnaire/LAND conservation/Is gvt conserving the land/yes/how/take care of
people/protecting people from W~separation	1230	(20 20 6 3) /Questionnaire/LAND conservation/Is gvt conserving the land/no
	1231	(20 20 6 3 1) /Questionnaire/LAND conservation/Is gvt conserving the land/no/why not
	1232	(20 20 6 3 1 1) /Questionnaire/LAND conservation/Is gvt conserving the land/no/why not/stole land
	1233	(20 20 6 3 1 2) /Questionnaire/LAND conservation/Is gvt conserving the land/no/why not/empty
promises	1234	(20 20 19) /Questionnaire/LAND conservation/Maasai protecting the land
	1235	(20 20 19 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land PAST
	1236	(20 20 19 1 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
FAST/yes	1237	(20 20 19 1 1 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How	1238	(20 20 19 1 1 1 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/grazing~settlement org	1239	(20 20 19 1 1 1 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/didnt sell~give away land		

1240 (20 20 19 1 1 1 3) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/solidarity unity love peace respect
1241 (20 20 19 1 1 1 4) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/not cutting trees
1242 (20 20 19 1 1 1 5) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/good leadership
1243 (20 20 19 1 1 1 6) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/H2O dvt
1244 (20 20 19 1 1 1 7) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/take care of LS
1245 (20 20 19 1 1 1 8) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/few people in same place, moving
1246 (20 20 19 1 1 1 9) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/scaring W
1247 (20 20 19 1 1 1 10) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/God, sacrifices, rain, blessing
1248 (20 20 19 1 1 1 11) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/yes/How/indirect conservation
1249 (20 20 19 1 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no
1250 (20 20 19 1 2 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~
1251 (20 20 19 1 2 1 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/only LS
1252 (20 20 19 1 2 1 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/few people
1253 (20 20 19 1 2 1 3) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/nomadic
1254 (20 20 19 1 2 1 4) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/land not subdivided
1255 (20 20 19 1 2 1 5) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/Only God does it
1256 (20 20 19 1 2 1 6) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
PAST/no/Why not~/ignorant, didn't care
1257 (20 20 19 15) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land NOW
1258 (20 20 19 15 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes
1259 (20 20 19 15 1 12) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~
1260 (20 20 19 15 1 12 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/don't kill W
1261 (20 20 19 15 1 12 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/grazing~settlement mngt
1262 (20 20 19 15 1 12 3) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/sedentarization
1263 (20 20 19 15 1 12 4) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/don't sell land
1264 (20 20 19 15 1 12 5) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/plant~don't cut trees
1265 (20 20 19 15 1 12 6) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/treat sick people
1266 (20 20 19 15 1 12 7) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/cultivation
1267 (20 20 19 15 1 12 8) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/take care of people unity respect
1268 (20 20 19 15 1 12 9) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/yes/How~/take care of LS
1269 (20 20 19 15 1 12 10) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
land NOW/yes/How~/scare~kill W
1270 (20 20 19 15 1 12 11) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
land NOW/yes/How~/private land
1271 (20 20 19 15 1 12 12) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
land NOW/yes/How~/good leadership
1272 (20 20 19 15 1 12 13) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
land NOW/yes/How~/economic benefits from W
1273 (20 20 19 15 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/no
1274 (20 20 19 15 2 4) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
NOW/no/Why not

1275 (20 20 19 15 2 4 1) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/NO unity solidarity coop respect
 1276 (20 20 19 15 2 4 2) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/too many people
 1277 (20 20 19 15 2 4 3) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/sold land
 1278 (20 20 19 15 2 4 4) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/only God does it
 1279 (20 20 19 15 2 4 5) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/no sacrifices to God
 1280 (20 20 19 15 2 4 6) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/become commercial
 1281 (20 20 19 15 2 4 7) /Questionnaire/LAND conservation/Maasai protecting the land/Maasai protect land
 NOW/no/Why not/cutting trees
 1282 (20 20 37) /Questionnaire/LAND conservation/PA's in Maasailand
 1283 (20 20 37 1) /Questionnaire/LAND conservation/PA's in Maasailand/I like
 1284 (20 20 37 1 1) /Questionnaire/LAND conservation/PA's in Maasailand/I like/why
 1285 (20 20 37 2) /Questionnaire/LAND conservation/PA's in Maasailand/I don't like
 1286 (20 20 37 2 1) /Questionnaire/LAND conservation/PA's in Maasailand/I don't like/why not
 1287 (20 20 37 3) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand
 1288 (20 20 37 3 1) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/to
 separate W-people
 1289 (20 20 37 3 2) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/Maasai
 sold to gvt
 1290 (20 20 37 3 3) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/to
 protect W
 1291 (20 20 37 3 4) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/Gvt
 cheated Maasai
 1292 (20 20 37 3 5) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/W is in
 Maasailand
 1293 (20 20 37 3 6) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/income
 for gvt
 1294 (20 20 37 3 7) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in Maasailand/I don't
 know~not asked
 1295 (20 20 37 3 8) /Questionnaire/LAND conservation/PA's in Maasailand/WHY PA's in
 Maasailand/maendeleo~benefits to the Maasai
 1296 (20 20 37 4) /Questionnaire/LAND conservation/PA's in Maasailand/I don't care
 1297 (20 20 37 4 1) /Questionnaire/LAND conservation/PA's in Maasailand/Visit to PA's
 1298 (20 20 41) /Questionnaire/LAND conservation/Maasai protect W
 1299 (20 20 41 45) /Questionnaire/LAND conservation/Maasai protect W/IN PAST
 1300 (20 20 41 45 1) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes
 1301 (20 20 41 45 1 1) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how
 1302 (20 20 41 45 1 1 1) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/indirect~
 not eating
 1303 (20 20 41 45 1 1 2) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/didn't kill
 for nothing
 1304 (20 20 41 45 1 1 3) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/indirect~
 conserving grass
 1305 (20 20 41 45 1 1 4) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/W-LS
 beautiful
 1306 (20 20 41 45 1 1 5) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/land not
 subdivided
 1307 (20 20 41 45 1 1 6) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/indirect~
 few people
 1308 (20 20 41 45 1 1 7) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/yes/how/indirect
 conservation
 1309 (20 20 41 45 2) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no
 1310 (20 20 41 45 2 1) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/W useless
 1311 (20 20 41 45 2 2) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/W not cows
 1312 (20 20 41 45 2 3) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/just killing W
 1313 (20 20 41 45 2 4) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/eating W
 1314 (20 20 41 45 2 5) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/God does it
 1315 (20 20 41 45 2 6) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/indirect~ not
 eating W
 1316 (20 20 41 45 2 7) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/indirect~ few
 people
 1317 (20 20 41 45 2 8) /Questionnaire/LAND conservation/Maasai protect W/IN PAST/no/don't know how to
 conserve
 1318 (20 20 41 46) /Questionnaire/LAND conservation/Maasai protect W/NOW

	1319	(20 20 41 46 1) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes
	1320	(20 20 41 46 1 4) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How
	1321	(20 20 41 46 1 4 1) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How/don't eat W
	1322	(20 20 41 46 1 4 2) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How/maasai
employed to protect W		
	1323	(20 20 41 46 1 4 3) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How/respect gvt
law		
	1324	(20 20 41 46 1 4 4) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How/indirect
protection		
	1325	(20 20 41 46 1 4 5) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/How/not killing
for nothing		
	1326	(20 20 41 46 1 5) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/Why
	1327	(20 20 41 46 1 5 1) /Questionnaire/LAND conservation/Maasai protect W/NOW/yes/Why/economic
benefits		
	1328	(20 20 41 46 2) /Questionnaire/LAND conservation/Maasai protect W/NOW/no
	1329	(20 20 41 46 2 1) /Questionnaire/LAND conservation/Maasai protect W/NOW/no/done by gvt
	1330	(20 20 41 46 2 2) /Questionnaire/LAND conservation/Maasai protect W/NOW/no/W not cows
	1331	(20 20 41 46 2 3) /Questionnaire/LAND conservation/Maasai protect W/NOW/no/too many people
	1332	(20 20 41 46 3) /Questionnaire/LAND conservation/Maasai protect W/NOW/not asked~I dont know
	1333	(20 20 44) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING
	1334	(20 20 44 1) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes
	1335	(20 20 44 1 1) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes/give
birth		
	1336	(20 20 44 1 2) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes/not
killed for nothing		
	1337	(20 20 44 1 3) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes/not all
can be killed		
	1338	(20 20 44 1 4) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes/always
been here before gvt protecte		
	1339	(20 20 44 1 5) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/yes/not
eaten		
	1340	(20 20 44 2) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/no
	1341	(20 20 44 2 1) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/no/would
have been killed		
	1342	(20 20 44 2 2) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/no/would
have moved out		
	1343	(20 20 44 2 3) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/no/because
of Wproducts business		
	1344	(20 20 44 2 4) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/no/crop
damage		
	1345	(20 20 44 3) /Questionnaire/LAND conservation/W IN MLAND IF GVT NOT PROTECTING/some YES
others NO		
	1346	(20 20 47) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE
	1347	(20 20 47 1) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes
	1348	(20 20 47 1 1) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes/morans
	1349	(20 20 47 1 2) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes/boys
	1350	(20 20 47 1 3) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes/poachers~non-
Maasai		
	1351	(20 20 47 1 4) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes/wazee
	1352	(20 20 47 1 5) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/Yes/bird shooters
	1353	(20 20 47 2) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/No
	1354	(20 20 47 3) /Questionnaire/LAND conservation/PEOPLE WHO KILL W HERE/I don't know
	1355	(20 20 48) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO
	1356	(20 20 48 1) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/Less
	1357	(20 20 48 1 1) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS
AGO/Less/Illegal		
	1358	(20 20 48 1 2) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/Less/No
morans		
	1359	(20 20 48 1 3) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS
AGO/Less/Elders~leaders don't allow		
	1360	(20 20 48 1 4) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/Less/No
Dorobos		
	1361	(20 20 48 1 5) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS
AGO/Less/compensation		
	1362	(20 20 48 1 6) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/Less/Econ
benefits of W		
	1363	(20 20 48 1 7) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS
AGO/Less/Morans in school		

1364 (20 20 48 1 8) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS
AGO/Less/Maendeleo

1365 (20 20 48 2) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/More

1366 (20 20 48 3) /Questionnaire/LAND conservation/PEOPLE KILLING MORE LESS 10 YRS AGO/As much as
10 yrs ago

1367 (20 20 49) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD

1368 (20 20 49 1) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD

1369 (20 20 49 1 1) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W

GOOD~BAD/GOOD/Economic benefits to us

1370 (20 20 49 1 2) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/W can
kill you

1371 (20 20 49 1 3) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/W pb
compensated

1372 (20 20 49 1 4) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/Gvt
benefits from W

1373 (20 20 49 1 5) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/We
respect the law

1374 (20 20 49 1 6) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/Wheat
not reliable source of food

1375 (20 20 49 1 7) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/Animal
suffering

1376 (20 20 49 1 8) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/God's
creation

1377 (20 20 49 1 9) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/GOOD/I like
to have W around

1378 (20 20 49 2) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/BAD

1379 (20 20 49 3) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/Allows

1380 (20 20 49 3 5) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W

GOOD~BAD/Allows/Nobody arrested

1381 (20 20 49 4) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/Doesn't allow
Why not

1382 (20 20 49 4 1) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/Doesn't allow
Why not/W their property

1383 (20 20 49 4 2) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/Doesn't allow
Why not/Gvt benefits from W

1384 (20 20 49 4 3) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/Doesn't allow
Why not/God's creation

1385 (20 20 49 5) /Questionnaire/LAND conservation/GVT NOT ALLOW KILL W GOOD~BAD/I dont know

1386 (20 21) /Questionnaire/Beautiful land

1387 (20 22) /Questionnaire/CULTIVATION

1388 (20 22 1) /Questionnaire/CULTIVATION/WHY started cultivation

1389 (20 22 2) /Questionnaire/CULTIVATION/WHEN started

1390 (20 22 3) /Questionnaire/CULTIVATION/who takes care shamba ~Mesh~

1391 (20 23) /Questionnaire/Subdivision

1392 (20 23 1) /Questionnaire/Subdivision/IMBIRIKANI

1393 (20 23 1 1) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things

1394 (20 23 1 1 8) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes

1395 (20 23 1 1 8 1) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/permanence

1396 (20 23 1 1 8 2) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/own things

1397 (20 23 1 1 8 3) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/easier to deal with W

1398 (20 23 1 1 8 4) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/prevents loss of land

1399 (20 23 1 1 8 5) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/no outside interference

1400 (20 23 1 1 8 6) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/loan colateral

1401 (20 23 1 1 8 7) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/equalizes people

1402 (20 23 1 1 8 8) /Questionnaire/Subdivision/IMBIRIKANI/GOOD
things/yes/autonomy~indpdce~individualism

1403 (20 23 1 1 8 9) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/sell land~grass

1404 (20 23 1 1 8 10) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/yes/better mngt~conservation

1405 (20 23 1 1 9) /Questionnaire/Subdivision/IMBIRIKANI/GOOD things/no

1406 (20 23 1 2) /Questionnaire/Subdivision/IMBIRIKANI/BAD things

1407 (20 23 1 2 2) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes

1408 (20 23 1 2 2 1) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/prevents reciprocity

1409 (20 23 1 2 2 2) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/bad if many cows

1410 (20 23 1 2 2 3) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/inequality~some areas bad

1411 (20 23 1 2 2 4) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/rain unequal

1412 (20 23 1 2 2 5) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/sell land

1413 (20 23 1 2 2 6) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/bad for W

1414 (20 23 1 2 2 7) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/disputes

1415 (20 23 1 2 2 8) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/bad new neighbors

1416 (20 23 1 2 2 9) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/sell~buy grass
1417 (20 23 1 2 2 10) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/land getting smaller
1418 (20 23 1 2 2 11) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/yes/loss of GR benefits
1419 (20 23 1 2 3) /Questionnaire/Subdivision/IMBIRIKANI/BAD things/no
1420 (20 23 1 3) /Questionnaire/Subdivision/IMBIRIKANI/effects on W
1421 (20 23 1 4) /Questionnaire/Subdivision/IMBIRIKANI/landowner's reaction to W
1422 (20 23 1 5) /Questionnaire/Subdivision/IMBIRIKANI/Life will change
1423 (20 23 1 6) /Questionnaire/Subdivision/IMBIRIKANI/Econ situation change
1424 (20 23 13) /Questionnaire/Subdivision/OSILALEI
1425 (20 23 13 1) /Questionnaire/Subdivision/OSILALEI/Osilalei - origins of subdiv
1426 (20 23 13 2) /Questionnaire/Subdivision/OSILALEI/Osilalei - year of subdiv
1427 (20 23 13 3) /Questionnaire/Subdivision/OSILALEI/Osilalei - parcel sizes
1428 (20 23 13 4) /Questionnaire/Subdivision/OSILALEI/Osilalei - Subdiv status
1429 (20 23 13 5) /Questionnaire/Subdivision/OSILALEI/Relations with neighboring areas
1430 (20 23 13 6) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things
1431 (20 23 13 6 4) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes
1432 (20 23 13 6 4 1) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/permanence
1433 (20 23 13 6 4 2) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/security
1434 (20 23 13 6 4 3) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD
things/yes/individualism~autonomy~indpdce
1435 (20 23 13 6 4 4) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/properties~resources
yours
1436 (20 23 13 6 4 5) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/good for cows
1437 (20 23 13 6 4 6) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/sell grass
1438 (20 23 13 6 4 7) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/equalizes people
1439 (20 23 13 6 4 8) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/yes/maendeleo
1440 (20 23 13 6 5) /Questionnaire/Subdivision/OSILALEI/Subdiv GOOD things/no
1441 (20 23 13 7) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things
1442 (20 23 13 7 1) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes
1443 (20 23 13 7 1 1) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/no land for younger
generations
1444 (20 23 13 7 1 2) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/lack of mobility for LS
1445 (20 23 13 7 1 3) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/separated people
1446 (20 23 13 7 1 4) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD
things/yes/selfishness~individualism
1447 (20 23 13 7 1 5) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/selling land
1448 (20 23 13 7 1 6) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/inequality
1449 (20 23 13 7 1 7) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/buy grass
1450 (20 23 13 7 1 8) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/yes/buy water
1451 (20 23 13 7 2) /Questionnaire/Subdivision/OSILALEI/Subdiv BAD things/no
1452 (20 23 13 8) /Questionnaire/Subdivision/OSILALEI/Subdiv life changed
1453 (20 23 13 9) /Questionnaire/Subdivision/OSILALEI/Subdiv Economic situation
1454 (20 23 13 10) /Questionnaire/Subdivision/OSILALEI/Subdiv Life easier-difficult
1455 (20 23 13 10 1) /Questionnaire/Subdivision/OSILALEI/Subdiv Life easier-difficult/life more difficult
1456 (20 23 13 10 2) /Questionnaire/Subdivision/OSILALEI/Subdiv Life easier-difficult/life easier
1457 (20 23 13 11) /Questionnaire/Subdivision/OSILALEI/how treat WA's after subdiv
1458 (20 23 13 11 1) /Questionnaire/Subdivision/OSILALEI/how treat WA's after subdiv/scare them
1459 (20 23 13 11 2) /Questionnaire/Subdivision/OSILALEI/how treat WA's after subdiv/kill for food
1460 (20 23 13 11 14) /Questionnaire/Subdivision/OSILALEI/how treat WA's after subdiv/let graze
1461 (20 23 13 12) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv
1462 (20 23 13 12 1) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/herd increased
1463 (20 23 13 12 2) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/herd decreased
1464 (20 23 13 12 3) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/started cultivation
1465 (20 23 13 12 4) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/fenced ranch
1466 (20 23 13 12 5) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/changed LS breeds
1467 (20 23 13 12 6) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/rented part of ranch
1468 (20 23 13 12 7) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/built permanent house
1469 (20 23 13 12 8) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/bring WATER to ranch
1470 (20 23 13 12 9) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/Buy more land
1471 (20 23 13 12 10) /Questionnaire/Subdivision/OSILALEI/ACTIONS After subdiv/Sell part of ranch
1472 (20 23 13 13) /Questionnaire/Subdivision/OSILALEI/subdivision effects on W
1473 (20 23 13 13 1) /Questionnaire/Subdivision/OSILALEI/subdivision effects on W/displacement of
dangerous WA's
1474 (20 23 13 13 2) /Questionnaire/Subdivision/OSILALEI/subdivision effects on W/decreased tolerance
1475 (20 23 13 13 3) /Questionnaire/Subdivision/OSILALEI/subdivision effects on W/protection of birds
1476 (20 23 13 13 4) /Questionnaire/Subdivision/OSILALEI/subdivision effects on W/increased competition
1477 (20 24) /Questionnaire/SOLUTIONS TO H-W CONFLICTS
1478 (20 24 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED
1479 (20 24 1 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes

1480	(20 24 1 1 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/so don't cause
pbs & get killed	
1481	(20 24 1 1 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/to separate
cows from W	
1482	(20 24 1 1 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/because
economic benefits	
1483	(20 24 1 1 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/still possible
to see them	
1484	(20 24 1 1 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/so don't cause
pbs to people	
1485	(20 24 1 1 6) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/so owners
take care of them	
1486	(20 24 1 1 7) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/yes/yes bec no
econ benefit	
1487	(20 24 1 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no
1488	(20 24 1 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/not all W cause
pbs	
1489	(20 24 1 2 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/not possible
1490	(20 24 1 2 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/we need
water~grass there	
1491	(20 24 1 2 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/so children can
see W	
1492	(20 24 1 2 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/we need W for
meat	
1493	(20 24 1 2 6) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/bec I like
WA's around	
1494	(20 24 1 2 7) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/bec we've been
staying together	
1495	(20 24 1 2 8) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/will kill each
other	
1496	(20 24 1 2 9) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/bec people
employed out of park to t	
1497	(20 24 1 2 10) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/ALL WA's ENCLOSED/no/useful
1498	(20 24 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED
1499	(20 24 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/yes
1500	(20 24 2 1 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/yes/bec not all are
pb	
1501	(20 24 2 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no
1502	(20 24 2 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/fence all~ non
pb also eat grass	
1503	(20 24 2 2 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/children need to
see them	
1504	(20 24 2 2 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/no so bad ones
don't follow good one	
1505	(20 24 2 2 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/not possible
1506	(20 24 2 2 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/should have
own place bec protected	
1507	(20 24 2 2 6) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/we help each
other	
1508	(20 24 2 2 7) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PB WA's ENCLOSED/no/we've been
staying together	
1509	(20 24 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED
1510	(20 24 3 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes
1511	(20 24 3 1 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes/W & people created to
be together~sh	
1512	(20 24 3 1 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes/good grazing
1513	(20 24 3 1 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes/this is our land
1514	(20 24 3 1 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes/yes for droughts
1515	(20 24 3 1 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/yes/bec no compensation
1516	(20 24 3 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no
1517	(20 24 3 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no/H & W will fight
1518	(20 24 3 2 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no/impossible for gvt to
do it	
1519	(20 24 3 2 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no/bad for W
1520	(20 24 3 2 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no/competition with cows
1521	(20 24 3 2 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PA's OPENED/no/need separation
1522	(20 24 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's
1523	(20 24 4 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/yes
1524	(20 24 4 1 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/yes/no benefits

	1525	(20 24 4 1 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/yes/so don't
compete with us	1526	(20 24 4 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/no
	1527	(20 24 4 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/no/not harmless
ones		
	1528	(20 24 4 2 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/no/WA's must be
seen		
	1529	(20 24 4 2 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/no/bec gvt
benefiting		
	1530	(20 24 4 2 4) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT KILL ALL WA's/no/better to
chase~fence		
	1531	(20 24 5) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GTV KILL PB WA's
	1532	(20 24 5 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GTV KILL PB WA's/yes
	1533	(20 24 5 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GTV KILL PB WA's/no
	1534	(20 24 6) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ONLY PB WA'S
	1535	(20 24 6 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ONLY PB WA'S/yes
	1536	(20 24 6 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ONLY PB WA'S/no
	1537	(20 24 7) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ANYHOW
	1538	(20 24 7 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ANYHOW/yes
	1539	(20 24 7 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT ALLOW TO KILL ANYHOW/no
	1540	(20 24 8) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GR MEMBERS UNITE & BENEFIT
	1541	(20 24 8 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GR MEMBERS UNITE & BENEFIT/yes
	1542	(20 24 8 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GR MEMBERS UNITE & BENEFIT/no
	1543	(20 24 8 2 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GR MEMBERS UNITE &
BENEFIT/no/waste of land		
	1544	(20 24 8 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GR MEMBERS UNITE & BENEFIT/I dont
know		
	1545	(20 24 9) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT FENCE SHAMBAS ELECTRIC
	1546	(20 24 9 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT FENCE SHAMBAS ELECTRIC/yes
	1547	(20 24 9 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT FENCE SHAMBAS ELECTRIC/no
	1548	(20 24 10) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/\$ COMPENSATION
	1549	(20 24 10 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/\$ COMPENSATION/yes
	1550	(20 24 10 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/\$ COMPENSATION/no
	1551	(20 24 11) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT GIVE AUTHORITY TO MANAGE W
	1552	(20 24 11 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT GIVE AUTHORITY TO MANAGE
W/yes		
	1553	(20 24 11 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/GVT GIVE AUTHORITY TO MANAGE W/no
	1554	(20 24 12) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PEOPLE W LS TOGETHER AS IN PAST
	1555	(20 24 12 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PEOPLE W LS TOGETHER AS IN PAST/yes
	1556	(20 24 12 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PEOPLE W LS TOGETHER AS IN PAST/no
	1557	(20 24 12 3) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/PEOPLE W LS TOGETHER AS IN PAST/I
don't care		
	1558	(20 24 13) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/more MONEY from ANP to go to people
	1559	(20 24 13 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/more MONEY from ANP to go to
people/yes		
	1560	(20 24 13 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/more MONEY from ANP to go to
people/no		
	1561	(20 24 14) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/spontaneously offered solutions
	1562	(20 24 15) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/Gvt to pay people who stay with W
	1563	(20 24 15 1) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/Gvt to pay people who stay with W/yes
	1564	(20 24 15 2) /Questionnaire/SOLUTIONS TO H-W CONFLICTS/Gvt to pay people who stay with W/no
	1565	(20 25) /Questionnaire/W Good vs~ Bad things
	1566	(20 26) /Questionnaire/OVERALL last statement
	1567	(20 26 1) /Questionnaire/OVERALL last statement/Separation
	1568	(20 26 2) /Questionnaire/OVERALL last statement/\$ benefits
	1569	(20 26 3) /Questionnaire/OVERALL last statement/Always been here
	1570	(20 26 4) /Questionnaire/OVERALL last statement/only the harmless
	1571	(20 26 5) /Questionnaire/OVERALL last statement/belong to God~God's creation
	1572	(20 27) /Questionnaire/LS PROD
	1573	(20 28) /Questionnaire/PROBLEMS
	1574	(20 28 1) /Questionnaire/PROBLEMS/WATER
	1575	(20 28 2) /Questionnaire/PROBLEMS/HEALTH
	1576	(20 28 3) /Questionnaire/PROBLEMS/GRAZING
	1577	(20 28 4) /Questionnaire/PROBLEMS/DROUGHT
	1578	(20 28 5) /Questionnaire/PROBLEMS/WILDLIFE
	1579	(20 28 6) /Questionnaire/PROBLEMS/RESPECT
	1580	(20 28 7) /Questionnaire/PROBLEMS/EDUCATION
	1581	(20 28 8) /Questionnaire/PROBLEMS/Markets far
	1582	(20 28 9) /Questionnaire/PROBLEMS/HUNGER

1583	(20 28 10) /Questionnaire/PROBLEMS/Old age
1584	(20 28 11) /Questionnaire/PROBLEMS/lack of labour
1585	(20 28 12) /Questionnaire/PROBLEMS/Selfishness
1586	(20 28 13) /Questionnaire/PROBLEMS/Oltiameleteti
1587	(20 28 14) /Questionnaire/PROBLEMS/POVERTY
1588	(20 28 15) /Questionnaire/PROBLEMS/Subdivision not taking place
1589	(20 28 16) /Questionnaire/PROBLEMS/Cultivation Low prices
1590	(20 29) /Questionnaire/LIFE PAST VS NOW
1591	(20 29 1) /Questionnaire/LIFE PAST VS NOW/better TODAY
1592	(20 29 1 1) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo
1593	(20 29 1 1 1) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/business~employment
1594	(20 29 1 1 2) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/education
1595	(20 29 1 1 3) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/cultivation
1596	(20 29 1 1 4) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/not kill WAs
1597	(20 29 1 1 5) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/cieanliness
1598	(20 29 1 1 6) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/ChristianitySalvation
1599	(20 29 1 1 7) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/permanent houses
1600	(20 29 1 1 8) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/new LS rearing
1601	(20 29 1 1 9) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/wearing clothes
1602	(20 29 1 1 10) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/individualism
1603	(20 29 1 1 11) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/not marry daughters to
old men	
1604	(20 29 1 1 12) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/monogamy
1605	(20 29 1 1 13) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/new foods
1606	(20 29 1 1 14) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/market economy
1607	(20 29 1 1 15) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/health
1608	(20 29 1 1 16) /Questionnaire/LIFE PAST VS NOW/better TODAY/maendeleo/transportation
1609	(20 29 1 2) /Questionnaire/LIFE PAST VS NOW/better TODAY/bec that is the 1 I know
1610	(20 29 2) /Questionnaire/LIFE PAST VS NOW/better in PAST
1611	(20 29 2 1) /Questionnaire/LIFE PAST VS NOW/better in PAST/LS rearing better~more cows
1612	(20 29 2 2) /Questionnaire/LIFE PAST VS NOW/better in PAST/more respect
1613	(20 29 2 3) /Questionnaire/LIFE PAST VS NOW/better in PAST/less diseases
1614	(20 29 2 4) /Questionnaire/LIFE PAST VS NOW/better in PAST/more land
1615	(20 29 2 5) /Questionnaire/LIFE PAST VS NOW/better in PAST/more rain
1616	(20 29 2 6) /Questionnaire/LIFE PAST VS NOW/better in PAST/cheaper life
1617	(20 29 2 7) /Questionnaire/LIFE PAST VS NOW/better in PAST/WA's less aggressive
1618	(20 29 2 8) /Questionnaire/LIFE PAST VS NOW/better in PAST/no water pb
1619	(20 29 2 9) /Questionnaire/LIFE PAST VS NOW/better in PAST/more peace & love
1620	(20 29 2 10) /Questionnaire/LIFE PAST VS NOW/better in PAST/simpler
1621	(20 29 2 11) /Questionnaire/LIFE PAST VS NOW/better in PAST/more unity~togetherness
1622	(20 29 2 12) /Questionnaire/LIFE PAST VS NOW/better in PAST/Christianity bad
1623	(20 29 2 13) /Questionnaire/LIFE PAST VS NOW/better in PAST/loss of knowledge
1624	(20 29 2 14) /Questionnaire/LIFE PAST VS NOW/better in PAST/no politics
1625	(20 29 2 15) /Questionnaire/LIFE PAST VS NOW/better in PAST/fewer people
1626	(20 29 2 16) /Questionnaire/LIFE PAST VS NOW/better in PAST/enough food~no hunger
1627	(20 29 3) /Questionnaire/LIFE PAST VS NOW/as good as in past
1628	(20 30) /Questionnaire/Tourism
1629	(20 30 1) /Questionnaire/Tourism/Who are the tourists
1630	(20 30 2) /Questionnaire/Tourism/why tourists come here
1631	(20 30 3) /Questionnaire/Tourism/good things of tourism
1632	(20 30 4) /Questionnaire/Tourism/bad things
1633	(20 30 5) /Questionnaire/Tourism/attitude positive
1634	(20 30 6) /Questionnaire/Tourism/attitude negative
1635	(20 30 7) /Questionnaire/Tourism/attitude neutral
1636	(20 30 8) /Questionnaire/Tourism/Family members in tourism jobs
1637	(20 30 9) /Questionnaire/Tourism/Cultural bomas
1638	(20 30 10) /Questionnaire/Tourism/Tourism
1639	(20 31) /Questionnaire/GR benefits from W
1640	(20 31 1) /Questionnaire/GR benefits from W/Satisfied
1641	(20 31 2) /Questionnaire/GR benefits from W/Not satisfied
1642	(20 32) /Questionnaire/LAND GOOD BAD
1643	(20 32 1) /Questionnaire/LAND GOOD BAD/GOOD land
1644	(20 32 1 1) /Questionnaire/LAND GOOD BAD/GOOD land/Clear~plain
1645	(20 32 1 2) /Questionnaire/LAND GOOD BAD/GOOD land/With W
1646	(20 32 1 3) /Questionnaire/LAND GOOD BAD/GOOD land/Without W
1647	(20 32 1 4) /Questionnaire/LAND GOOD BAD/GOOD land/With_Good for LS
1648	(20 32 1 5) /Questionnaire/LAND GOOD BAD/GOOD land/With water
1649	(20 32 1 6) /Questionnaire/LAND GOOD BAD/GOOD land/With cultivation
1650	(20 32 1 7) /Questionnaire/LAND GOOD BAD/GOOD land/With maendeleo

1651	(20 32 1 9) /Questionnaire/LAND GOOD BAD/GOOD land/with trees
1652	(20 32 1 10) /Questionnaire/LAND GOOD BAD/GOOD land/with peace
1653	(20 32 1 11) /Questionnaire/LAND GOOD BAD/GOOD land/No subdivision
1654	(20 32 1 12) /Questionnaire/LAND GOOD BAD/GOOD land/Land like in the past
1655	(20 32 2) /Questionnaire/LAND GOOD BAD/BAD land
1656	(20 32 2 1) /Questionnaire/LAND GOOD BAD/BAD land/NO trees
1657	(20 32 2 2) /Questionnaire/LAND GOOD BAD/BAD land/NO water
1658	(20 32 2 3) /Questionnaire/LAND GOOD BAD/BAD land/NO cows BAD for cows
1659	(20 32 2 4) /Questionnaire/LAND GOOD BAD/BAD land/with W
1660	(20 32 2 5) /Questionnaire/LAND GOOD BAD/BAD land/NO cultivation
1661	(20 32 2 6) /Questionnaire/LAND GOOD BAD/BAD land/NO maendeleo
1662	(20 32 2 7) /Questionnaire/LAND GOOD BAD/BAD land/NO people
1663	(20 32 2 8) /Questionnaire/LAND GOOD BAD/BAD land/Dense bush
1664	(20 32 2 9) /Questionnaire/LAND GOOD BAD/BAD land/NO peace
1665	(20 32 2 10) /Questionnaire/LAND GOOD BAD/BAD land/NO W
1666	(20 32 2 11) /Questionnaire/LAND GOOD BAD/BAD land/NOT subdivided
1667	(20 32 2 12) /Questionnaire/LAND GOOD BAD/BAD land/subdivided
1668	(20 32 2 13) /Questionnaire/LAND GOOD BAD/BAD land/WITH maendeleo
1669	(20 32 2 14) /Questionnaire/LAND GOOD BAD/BAD land/with DISEASES for people
1670	(20 32 3) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land
1671	(20 32 3 1) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD land
1672	(20 32 3 1 1) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/Beautiful~interesting	
1673	(20 32 3 1 2) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/God's creation	
1674	(20 32 3 1 3) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/Economic benefits	
1675	(20 32 3 1 4) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/Attract tourists	
1676	(20 32 3 1 5) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/Wealth of the land	
1677	(20 32 3 1 6) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD land/Good
for moranhood	
1678	(20 32 3 1 7) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/Useful	
1679	(20 32 3 1 8) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD land/No
aggressive WAs anymore	
1680	(20 32 3 1 9) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD land/Meat
1681	(20 32 3 1 10) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD land/W
only stay in good land	
1682	(20 32 3 1 11) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of GOOD
land/educative value	
1683	(20 32 3 2) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD land
1684	(20 32 3 2 1) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD
land/eat~kill people	
1685	(20 32 3 2 2) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD
land/eat~kill LS	
1686	(20 32 3 2 3) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD land/Eat
grass	
1687	(20 32 3 2 4) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD
land/disease	
1688	(20 32 3 2 5) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD land/break
fences	
1689	(20 32 3 2 6) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD land/No
benefits	
1690	(20 32 3 2 7) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD
land/Damage the land	
1691	(20 32 3 2 8) /Questionnaire/LAND GOOD BAD/W part of GOOD or BAD land/W part of BAD land/Crop
damage	
1692	(20 32 4) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad
1693	(20 32 4 1) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good
1694	(20 32 4 1 1) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/with Good for LS
1695	(20 32 4 1 2) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/With W
1696	(20 32 4 1 3) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/with people
1697	(20 32 4 1 4) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/With maendeleo
1698	(20 32 4 1 5) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/with trees
1699	(20 32 4 1 6) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/Because no other place to
go	
1700	(20 32 4 1 7) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/No W

	1701	(20 32 4 1 8) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/With peace
	1702	(20 32 4 1 9) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/with water
	1703	(20 32 4 1 10) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/good/with cultivation
	1704	(20 32 4 2) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad
	1705	(20 32 4 2 1) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/No maendeleo
	1706	(20 32 4 2 3) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/No water
	1707	(20 32 4 2 4) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/Wildlife
	1708	(20 32 4 2 5) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/Subdivision
	1709	(20 32 4 2 6) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/People bad
	1710	(20 32 4 2 8) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/No cultivation
	1711	(20 32 4 2 9) /Questionnaire/LAND GOOD BAD/THIS LAND good or bad/bad/Bad for cows
	1712	(20 32 7) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts
	1713	(20 32 7 1) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to
	1714	(20 32 7 1 1) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/God
	1715	(20 32 7 1 2) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/Everyone on
GR		
	1716	(20 32 7 1 3) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/to the
Maasai~Kisonko~Matapato		
members	1717	(20 32 7 1 4) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/to the GR
	1718	(20 32 7 1 5) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/I don't know
owner	1719	(20 32 7 1 6) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/Nobody - no
living on it	1720	(20 32 7 1 7) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/to everyone
	1721	(20 32 7 1 8) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/to the gvt
	1722	(20 32 7 1 9) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/LAND belongs to/to the GRC
	1723	(20 32 7 2) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to
	1724	(20 32 7 2 1) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/God
	1725	(20 32 7 2 2) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/everybody on
the GR		
and~or Was 2	1726	(20 32 7 2 3) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to cows
and~or Was 2/to cows	1727	(20 32 7 2 3 1) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to cows
and~or Was 2/to W	1728	(20 32 7 2 3 2) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to cows
and~or Was 2/to cows & W	1729	(20 32 7 2 3 3) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to cows
	1730	(20 32 7 2 4) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/~ours~
	1731	(20 32 7 2 5) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to the land
	1732	(20 32 7 2 6) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/no owner
	1733	(20 32 7 2 7) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to all the
maasai		
	1734	(20 32 7 2 8) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/~mine~
on it	1735	(20 32 7 2 9) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to who lives
members	1736	(20 32 7 2 10) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to GR
	1737	(20 32 7 2 11) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/to the gvt
	1738	(20 32 7 2 12) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/GRASS belongs to/I don't know
	1739	(20 32 7 3) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to
	1740	(20 32 7 3 1) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/God
	1741	(20 32 7 3 2) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/~ours~
	1742	(20 32 7 3 3) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to non-Maasai~to
the whites 2		
	1743	(20 32 7 3 4) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/no owner
	1744	(20 32 7 3 5) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the gvt
	1745	(20 32 7 3 6) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the bush
	1746	(20 32 7 3 7) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the GRC
	1747	(20 32 7 3 8) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the land
	1748	(20 32 7 3 9) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the Maasai
	1749	(20 32 7 3 10) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to the
land~ranch owner		
	1750	(20 32 7 3 11) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to everyone
	1751	(20 32 7 3 12) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/W belongs to/to GR members
	1752	(20 32 7 4) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/Land after subdivision
	1753	(20 32 7 5) /Questionnaire/LAND GOOD BAD/OWNERSHIP concepts/Grass after subdivision
	1754	(20 33) /Questionnaire/W RIGHT TO LIVE HERE

1755 (20 33 1) /Questionnaire/W RIGHT TO LIVE HERE/yes
1756 (20 33 1 1) /Questionnaire/W RIGHT TO LIVE HERE/yes/Economic benefits
1757 (20 33 1 2) /Questionnaire/W RIGHT TO LIVE HERE/yes/God's creation
1758 (20 33 1 3) /Questionnaire/W RIGHT TO LIVE HERE/yes/Yes but not all of them
1759 (20 33 1 5) /Questionnaire/W RIGHT TO LIVE HERE/yes/Belong to gvt
1760 (20 33 1 6) /Questionnaire/W RIGHT TO LIVE HERE/yes/Meat
1761 (20 33 1 7) /Questionnaire/W RIGHT TO LIVE HERE/yes/Belong to us
1762 (20 33 1 8) /Questionnaire/W RIGHT TO LIVE HERE/yes/Always been here~nowhere else to go
1763 (20 33 2) /Questionnaire/W RIGHT TO LIVE HERE/no
1764 (20 33 2 1) /Questionnaire/W RIGHT TO LIVE HERE/no/W have their own place
1765 (20 33 2 2) /Questionnaire/W RIGHT TO LIVE HERE/no/W don't belong to us~belong to gvt
1766 (20 33 2 3) /Questionnaire/W RIGHT TO LIVE HERE/no/Dangerous~cause pbs
1767 (20 33 2 4) /Questionnaire/W RIGHT TO LIVE HERE/no/W are from the bush
1768 (20 33 2 5) /Questionnaire/W RIGHT TO LIVE HERE/no/No benefit
1769 (20 33 2 6) /Questionnaire/W RIGHT TO LIVE HERE/no/No space for them on private land
1770 (20 34) /Questionnaire/W BADTHINGS
1771 (20 35) /Questionnaire/W GOOD THINGS
1772 (20 35 1) /Questionnaire/W GOOD THINGS/Good things
1773 (20 35 1 1) /Questionnaire/W GOOD THINGS/Good things/Yes
1774 (20 35 1 1 1) /Questionnaire/W GOOD THINGS/Good things/Yes/Meat
1775 (20 35 1 1 2) /Questionnaire/W GOOD THINGS/Good things/Yes/Useful
1776 (20 35 1 1 3) /Questionnaire/W GOOD THINGS/Good things/Yes/Economic benefits
1777 (20 35 1 1 4) /Questionnaire/W GOOD THINGS/Good things/Yes/Attract tourists
1778 (20 35 1 1 5) /Questionnaire/W GOOD THINGS/Good things/Yes/God's creation
1779 (20 35 1 1 6) /Questionnaire/W GOOD THINGS/Good things/Yes/Beauty~interesting
1780 (20 35 1 2) /Questionnaire/W GOOD THINGS/Good things/No
1781 (20 35 1 2 1) /Questionnaire/W GOOD THINGS/Good things/No/Economic benefits not equitable
1782 (20 35 1 2 2) /Questionnaire/W GOOD THINGS/Good things/No/Useless
1783 (20 35 1 2 3) /Questionnaire/W GOOD THINGS/Good things/No/no benefits
1784 (20 35 1 3) /Questionnaire/W GOOD THINGS/Good things/I don't know
1785 (20 35 2) /Questionnaire/W GOOD THINGS/W beneficial to Osilalei people
1786 (20 35 2 1) /Questionnaire/W GOOD THINGS/W beneficial to Osilalei people/yes
1787 (20 35 2 2) /Questionnaire/W GOOD THINGS/W beneficial to Osilalei people/no
1788 (20 35 2 3) /Questionnaire/W GOOD THINGS/W beneficial to Osilalei people/I don't know
1789 (20 35 3) /Questionnaire/W GOOD THINGS/W beneficial to Maasai
1790 (20 35 3 1) /Questionnaire/W GOOD THINGS/W beneficial to Maasai/yes
1791 (20 35 3 3) /Questionnaire/W GOOD THINGS/W beneficial to Maasai/I don't know
1792 (20 35 3 4) /Questionnaire/W GOOD THINGS/W beneficial to Maasai/no
1793 (20 35 4) /Questionnaire/W GOOD THINGS/W beneficial to Kenya
1794 (20 35 4 1) /Questionnaire/W GOOD THINGS/W beneficial to Kenya/yes
1795 (20 35 4 2) /Questionnaire/W GOOD THINGS/W beneficial to Kenya/no
1796 (20 35 4 3) /Questionnaire/W GOOD THINGS/W beneficial to Kenya/I don't know
1797 (20 36) /Questionnaire/RELATION W~ W PAST VS NOW
1798 (20 36 1) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW
1799 (20 36 1 1) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Economic benefits
1800 (20 36 1 2) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/W in PA's
1801 (20 36 1 3) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Attract tourists
1802 (20 36 1 4) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/W protected by gvt
1803 (20 36 1 6) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Less WAS
1804 (20 36 1 7) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Less H-W interactions
1805 (20 36 1 7 2) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Less H-W interactions/W
less killed now
1806 (20 36 1 7 5) /Questionnaire/RELATION W~ W PAST VS NOW/better NOW/Less H-W interactions/W
killing less now
1807 (20 36 2) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST
1808 (20 36 2 1) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST/W could be
killed~retaliation
1809 (20 36 2 2) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST/W more aggressive now
1810 (20 36 2 3) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST/People and W closer to each
other
1811 (20 36 2 4) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST/People didn't kill W for
food
1812 (20 36 2 5) /Questionnaire/RELATION W~ W PAST VS NOW/better in PAST/No cultivation
1813 (20 36 3) /Questionnaire/RELATION W~ W PAST VS NOW/same
1814 (20 37) /Questionnaire/SPP NEVER to be killed
1815 (20 37 11) /Questionnaire/SPP NEVER to be killed/WHY not
1816 (20 37 11 1) /Questionnaire/SPP NEVER to be killed/WHY not/Harmless
1817 (20 37 11 2) /Questionnaire/SPP NEVER to be killed/WHY not/Lucky
1818 (20 37 11 3) /Questionnaire/SPP NEVER to be killed/WHY not/Like LS

1819 (20 37 11 4) /Questionnaire/SPP NEVER to be killed/WHY not/Holly~sacred
1820 (20 37 11 5) /Questionnaire/SPP NEVER to be killed/WHY not/Fear of curse
1821 (20 37 11 6) /Questionnaire/SPP NEVER to be killed/WHY not/Not good to finish a family
1822 (20 37 25) /Questionnaire/SPP NEVER to be killed/W sppp never killed
1823 (20 37 25 1) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Aardvark
1824 (20 37 25 2) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Dove
1825 (20 37 25 3) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Eland with olmasi
1826 (20 37 25 4) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Kuku tungani
1827 (20 37 25 5) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Innocent WAS
1828 (20 37 25 6) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Mating WAS
1829 (20 37 25 7) /Questionnaire/SPP NEVER to be killed/W sppp never killed/WAS giving birth
1830 (20 37 25 8) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Harmless Polite WAS
1831 (20 37 25 9) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Ostrich
1832 (20 37 25 10) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Zebbras
1833 (20 37 25 12) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Wild dog
1834 (20 37 25 13) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Frog
1835 (20 37 25 14) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Snakes
1836 (20 37 25 15) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Cat
1837 (20 37 25 16) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Squirrel
1838 (20 37 25 17) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Pregnant WAS
1839 (20 37 25 18) /Questionnaire/SPP NEVER to be killed/W sppp never killed/birds
1840 (20 37 25 19) /Questionnaire/SPP NEVER to be killed/W sppp never killed/None
1841 (20 37 25 20) /Questionnaire/SPP NEVER to be killed/W sppp never killed/edgehog
1842 (20 37 25 21) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Lion ~olowaru oju~
1843 (20 37 25 22) /Questionnaire/SPP NEVER to be killed/W sppp never killed/rabbit
1844 (20 37 25 23) /Questionnaire/SPP NEVER to be killed/W sppp never killed/Fox
1845 (20 37 25 24) /Questionnaire/SPP NEVER to be killed/W sppp never killed/elephant
1846 (20 38) /Questionnaire/Why came to live here
1847 (20 39) /Questionnaire/Income sources
1848 (20 40) /Questionnaire/Econ benefits to hhs
1849 (20 40 1) /Questionnaire/Econ benefits to hhs/School bursaries
1850 (20 40 2) /Questionnaire/Econ benefits to hhs/craft sales
1851 (20 40 3) /Questionnaire/Econ benefits to hhs/sales of natural products
1852 (20 40 4) /Questionnaire/Econ benefits to hhs/sales of produce
1853 (20 40 5) /Questionnaire/Econ benefits to hhs/payment of bills
1854 (20 40 6) /Questionnaire/Econ benefits to hhs/cash from GRC
1855 (20 40 7) /Questionnaire/Econ benefits to hhs/cash vs~ non-cash benefits
1856 (20 40 7 1) /Questionnaire/Econ benefits to hhs/cash vs~ non-cash benefits/cash
1857 (20 40 7 2) /Questionnaire/Econ benefits to hhs/cash vs~ non-cash benefits/non-cash
1858 (20 40 8) /Questionnaire/Econ benefits to hhs/GRC income sources
1859 (20 40 9) /Questionnaire/Econ benefits to hhs/How GRC using W money
1860 (20 40 10) /Questionnaire/Econ benefits to hhs/Everyone equally benefitted
1861 (20 40 10 1) /Questionnaire/Econ benefits to hhs/Everyone equally benefitted/Yes
1862 (20 40 10 2) /Questionnaire/Econ benefits to hhs/Everyone equally benefitted/No
1863 (20 40 10 3) /Questionnaire/Econ benefits to hhs/Everyone equally benefitted/I don't know
1864 (20 40 38) /Questionnaire/Econ benefits to hhs/Hh costs~benefits from W
1865 (20 43) /Questionnaire/COSTS of W
1866 (20 43 1) /Questionnaire/COSTS of W/CROP DAMAGE
1867 (20 43 2) /Questionnaire/COSTS of W/PREDATION
1868 (20 43 2 1) /Questionnaire/COSTS of W/PREDATION/how minimized pb as a child
1869 (20 43 2 2) /Questionnaire/COSTS of W/PREDATION/pb increased~decreased past 10 yrs~
1870 (20 43 2 2 1) /Questionnaire/COSTS of W/PREDATION/pb increased~decreased past 10 yrs~/increased
1871 (20 43 2 2 2) /Questionnaire/COSTS of W/PREDATION/pb increased~decreased past 10
yrs~/decreased
1872 (20 43 2 2 3) /Questionnaire/COSTS of W/PREDATION/pb increased~decreased past 10 yrs~/same
1873 (20 43 2 3) /Questionnaire/COSTS of W/PREDATION/how reacted
1874 (20 43 2 8) /Questionnaire/COSTS of W/PREDATION/how minimize the pb now
1875 (20 43 3) /Questionnaire/COSTS of W/GRASS
1876 (20 43 3 1) /Questionnaire/COSTS of W/GRASS/problem
1877 (20 43 3 2) /Questionnaire/COSTS of W/GRASS/not a problem
1878 (20 43 4) /Questionnaire/COSTS of W/DISEASE
1879 (20 43 5) /Questionnaire/COSTS of W/WATER
1880 (20 43 6) /Questionnaire/COSTS of W/underestimation of costs
1881 (20 43 7) /Questionnaire/COSTS of W/Strategies against W
1882 (20 43 42) /Questionnaire/COSTS of W/HUMAN DEATH~injury
1883 (20 43 42 1) /Questionnaire/COSTS of W/HUMAN DEATH~injury/no talk of dead people~cattle
1884 (20 50) /Questionnaire/WHEN OK TO KILL W
1885 (20 50 1) /Questionnaire/WHEN OK TO KILL W/OK FOR FOOD
1886 (20 50 1 1) /Questionnaire/WHEN OK TO KILL W/OK FOR FOOD/Yes

1887 (20 50 1 2) /Questionnaire/WHEN OK TO KILL W/OK FOR FOOD/No
1888 (20 50 2) /Questionnaire/WHEN OK TO KILL W/defend life~property
1889 (20 50 2 1) /Questionnaire/WHEN OK TO KILL W/defend life~property/Yes
1890 (20 50 2 2) /Questionnaire/WHEN OK TO KILL W/defend life~property/No
1891 (20 50 3) /Questionnaire/WHEN OK TO KILL W/after caused pb
1892 (20 50 3 1) /Questionnaire/WHEN OK TO KILL W/after caused pb/Yes
1893 (20 50 3 2) /Questionnaire/WHEN OK TO KILL W/after caused pb/No
1894 (20 50 4) /Questionnaire/WHEN OK TO KILL W/for fun
1895 (20 50 4 1) /Questionnaire/WHEN OK TO KILL W/for fun/Yes
1896 (20 50 4 2) /Questionnaire/WHEN OK TO KILL W/for fun/No
1897 (20 50 5) /Questionnaire/WHEN OK TO KILL W/to make money
1898 (20 50 5 1) /Questionnaire/WHEN OK TO KILL W/to make money/Yes
1899 (20 50 5 2) /Questionnaire/WHEN OK TO KILL W/to make money/No
1900 (20 50 6) /Questionnaire/WHEN OK TO KILL W/for prestige
1901 (20 50 6 1) /Questionnaire/WHEN OK TO KILL W/for prestige/Yes
1902 (20 50 6 2) /Questionnaire/WHEN OK TO KILL W/for prestige/No
1903 (20 50 7) /Questionnaire/WHEN OK TO KILL W/for practice of skills
1904 (20 50 7 1) /Questionnaire/WHEN OK TO KILL W/for practice of skills/Yes
1905 (20 50 7 2) /Questionnaire/WHEN OK TO KILL W/for practice of skills/No
1906 (20 50 8) /Questionnaire/WHEN OK TO KILL W/for no reason
1907 (20 50 8 1) /Questionnaire/WHEN OK TO KILL W/for no reason/Yes
1908 (20 50 8 2) /Questionnaire/WHEN OK TO KILL W/for no reason/No
1909 (20 50 9) /Questionnaire/WHEN OK TO KILL W/NOT OK
1910 (21) /LAND & people models
1911 (21 1) /LAND & people models/Maasai land conservation
1912 (21 1 1) /LAND & people models/Maasai land conservation/God and rain
1913 (21 1 2) /LAND & people models/Maasai land conservation/Maendeleo
1914 (21 1 3) /LAND & people models/Maasai land conservation/Only God does it
1915 (21 1 4) /LAND & people models/Maasai land conservation/Law & order
1916 (21 1 5) /LAND & people models/Maasai land conservation/more complete with W
1917 (21 2) /LAND & people models/~Western~ conservation
1918 (21 2 1) /LAND & people models/~Western~ conservation/separation~zonation
1919 (21 2 2) /LAND & people models/~Western~ conservation/trees
1920 (21 2 3) /LAND & people models/~Western~ conservation/law enforcement
1921 (21 2 4) /LAND & people models/~Western~ conservation/privatization
1922 (21 2 5) /LAND & people models/~Western~ conservation/sedentarization
1923 (21 2 6) /LAND & people models/~Western~ conservation/commodification
1924 (21 2 7) /LAND & people models/~Western~ conservation/economic benefits
1925 (21 2 8) /LAND & people models/~Western~ conservation/individualism
1926 (21 3) /LAND & people models/Mix Maasai-Western
1927 (22) /CATTLE
1928 (22 1) /CATTLE/Beautiful
1929 (22 2) /CATTLE/Useful
1930 (22 2 3) /CATTLE/Useful/Market value
1931 (22 2 10) /CATTLE/Useful/milk
1932 (22 3) /CATTLE/Metaphors
1933 (22 3 1) /CATTLE/Metaphors/our life
1934 (22 3 2) /CATTLE/Metaphors/like children
1935 (22 3 3) /CATTLE/Metaphors/our shop
1936 (22 3 4) /CATTLE/Metaphors/our food
1937 (22 3 5) /CATTLE/Metaphors/W as cows
1938 (22 3 6) /CATTLE/Metaphors/other things as cows
1939 (22 3 7) /CATTLE/Metaphors/Our heart
1940 (22 3 8) /CATTLE/Metaphors/our bank account
1941 (22 3 9) /CATTLE/Metaphors/our shamba
1942 (22 4) /CATTLE/Breeds
1943 (22 5) /CATTLE/Happy cow happy people
1944 (22 6) /CATTLE/Cow above all
1945 (22 7) /CATTLE/wealth
1946 (22 8) /CATTLE/grazing management
1947 (22 9) /CATTLE/Cows colors
1948 (22 10) /CATTLE/friendship
1949 (22 11) /CATTLE/Maasai identity
1950 (22 12) /CATTLE/personality
1951 (22 13) /CATTLE/names
1952 (23) /W & people models
1953 (23 1) /W & people models/Maasai model H-W relationship
1954 (23 1 1) /W & people models/Maasai model H-W relationship/W not taken care of like cows

that WA's like cows	1955	(23 1 1 1) /W & people models/Maasai model H-W relationship/W not taken care of like cows/surprise
cows	1956	(23 1 1 2) /W & people models/Maasai model H-W relationship/W not taken care of like cows/W = gvt's
	1957	(23 1 2) /W & people models/Maasai model H-W relationship/useless
	1958	(23 1 3) /W & people models/Maasai model H-W relationship/God's creation Maasai
	1959	(23 1 4) /W & people models/Maasai model H-W relationship/Staying together~sharing~helping~mix
	1960	(23 1 5) /W & people models/Maasai model H-W relationship/Kill W when cause pb
	1961	(23 1 6) /W & people models/Maasai model H-W relationship/useful
	1962	(23 1 6 1) /W & people models/Maasai model H-W relationship/useful/wmeat
	1963	(23 1 6 2) /W & people models/Maasai model H-W relationship/useful/ecological help
	1964	(23 1 6 3) /W & people models/Maasai model H-W relationship/useful/useful in the culture
	1965	(23 1 6 5) /W & people models/Maasai model H-W relationship/useful/W products
	1966	(23 1 7) /W & people models/Maasai model H-W relationship/W fear people
	1967	(23 1 8) /W & people models/Maasai model H-W relationship/avoidance
	1968	(23 1 9) /W & people models/Maasai model H-W relationship/people ~ important than W
	1969	(23 1 10) /W & people models/Maasai model H-W relationship/W beautiful
	1970	(23 1 11) /W & people models/Maasai model H-W relationship/Belong to God
	1971	(23 1 12) /W & people models/Maasai model H-W relationship/No owner
	1972	(23 1 13) /W & people models/Maasai model H-W relationship/no land without W
	1973	(23 1 14) /W & people models/Maasai model H-W relationship/W have become more aggressive
protected	1974	(23 1 14 1) /W & people models/Maasai model H-W relationship/W have become more aggressive/bec~
not staying w people	1975	(23 1 14 24) /W & people models/Maasai model H-W relationship/W have become more aggressive/bec
	1976	(23 1 15) /W & people models/Maasai model H-W relationship/perception W fenced nowadays
	1977	(23 1 16) /W & people models/Maasai model H-W relationship/W avoid loneliness, boredom
	1978	(23 1 17) /W & people models/Maasai model H-W relationship/W NOT cows
	1979	(23 1 18) /W & people models/Maasai model H-W relationship/Chase W at subdivision
	1980	(23 1 19) /W & people models/Maasai model H-W relationship/Communication with W
	1981	(23 1 20) /W & people models/Maasai model H-W relationship/neutrality
	1982	(23 1 21) /W & people models/Maasai model H-W relationship/W as individuals
	1983	(23 1 22) /W & people models/Maasai model H-W relationship/always been here
	1984	(23 1 23) /W & people models/Maasai model H-W relationship/relationship better in the past
	1985	(23 1 24) /W & people models/Maasai model H-W relationship/W not food
	1986	(23 1 25) /W & people models/Maasai model H-W relationship/wild animal subjectivity~agency
	1987	(23 1 26) /W & people models/Maasai model H-W relationship/don't kill for nothing
	1988	(23 1 27) /W & people models/Maasai model H-W relationship/tolerance~ WA's doing what they do
	1989	(23 1 28) /W & people models/Maasai model H-W relationship/conserving the land
mngrt~conservation	1990	(23 1 28 1) /W & people models/Maasai model H-W relationship/conserving the land/grazing
cows	1991	(23 1 28 2) /W & people models/Maasai model H-W relationship/conserving the land/care of people &
cows/protect cows from W	1992	(23 1 28 2 1) /W & people models/Maasai model H-W relationship/conserving the land/care of people &
land/peace&love&cooperation&respect among	1993	(23 1 28 25) /W & people models/Maasai model H-W relationship/conserving the
	1994	(23 1 28 26) /W & people models/Maasai model H-W relationship/conserving the land/God conserves
	1995	(23 1 28 27) /W & people models/Maasai model H-W relationship/conserving the land/ritual activity
	1996	(23 2) /W & people models/~Western~ model H-W relationship
	1997	(23 2 1) /W & people models/~Western~ model H-W relationship/separation - in 'own ranch'
	1998	(23 2 1 19) /W & people models/~Western~ model H-W relationship/separation - in 'own ranch'/Belief
	1999	(23 2 1 20) /W & people models/~Western~ model H-W relationship/separation - in 'own ranch'/Wish
	2000	(23 2 3) /W & people models/~Western~ model H-W relationship/law enforcement~respect for law
	2001	(23 2 4) /W & people models/~Western~ model H-W relationship/taken care of like cows
	2002	(23 2 5) /W & people models/~Western~ model H-W relationship/new owners of W
	2003	(23 2 6) /W & people models/~Western~ model H-W relationship/W as commodity
	2004	(23 2 7) /W & people models/~Western~ model H-W relationship/expectation economic compensation
	2005	(23 2 8) /W & people models/~Western~ model H-W relationship/W CONSERVATION effects
ok	2006	(23 2 8 1) /W & people models/~Western~ model H-W relationship/W CONSERVATION effects/wmeat
	2007	(23 2 9) /W & people models/~Western~ model H-W relationship/better HW relationship now
	2008	(23 2 10) /W & people models/~Western~ model H-W relationship/W only in maasailand 2
	2009	(23 2 11) /W & people models/~Western~ model H-W relationship/CONSERVATIONIST MODEL
MODEL/"zoning"	2010	(23 2 11 1) /W & people models/~Western~ model H-W relationship/CONSERVATIONIST
	2011	(23 2 12) /W & people models/~Western~ model H-W relationship/W less aggressive
	2012	(23 2 13) /W & people models/~Western~ model H-W relationship/W as property
	2013	(23 2 14) /W & people models/~Western~ model H-W relationship/not killing birds

	2014	(23 2 15) /W & people models/~Western~ model H-W relationship/Endangered species
	2015	(23 2 16) /W & people models/~Western~ model H-W relationship/less knowledge of W ~young
people~	2016	(23 2 17) /W & people models/~Western~ model H-W relationship/good picture~tourism
	2017	(23 2 18) /W & people models/~Western~ model H-W relationship/~our WA's~
	2018	(23 2 19) /W & people models/~Western~ model H-W relationship/conserving land includes W
	2019	(23 2 20) /W & people models/~Western~ model H-W relationship/W helping people
	2020	(23 2 21) /W & people models/~Western~ model H-W relationship/moranhood and boys&birds less
import	2021	(23 2 22) /W & people models/~Western~ model H-W relationship/W beneficial to the nation
	2022	(23 2 23) /W & people models/~Western~ model H-W relationship/bad animals NOW good
	2023	(23 2 24) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL
	2024	(23 2 24 1) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/OK to kill
to eat or to use	2025	(23 2 24 2) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/people =
special creation	2026	(23 2 24 3) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/respect
for rule of law	2027	(23 2 24 4) /W & people models/~Western~ model H-W relationship/CHRISTIAN
		SUBMODEL/Stewardship
	2028	(23 2 24 8) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/Useful
God's creation	2029	(23 2 24 13) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/kill for
nothing = sin	2030	(23 2 24 19) /W & people models/~Western~ model H-W relationship/CHRISTIAN SUBMODEL/kill for
culture = kill for nothing	2031	(23 2 27) /W & people models/~Western~ model H-W relationship/LAND
	2032	(23 2 27 11) /W & people models/~Western~ model H-W relationship/LAND/individualism
	2033	(23 2 27 13) /W & people models/~Western~ model H-W
relationship/LAND/privatization~sedentarization nec fo	2034	(23 2 27 25) /W & people models/~Western~ model H-W relationship/LAND/not cut trees
	2035	(23 2 27 26) /W & people models/~Western~ model H-W relationship/LAND/commodification of land
	2036	(53) /AGE-SETS
	2037	(53 1) /AGE-SETS/Ilkiponi
	2038	(53 2) /AGE-SETS/Ilkimunyak
	2039	(53 3) /AGE-SETS/Ilkishimu
	2040	(53 4) /AGE-SETS/Iseuri
	2041	(53 5) /AGE-SETS/Ilnyankusi
	2042	(53 6) /AGE-SETS/IIterito
	2043	(53 7) /AGE-SETS/AGE general
	2044	(53 8) /AGE-SETS/Boy uncircumcised
	2045	(53 9) /AGE-SETS/Giris

Appendix 18. Nvivo Output: Matrix intersection search (religion and “do wild animals have the same right as people and livestock to live here?”)

NVivo revision 2.0.163 Licensee: joana roque de pinho
 Project: Nvivo 30-05-06 2 4 2 2 2 3 User: Administrator Date: 8/6/2008 - 9:02:00 PM
 MATRIX NODE CODING REPORT

Node: /Search Results/Matrix Intersection 5
 Treenode address: (3 9)
 Created: 8/6/2008 - 9:01:41 PM
 Modified: 8/6/2008 - 9:01:41 PM
 Description:

Matrix Intersection of each of: { text coded by the node, '(20 33 1 1) Economic benefits', text coded by the node, '(20 33 1 2) God's creation' } with each of: { text belonging to any document with the attribute, 'Christian Traditional = Traditional', text belonging to any document with the attribute, 'Christian Traditional = Christian' }
 Result is a subtree of nodes which code the finds from each of the matrix searches; parentNode is (3 1) /Search Results/Matrix Intersection (n)
 Document finds are spread to enclosing paragraphs. Node finds are spread to enclosing paragraphs.

Matrix Cell: Matrix Intersection 5[1,1]
 Description:

Cell [1,1] of a matrix.
 Matrix Intersection of each of: '(20 33 1 1) Economic benefits' with 'Christian Traditional = Traditional'
 Documents in Set: INTERVIEWS ONLY
 This Node codes no other documents in this set.
 Matrix Cell: Matrix Intersection 5[1,2]
 Description:

Cell [1,2] of a matrix.
 Matrix Intersection of each of: '(20 33 1 1) Economic benefits' with 'Christian Traditional = Christian'
 Documents in Set: INTERVIEWS ONLY
 Document 1 of 191 14
 Passage 1 of 1 Section 0, Paras 125 to 126, 144 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because they also benefit us
 Document 2 of 191 16
 Passage 1 of 1 Section 0, Paras 157 to 159, 578 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because the reason why God created them was to benefit people. When God created everything, Man was given power over everything. So even wild animals are part of what God wanted Man to use.
 Document 3 of 191 17
 Passage 1 of 1 Section 0, Paras 216 to 217, 185 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because they are beneficial like any other thing like cows and people
 Document 4 of 191 2
 Passage 1 of 2 Section 0, Paras 49 to 50, 138 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because bring benefits
 Passage 2 of 2 Section 0, Paras 179 to 184, 499 chars.

Are there some wild animal (both the 'polite' and 'aggressive' ones) that you like? (Keti ingues! ashu ilcangit linyor?) Which species? Why? (number = rank)
I like all of them. there is none that I hate. I don't have a favorite. I love them equally. I like them so much because they bring benefits.
Q what if they brought no benefits?
A they still deserve to be here, if they don't kill people and people don't kill them, we can stay together

Document 5 of 191 37
 Passage 1 of 1 Section 0, Paras 278 to 279, 245 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes they have the right. Also made by God and have given us some benefits: we heard that money to educate children come from wildlife
 Document 6 of 191 5
 Passage 1 of 1 Section 0, Paras 258 to 259, 282 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes they have rights because they are just like any other creature and also benefiting us: someone coming from other country to see these animals so we get money out of it

Document 7 of 191 52

Passage 1 of 1 Section 0, Paras 270 to 271, 152 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because people are using their money

Document 8 of 191 55

Passage 1 of 1 Section 0, Paras 298 to 299, 241 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they're also taking care of us because the electric fence was put because of wildlife and we're getting some benefits

Document 9 of 191 57

Passage 1 of 1 Section 0, Paras 225 to 227, 463 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes see above + because I heard there is some money accrued from wildlife and so that money is also benefiting some people in ht GR, people going to school because of it so they are also our properties like cows

Document 10 of 191 77

Passage 1 of 1 Section 0, Paras 149 to 154, 398 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

some of them have and some of them don't have. Elephants, lions, rhinos, we realize they bring tourists; hyenas and WBs don't have

Q: why?

A: because cause pbs to cows a lot.

Q: what about the fact that they were all created by God?

A: but their benefits to us and to LS are different

Document 11 of 191 83

Passage 1 of 1 Section 0, Para 201, 142 chars.

Yes. After the government asked the GRC to let wildlife graze in this land so that we pay you some money and that's

why they're pay KWS money

Document 12 of 191 9

Passage 1 of 1 Section 0, Paras 244 to 245, 262 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes they also have some development : most GR activities are funded through wildlife and KWS is active because of wildlife + God puts them on the land

This Node codes no other documents in this set.

Matrix Cell: Matrix Intersection 5[2,1]

Description:

Cell [2,1] of a matrix.

Matrix Intersection of each of: '(20 33 1 2) God's creation with 'Christian Traditional = Traditional''

Documents in Set: INTERVIEWS ONLY

Document 1 of 191 101

Passage 1 of 1 Section 0, Para 225, 76 chars.

Yes because we don't own them: they also belong to God like us and the cows

Document 2 of 191 103

Passage 1 of 1 Section 0, Paras 242 to 244, 474 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they were also created to eat and drink on top of this land although we don't like them. But whether we like them or not, they have the right to be here.

Document 3 of 191 105

Passage 1 of 1 Section 0, Paras 242 to 246, 364 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes, see above (God's creation)

Q: where does God stand in all this?

A: God is the master of the land, of cows, WAs, grass. Because He can say "I don't want this and that disappears".

Whenever you have a problem, you just say "God help us in this way".

Document 4 of 191 108

Passage 1 of 1 Section 0, Paras 102 to 103, 140 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God created them.

Document 5 of 191 111

Passage 1 of 1 Section 0, Paras 255 to 258, 429 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because we're all made by God and we're mixed so they have a right to graze also

Q: what about the ones who eat cows? Do they have that right?

A: they don't have that right, they just eat cows by force, break into a boma. They also eat other animals that stay with them in the bush. They're just fed by God also.

Document 6 of 191 126

Passage 1 of 1 Section 0, Paras 122 to 123, 150 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because it is God who created them
Document 7 of 191 129
Passage 1 of 1 Section 0, Paras 197 to 199, 186 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because you cannot control them [I think he means you don't on them].
Document 8 of 191 136
Passage 1 of 1 Section 3.7, Paras 795 to 803, 419 chars.

4. ... the government to kill all the wild animals?
Yes so that they will not eat our grass
Q. but you said that eating grass was not a problem. ..
A: they eat whether we like it or not and they're also god's creation. But we'd rather have them not eat if we could
Document 9 of 191 138
Passage 1 of 1 Section 4.7, Paras 424 to 426, 188 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because god made them in this land
Amu Enkai naitobirua ninche tena enkop
Document 10 of 191 146
Passage 1 of 1 Section 2.4, Paras 383 to 384, 176 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because all created by God [even though he really hates them]
Document 11 of 191 150
Passage 1 of 1 Section 2.2, Para 397, 60 chars.

Yes because all are God's creation (ee, amu Enkai naitayuo)
Document 12 of 191 168
Passage 1 of 1 Section 2.3, Para 402, 98 chars.

Yes because even if we don't like them, it's only God who knows how to increase or decrease them
Document 13 of 191 174
Passage 1 of 1 Section 4.7, Paras 393 to 394, 148 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Because they belong to God (inEnkai)
Document 14 of 191 180
Passage 1 of 1 Section 3.7, Para 436, 56 chars.

Yes because created by God. Where should they go then?
Document 15 of 191 19
Passage 1 of 1 Section 2.5, Paras 209 to 210, 140 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Epae! Because created by God
Document 16 of 191 191
Passage 1 of 1 Section 0, Paras 169 to 170, 155 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because it is God who brought them here
Document 17 of 191 25
Passage 1 of 2 Section 0, Paras 308 to 311, 396 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes they have rights but they're too many. And if it was people's decision they would chase them because really creating problems to us. But they're also God's creation
Q why don't you make the decision to chase them?
A because we don't own them because the government protecting them
Document 18 of 191 27
Passage 1 of 1 Section 0, Paras 292 to 293, 411 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes we're all created on this earth us, livestock and w. so they have all the rights to be on this land. But the only problem is that it is not easy for us to mix because wildlife kill people, eat our cows. So that is the only difference. Wildlife were created on this land so they have to be here.
Document 19 of 191 31
Passage 1 of 1 Section 0, Paras 307 to 308, 159 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
yes bec they also belong to God like ppl and ls
Document 21 of 191 35
Passage 1 of 1 Section 0, Paras 276 to 277, 237 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because they were created by God and given birth on this land so have all the rights to use anything available on the land
Document 22 of 191 65
Passage 1 of 1 Section 0, Para 226, 40 chars.

Yes because they're all God's creation.
Document 23 of 191 85
Passage 1 of 1 Section 0, Para 84, 79 chars.

Yes because we all belong to one father (oltungani obo oitushula yiook pookin)

Document 24 of 191 91

Passage 1 of 1 Section 0, Paras 245 to 249, 498 chars.

Yes because they were also created by God. All were created by God, LS, and WA's. God divided them: these ones go home (ang) and these ones go to the bush (osero). *

Some of them are even alike: some tracks look like cow's tracks. You wonder, is this a cow?

Q: which animal's tracks are similar to cows' tracks?

A: the most alike = the eland. F. ex., WB also somewhat similar, but it's farther. And warthog? Is this a sheep that has passed here?

This Node codes no other

documents in this set.

Matrix Cell: Matrix Intersection 5[2,2]

Description:

Cell [2,2] of a matrix.

Matrix Intersection of each of: '(20 33 1 2) God's creation' with 'Christian Traditional = Christian'

Documents in Set: INTERVIEWS ONLY

Document 1 of 191 1

Passage 1 of 1 Section 3, Paras 222 to 223, 208 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they belong to God like people and livestock. Were also created on top of this earth

Document 2 of 191 117

Passage 1 of 1 Section 0, Paras 190 to 193, 157 chars.

Are WAs part of a good land or of a bad land?

Good

Q: why?

A: because we don't know where to take them. We've been staying together since time immemorial.

Document 3 of 191 118

Passage 1 of 1 Section 0, Paras 116 to 117, 153 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they were also created by God

Document 4 of 191 13

Passage 1 of 1 Section 0, Paras 226 to 227, 212 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they're also like human beings and cows: God's creation so have right to be on this land

Document 5 of 191 137

Passage 1 of 1 Section 2.4, Para 164, 43 chars.

Yes because they were also created by god

Document 6 of 191 142

Passage 1 of 1 Section 2.2, Paras 455 to 460, 280 chars.

Yes because they belong to God. They have the right but if we were given the right to kill them, we would have killed all of them

Q: who denied you the right to kill them?

A: government

Q: when?

A: even there before. They don't like WAs to be killed.

I should have asked why not

Document 7 of 191 143

Passage 1 of 1 Section 2.5, Para 220, 43 chars.

Yes because they were also created by God

Document 8 of 191 152

Passage 1 of 1 Section 2.4, Para 434, 73 chars.

Epae! Because also created by god and they were put by god on this land

Document 9 of 191 154

Passage 1 of 1 Section 2.3, Para 468, 77 chars.

Epae! We just grew when they were also here and they're also God's creation

Document 10 of 191 156

Passage 1 of 1 Section 2.4, Paras 411 to 412, 195 chars.

Document 11 of 191 16

Passage 1 of 1 Section 0, Paras 157 to 159, 578 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because the reason why God created them was to benefit people. When God created everything, Man was given power over everything. So even wild animals are part of what God wanted Man to use.

Document 12 of 191 160

Passage 1 of 1 Section 2.3, Paras 387 to 388, 197 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because this land was made by God and He put us human beings here and animals too

Document 13 of 191 161 Kupendo ene Jonathan 016B

Passage 1 of 1 Section 3.3, Paras 219 to 222, 146 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God created them

Document 14 of 191 166

Passage 1 of 1 Section 1.7, Paras 347 to 348, 163 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God finds them useful to be on the land

Document 15 of 191 167

Passage 1 of 1 Section 2.5, Para 223, 50 chars.

Yes because it is also God who has put them here

Document 16 of 191 172

Passage 1 of 2 Section 3.7, Paras 374 to 375, 195 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes. That/s why Jesus (Yeso = Maa) made them so that we stay together on this land

Passage 2 of 2 Section 3.7, Paras 471 to 478, 407 chars.

"SHARING GRASS"

a big problem! They eat a lot. But I don't mind because WAs don't have their own ranch and also created by God. I don't tell anybody to chase them away because they don't have any other place to go to. They have the right to be here
Q problem caused by which spp?

A I don't know?

Document 17 of 191 179

Passage 1 of 1 Section 2.4, Para 168, 33 chars.

Yes because they are also God's

Document 18 of 191 189

Passage 1 of 1 Section 4, Para 200, 28 chars.

Yes because they are God's

Document 19 of 191 22

Passage 1 of 1 Section 12.5, Paras 159 to 160, 135 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes also created by God

Document 20 of 191 24

Passage 1 of 1 Section 2.5, Paras 120 to 121, 155 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God created them to be on earth

Document 21 of 191 26

Passage 1 of 1 Section 0, Paras 154 to 155, 174 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God created people and WAs to share this same land

Document 22 of 191 28

Passage 1 of 1 Section 0, Paras 130 to 131, 184 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes they are also God's creation, but on their ranch [on their own place]

Document 23 of 191 37

Passage 1 of 1 Section 0, Paras 278 to 279, 245 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes they have the right. Also made by God and have given us some benefits: we heard that money to educate children come from wildlife

Document 24 of 191 38

Passage 1 of 1 Section 0, Paras 148 to 149, 143 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because they are also God's

Document 25 of 191 4

Passage 1 of 1 Section 0, Paras 177 to 178, 177 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because God created them and we have nowhere to chase them to

Document 26 of 191 42

Passage 1 of 1 Section 0, Paras 123 to 124, 137 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes God created them also

Document 27 of 191 43

Passage 1 of 1 Section 0, Paras 210 to 211, 143 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes created by God on this land

Document 28 of 191 44

Passage 1 of 1 Section 0, Paras 255 to 256, 322 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because also God's creation and God also likes them to multiply and fill the earth like people and cows [this sounds like a Christian thing...] [indeed, this is clearly from Genesis and he is Fountain of Life]

Document 29 of 191 45
 Passage 1 of 1 Section 0, Paras 203 to 204, 150 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes God has also put them in this land
 Document 30 of 191 46
 Passage 1 of 1 Section 1.3, Paras 245 to 246, 141 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because all God's creation
 Document 31 of 191 47
 Passage 1 of 1 Section 0, Paras 159 to 160, 187 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes we are all created by the same God and we belong to the same government
 Document 32 of 191 48
 Passage 1 of 1 Section 0, Paras 242 to 243, 143 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because also created by God
 Document 33 of 191 49
 Passage 1 of 1 Section 0, Paras 159 to 160, 150 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because we were all created by God
 Document 34 of 191 53
 Passage 1 of 1 Section 0, Paras 161 to 162, 150 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
God because it is God who created them
 Document 35 of 191 57
 Passage 1 of 2 Section 0, Paras 222 to 223, 216 chars.
Who do WAs belong to?
The GR members. Wildlife are ours because put on earth by God although we don't like wildlife to be on the land but God put them also. So they turn out to be ours, the Maasai members of the GR
 Passage 2 of 2 Section 0, Paras 225 to 227, 463 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes see above + because I heard there is some money accrued from wildlife and so that money is also benefiting some people in ht GR, people going to school because of it so they are also our properties like cows
 Document 36 of 191 59
 Passage 1 of 2 Section 0, Paras 244 to 246, 407 chars.
Are WAs part of a good land or of a bad land?
Good because WAs and us all created together by the same God. It is making God happy to see us staying together because we're all from the same mother and we've been staying together in the past. That is why you see a lion eating a cow and that is fine, and that is why people sometimes eat WAs. Because we are all sharing each other.
 Passage 2 of 2 Section 0, Paras 282 to 285, 143 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes God's creation (see above)

Document 37 of 191 6
 Passage 1 of 1 Section 0, Paras 151 to 152, 244 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because also God's creation and God meant for them to be here with people and for people to have houses and domesticated animals.
 Document 38 of 191 60
 Passage 1 of 1 Section 0, Paras 146 to 148, 154 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because they were also created by God
 Document 39 of 191 61
 Passage 1 of 1 Section 0, Paras 243 to 244, 144 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because are all God; creation
 Document 40 of 191 62
 Passage 1 of 1 Section 0, Paras 123 to 124, 151 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes because they're also God's creation
 Document 41 of 191 63
 Passage 1 of 1 Section 0, Paras 219 to 220, 134 chars.
Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?
Yes all created by God
 Document 42 of 191 67
 Passage 1 of 1 Section 2, Para 224, 184 chars.

yes bec we all belong to God bec if it was just us human beings controlling the WAs we would have chased them out of this land but we all belong to god so they have a right to be here

Document 43 of 191 7

Passage 1 of 1 Section 0, Paras 233 to 234, 142 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes because all created by God

Document 44 of 191 78

Passage 1 of 1 Section 2.3, Para 140, 45 chars.

Yes because it is God who also created them

Document 45 of 191 9

Passage 1 of 1 Section 0, Paras 244 to 245, 262 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

Yes they also have some development : most GR activities are funded through wildlife and KWS is active because of wildlife + God puts them on the land

Document 46 of 191 93

Passage 1 of 1 Section 0, Paras 185 to 186, 160 chars.

Do you think that WAs (both polite and aggressive) have the same right as people and LS to live in this area?

yes, all come out of the same place (ewueji nabo)

Document 47 of 191 97

Passage 1 of 1 Section 0, Para 198, 60 chars.

Yes because we are all (LS, people and WAs) God's creation.

This Node codes no other documents in this set.

Appendix 19. Items used in the Cultural Consensus Analysis. All answers are dichotomous (yes/no)

1. Do wild animals (both 'polite' and 'aggressive') have the same right as people and livestock to live in this area?
2. Does the government allow people to kill any wild animal?
3. Is the fact that the government has made killing wild animals against the law a bad thing?
4. Do you think there would still be wild animals (both the innocent ones and the aggressive ones) in Maasailand if the government was not protecting them?
5. Did Maasai people conserve/protect the wild animals in the past?
6. Are Maasai people protecting the wild animals nowadays?
7. Is it acceptable to kill wild animals for food?
8. Is it acceptable to kill wild animals for practice of skills?
9. Is it acceptable to kill wild animals while defending your life, somebody else's life and/or your properties?
10. Is it acceptable to kill wild animals after they caused a problem?
11. Is it acceptable to kill wild animals for fun?
12. Is it acceptable to kill wild animals in order to make money by selling meat, skin or other parts?
13. Is it acceptable to kill wild animals for no reason?
14. Is it acceptable to kill wild animals for prestige?
15. Are there good things about wild animals (both the 'polite' and 'aggressive' ones)?
16. According to Maasai culture, are there some wild animals (among both the 'polite' and 'aggressive' ones) that Maasai people are never allowed to kill?
17. Are there some wild animal (both the 'polite' and 'aggressive' ones) that you like, for any reason?
18. Are there wild animals (both the 'polite' and 'aggressive' ones) that you don't like, for any reason?

19. If you were given the power by God to make some wild animals (both the 'polite' and 'aggressive' ones) completely disappear from this land, would you make some disappear?
20. If all the wild animals (both the 'polite' and 'aggressive' ones) were disappearing from this land for some reason and you were given by God the power to rescue some of them, would you rescue some?
21. According to you, is *olamayio* (the lion hunt) allowed by the government?
22. Is it a bad thing that *olamayio* was made illegal?
23. Would you like for all the wild animals to be enclosed (fenced) inside a place of their own (only for wild animals)?
24. Would you like for only the 'problematic animals' to be enclosed inside a place of their own (only for wild animals)?
25. Would you like all the wild animals (including the polite/harmless ones) to be killed?
26. Would you like for only the 'problematic animals' to be killed?
27. Would you like for the government to allow people who suffer from wild animals to kill the animals that are giving them problems?
28. Would you like for the government to allow people to kill wild animals for any reasons, even no reason?
29. Would you like for the Group Ranch/private landowners to unite and set up their own wildlife tourism project and benefit directly from it?
30. Would you like for the government to give a monetary compensation for the problems caused by wildlife?
31. Would you like for the government to give Maasai people the authority over the management of wild animals?
32. Would you like people, livestock and wildlife to stay together the way they were in the past?

Appendix 20. Cultural consensus analysis UCINET software output)

Type of data: Profiles: A row of data for each respondent
Analytic model: Covariance model (True/False only)

Agreement among respondents

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1 2 7 9 11 13 15 17 22 23 24 26 27 28 33 34 35 39 43 45 46 47 49 51 52 53 54 55 56 57 61 62 63 64 65 66 67 68 70 72 73 75 77
78 82 83 84 85 86 89 93 95 96 97 98 99 100 101 102 103 104 105 107 108 111 112 115 119 120 122 123 124 126 127 128 129 130 132 135 137 141 143
146 149 150 151 158 165 167 168 169 171 179 184 185 186 187 188 189

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1 1.00 0.32 0.19 0.65 0.26 0.52 0.32 0.45 0.39 0.58 0.32 0.19 0.32 0.13 0.32 0.06 0.32 0.32 0.26 0.32 0.52 0.06 0.58 0.32 0.52 0.26 0.65 0.45 0.06 0.65 0.52 0.06 0.52 0.26 0.39 0.26
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177 -0.06 0.71 0.39 0.58 0.19 0.39 0.13 0.19 -0.06 0.26 0.06 0.32 0.32 0.19 0.13 0.06 0.19 0.19 0.45 0.26 0.45 0.39 0.39 0.06 0.52
2 0.32 1.00 0.38 0.34 0.41 0.52 0.42 0.49 0.40 0.23 0.39 0.49 0.42 0.15 0.29 -0.05 0.17 0.16 0.08 0.45 0.45 0.32 0.36 -0.01 0.27 0.54 0.40 0.49 0.33 0.47 0.52 0.32 0.45 0.15 0.52 0.23
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9 0.65 0.34 0.37 1.00 0.29 0.61 0.34 0.69 0.48 0.56 0.31 0.44 0.47 0.16 0.34 0.02 0.40 0.47 0.32 0.21 0.52 0.34 0.44 0.37 0.48 0.29 0.61 0.56 0.02 0.71 0.74 0.21 0.65 0.16 0.61 0.23
0.44 0.40 0.53 0.13 0.58 0.31 0.60 0.37 0.08 0.37 0.21 0.53 0.26 0.53 0.52 0.44 0.29 0.39 0.15 0.42 0.29 0.65 0.18 0.06 0.11 0.44 0.39 0.32 0.15 0.15 0.47 0.56 0.37 0.37 0.19 -0.13 0.31
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0.50 1.00 0.61 0.48 0.40 0.76 0.40 0.33 0.56 0.68 0.56 0.35 0.35 0.48 0.45 0.25 0.25 0.58 0.61 0.60 0.38 0.45 0.50 0.08 0.33 0.47 0.58 0.53 0.58 0.25 0.40 0.63 0.46 0.46 0.37 0.06 0.76
0.60 0.20 0.38 0.56 0.50 0.33 0.23 0.56 0.09 0.21 0.27 0.40 0.35 0.42 0.30 0.40 0.21 0.50 0.50 0.58 0.76 0.60 0.58 0.25 0.40
70 0.58 0.30 0.58 0.53 0.38 0.69 0.66 0.63 0.69 0.89 0.41 0.50 0.40 0.12 0.66 0.25 0.35 0.40 0.27 0.43 0.71 0.43 0.50 0.33 0.56 0.38 0.56 0.63 0.25 0.66 0.69 0.43 0.71 0.64 0.69 0.40
0.76 0.01 0.35 0.79 0.50 0.66 0.71 0.43 0.42 0.43 0.61 0.48 0.74 0.58 0.50 0.38 0.58 0.48 0.60 0.64 0.45 0.25 -0.05 0.46 0.47 0.45 0.27 0.32 0.13 0.66 0.63 0.71 0.58 0.24 0.19 0.50
0.60 0.07 0.13 0.69 0.89 0.33 0.35 0.17 0.48 -0.04 0.40 0.27 0.35 0.29 0.43 0.27 0.08 0.12 0.25 0.38 0.45 0.50 0.48 0.32 0.12 0.53
72 0.13 0.10 0.29 0.13 0.19 0.32 0.48 0.16 0.32 0.29 0.03 0.16 0.35 0.45 0.48 0.35 0.23 0.23 0.39 -0.03 0.26 0.10 0.03 0.42 0.19 -0.19 0.19 0.29 -0.03 0.13 0.19 0.35 0.26 0.45 0.19 0.19
0.47 0.48 0.35 1.00 0.26 0.29 0.23 0.29 0.61 0.42 0.48 0.35 0.26 0.23 0.39 0.47 0.32 0.52 0.35 0.32 0.45 0.26 0.55 0.13 0.29 0.29 0.39 0.13 0.35 0.35 0.10 0.29 0.29 0.29 0.39 0.26 0.55
0.37 0.29 0.16 0.32 0.29 0.03 0.13 0.58 0.23 0.29 0.39 0.35 0.35 0.16 0.48 0.19 0.16 0.55 0.29 0.39 0.29 0.39 0.29 0.32 0.52 0.42 0.00
73 0.52 0.47 0.63 0.58 0.42 0.74 0.60 0.69 0.74 0.69 0.31 0.69 0.34 0.29 0.47 0.27 0.40 0.47 0.32 0.34 0.77 0.47 0.31 0.37 0.61 0.42 0.74 0.82 0.27 0.71 0.74 0.47 0.77 0.55 0.74 0.23
0.69 0.40 0.79 0.26 1.00 0.31 0.73 0.63 0.34 0.37 0.47 0.66 0.52 0.79 0.52 0.56 0.42 0.39 0.40 0.42 0.65 0.18 -0.06 0.37 0.44 0.26 0.32 0.15 0.15 0.60 0.69 0.63 0.63 0.32 -0.13 0.44
0.55 0.11 0.69 0.74 0.69 0.37 0.39 0.10 0.53 0.05 0.45 0.34 0.27 0.24 0.47 0.23 0.05 -0.08 0.51 0.31 0.39 0.31 0.42 0.13 0.31 0.45
75 0.45 -0.16 0.24 0.31 0.17 0.19 0.26 0.25 0.31 0.64 0.09 0.13 0.26 0.04 0.52 0.21 0.25 0.52 0.18 0.10 0.32 0.10 0.38 0.37 0.31 -0.09 0.31 0.25 -0.04 0.31 0.31 0.23 0.32 0.43 0.19 0.48
0.38 0.76 0.50 0.29 0.31 1.00 0.29 0.44 0.36 0.66 0.36 0.38 0.29 0.38 0.32 0.25 0.43 0.45 0.38 0.59 0.50 0.30 0.32 0.32 0.38 0.11 0.50 0.29 0.71 0.31 0.54 0.08 0.39 0.51 0.37 0.37 0.21 -0.06 0.44
0.46 0.11 0.38 0.31 0.51 0.37 0.42 0.44 0.21 0.16 0.44 0.39 0.25 0.27 0.36 0.35 0.29 0.38 0.25 0.51 0.58 0.77 0.59 0.32 0.25 0.44
77 0.58 0.42 0.54 0.60 0.50 0.72 0.51 0.78 0.85 0.65 0.42 0.52 0.38 0.22 0.38 0.30 0.53 0.51 0.17 0.24 0.42 0.71 0.42 0.52 0.41 0.59 0.60 0.72 0.91 0.30 0.73 0.72 0.42 0.84 0.48 0.72 0.30
0.78 0.40 0.66 0.23 0.73 0.39 1.00 0.54 0.16 0.63 0.42 0.79 0.49 0.53 0.58 0.52 0.48 0.32 0.27 0.57 0.48 0.58 0.26 0.02 0.54 0.62 0.45 0.21 0.37 0.04 0.51 0.65 0.41 0.54 0.44 -0.19 0.52
0.57 0.28 0.65 0.59 0.65 0.41 0.35 0.20 0.40 -0.16 0.47 0.38 0.40 0.38 0.42 0.04 0.10 0.00 0.26 0.39 0.58 0.39 0.57 0.19 0.26 0.47
78 0.45 0.50 0.67 0.37 0.20 0.54 0.54 0.63 0.54 0.63 0.45 0.63 0.41 0.07 0.54 0.29 0.20 0.28 0.24 0.50 0.45 0.50 0.63 0.29 0.41 0.46 0.41 0.63 0.42 0.50 0.67 0.50 0.58 0.59 0.67 0.31
0.63 0.13 0.71 0.29 0.63 0.24 0.54 1.00 0.25 0.32 0.50 0.46 0.55 0.71 0.58 0.50 0.46 0.45 0.33 0.49 0.46 0.32 0.24 -0.08 0.29 0.40 0.32 0.24 0.23 0.04 0.41 0.50 0.67 0.54 0.27 -0.19 0.50
0.36 0.16 0.37 0.41 0.63 0.29 0.42 0.15 0.58 0.01 0.37 0.28 0.20 0.32 0.38 0.19 0.01 -0.02 0.24 0.50 0.32 0.24 0.23 0.19 0.11 0.37
82 0.19 0.56 0.25 0.08 0.15 0.45 0.42 0.10 0.27 0.36 0.00 0.10 0.29 0.41 0.42 0.21 0.17 0.29 0.21 0.07 0.32 0.07 -0.03 0.25 0.27 -0.23 0.27 0.23 -0.05 0.21 0.14 0.32 0.19 0.41 0.14 0.22
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83 0.45 0.21 0.32 0.37 0.40 0.35 0.50 0.53 0.60 0.53 0.11 0.14 0.50 0.27 0.50 0.26 0.29 0.50 0.11 0.34 0.45 0.08 0.40 0.32 0.22 0.27 0.35 0.53 0.13 0.37 0.48 0.47 0.58 0.52 0.35 0.29
0.66 0.68 0.42 0.42 0.37 0.66 0.63 0.32 0.34 1.00 0.47 0.42 0.29 0.42 0.45 0.40 0.40 0.45 0.42 0.43 0.40 0.58 0.40 0.18 0.45 0.56 0.45 0.37 0.46 0.13 0.38 0.53 0.42 0.40 -0.06 0.79
0.56 0.32 0.40 0.48 0.40 0.32 0.29 0.48 0.04 0.04 0.37 0.38 0.29 0.61 0.21 0.12 0.17 0.27 0.40 0.53 0.45 0.66 0.56 0.32 0.27 0.37
84 0.06 0.32 0.63 0.21 0.28 0.40 0.54 0.49 0.52 0.36 0.26 0.49 0.42 0.41 0.54 0.33 0.30 0.42 0.34 0.19 0.45 0.32 0.23 0.38 0.27 0.15 0.27 0.49 0.21 0.34 0.52 0.71 0.45 0.54 0.52 0.23
0.49 0.56 0.43 0.48 0.47 0.36 0.42 0.50 0.45 0.47 1.00 0.43 0.61 0.30 0.32 0.23 0.54 0.45 0.43 0.38 0.28 0.32 0.36 0.02 0.38 0.33 0.32 0.47 0.40 0.33 0.16 0.36 0.50 0.63 0.31 0.19 0.62
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85 0.58 0.43 0.46 0.53 0.64 0.81 0.53 0.63 0.69 0.50 0.54 0.50 0.40 0.38 0.40 0.25 0.61 0.40 0.40 0.30 0.71 0.30 0.38 0.33 0.56 0.38 0.69 0.63 0.13 0.79 0.69 0.30 0.71 0.38 0.66 0.28
0.63 0.35 0.61 0.35 0.66 0.38 0.79 0.46 0.30 0.42 0.43 1.00 0.48 0.48 0.45 0.63 0.51 0.45 0.09 0.60 0.51 0.45 0.38 0.08 0.46 0.47 0.45 0.02 0.32 0.13 0.40 0.50 0.33 0.46 0.37 -0.06 0.37
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86 0.13 0.55 0.55 0.26 0.32 0.45 0.35 0.55 0.58 0.42 0.42 0.55 0.35 0.19 0.48 0.23 0.35 0.35 0.26 0.35 0.39 0.35 0.29 0.29 0.32 0.32 0.32 0.55 0.35 0.39 0.58 0.48 0.52 0.45 0.58 0.32
0.42 0.35 0.48 0.26 0.52 0.29 0.48 0.55 0.23 0.29 0.61 0.48 1.00 0.35 0.39 0.29 0.45 0.26 0.23 0.45 0.19 0.26 0.29 -0.13 0.29 0.29 0.26 0.26 0.23 0.10 0.23 0.42 0.55 0.55 0.26 0.00 0.42
0.19 0.16 0.29 0.32 0.42 0.29 0.26 0.19 0.48 0.03 0.39 0.35 0.23 0.16 0.48 0.19 0.03 0.03 0.29 0.42 0.39 0.16 0.19 0.13 0.16 0.26
89 0.71 0.43 0.46 0.53 0.25 0.56 0.53 0.63 0.56 0.63 0.28 0.50 0.27 0.12 0.53 0.25 0.22 0.40 0.15 0.43 0.58 0.30 0.50 0.33 0.43 0.38 0.56 0.63 0.25 0.53 0.69 0.30 0.71 0.51 0.56 0.27
0.63 0.48 0.74 0.23 0.79 0.38 0.53 0.71 0.30 0.42 0.30 0.48 0.35 1.00 0.58 0.63 0.25 0.45 0.35 0.48 0.38 0.58 0.25 -0.05 0.20 0.47 0.32 0.27 0.19 -0.00 0.66 0.58 0.46 0.37 -0.32 0.50
0.60 -0.06 0.63 0.56 0.63 0.20 0.35 0.17 0.35 0.08 0.27 0.14 0.09 0.42 0.30 0.27 -0.04 0.01 0.25 0.50 0.19 0.38 0.35 0.19 0.12 0.53
93 0.52 0.37 0.58 0.52 0.39 0.52 0.45 0.58 0.52 0.58 0.32 0.45 0.45 0.13 0.58 0.19 0.45 0.45 0.39 0.19 0.39 0.32 0.58 0.45 0.65 0.26 0.65 0.71 0.19 0.39 0.52 0.32 0.65 0.52 0.52 0.26
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573

189 0.52 0.21 0.11 0.32 0.16 0.35 0.34 0.31 0.48 0.56 0.31 0.31 0.34 0.03 0.47 0.15 0.40 0.47 -0.06 0.60 0.39 0.21 0.31 -0.02 0.23 0.42 0.35 0.44 0.27 0.32 0.35 0.21 0.39 0.42 0.35 0.35
0.44 0.40 0.53 0.00 0.45 0.44 0.47 0.37 0.08 0.37 0.08 0.27 0.26 0.53 0.26 0.18 0.16 0.26 0.40 0.29 0.29 0.26 0.05 -0.06 0.37 0.31 0.26 0.19 0.15 -0.11 0.60 0.44 0.37 0.24 0.06 -0.26 0.31
0.42 -0.02 0.31 0.35 0.44 0.24 0.26 -0.03 0.15 -0.08 0.19 -0.05 0.15 0.37 0.21 0.23 -0.08 0.05 0.05 0.56 0.26 0.56 0.42 0.00 0.05 1.00

No. of negative competencies: 2

Largest eigenvalue: 36.192

2nd largest eigenvalue: 8.561

Ratio of largest to next: 4.228

The large eigenratio indicates good fit to the consensus model.

However there are some negative competence scores, which indicates lack of fit.

Competence Scores (first column is informant ID #):

1

1 0.601
2 0.428
7 0.741
9 0.618
11 0.474
13 0.759
15 0.742
17 0.750
22 0.775
23 0.751
24 0.420
26 0.659
27 0.577
28 0.345
33 0.763
34 0.348
35 0.567
39 0.695
43 0.380
45 0.397
46 0.796
47 0.454
49 0.596
51 0.481
52 0.665
53 0.383
54 0.741
55 0.796
56 0.273
57 0.702
61 0.798
62 0.610
63 0.810
64 0.686
65 0.802
66 0.422
67 0.792

68 0.672
70 0.818
72 0.466
73 0.793
75 0.564
77 0.813
78 0.687
82 0.457
83 0.661
84 0.628
85 0.743
86 0.572
89 0.701
93 0.741
95 0.690
96 0.606
97 0.726
98 0.577
99 0.721
100 0.614
101 0.616
102 0.439
103 0.093
104 0.565
105 0.661
107 0.625
108 0.507
111 0.530
112 0.277
115 0.647
119 0.688
120 0.692
122 0.666
123 0.500
124 -0.116
126 0.746
127 0.756
128 0.368
129 0.754
130 0.774
132 0.807
135 0.515
137 0.472
141 0.445
143 0.544
146 -0.010
149 0.588
150 0.509
151 0.500
158 0.453
165 0.552
167 0.310
168 0.284
169 0.255
171 0.458

179 0.547
 184 0.706
 185 0.604
 186 0.628
 187 0.421
 188 0.415
 189 0.479

ITEM 1: Wright

Response	Frequency	Wtd. Freq.
1	83	86.64
2	16	12.36

ITEM 2: Gvt_allows_KillW

Response	Frequency	Wtd. Freq.
1	1	0.54
2	98	98.46

ITEM 3: Bad_killW_illegal

Response	Frequency	Wtd. Freq.
1	43	37.77
2	56	61.23

ITEM 4: W_in_Maasailand

Response	Frequency	Wtd. Freq.
1	62	65.65
2	37	33.35

ITEM 5: Maa_protectW_past

Response	Frequency	Wtd. Freq.
1	19	20.43
2	80	78.57

ITEM 6: Maa_protect_now

Response	Frequency	Wtd. Freq.
1	43	46.48
2	56	52.52

ITEM 7: OK_to_kill_WAs_for_food

Response	Frequency	Wtd. Freq.
1	43	46.48
2	56	52.52

1	27	23.75
2	72	75.25

ITEM 8: OK_to_kill_WAs_for_practice

Response	Frequency	Wtd. Freq.
1	8	3.33
2	91	95.67

ITEM 9: OK_to_kill_WAs_when_defending_life_or_property

Response	Frequency	Wtd. Freq.
1	92	93.80
2	7	5.20

ITEM 10: OK_to_kill_WAs_after_pb

Response	Frequency	Wtd. Freq.
1	71	71.78
2	28	27.22

ITEM 11: OK_to_kill_WAs_for_fun

Response	Frequency	Wtd. Freq.
1	5	1.53
2	94	97.47

ITEM 12: OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc

Response	Frequency	Wtd. Freq.
1	11	6.57
2	88	92.43

ITEM 13: OK_to_kill_for_no_reason

Response	Frequency	Wtd. Freq.
1	3	0.16
2	96	98.84

ITEM 14: OK_to_kill_for_prestige

Response	Frequency	Wtd. Freq.
1	13	9.24
2	86	89.76

ITEM 15: WAs_good_things

Response	Frequency	Wtd. Freq.
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1	52	57.49
2	47	41.51

ITEM 16: Wspp_never_killed

Response	Frequency	Wtd. Freq.
1	51	55.10
2	48	43.90

ITEM 17: Wspp_LIKED

Response	Frequency	Wtd. Freq.
1	68	73.35
2	31	25.65

ITEM 18: W_spp_hated

Response	Frequency	Wtd. Freq.
1	88	90.62
2	11	8.38

ITEM 19: W_spp_to_be_finished

Response	Frequency	Wtd. Freq.
1	85	87.27
2	14	11.73

ITEM 20: W_spp_to_rescue

Response	Frequency	Wtd. Freq.
1	82	87.86
2	17	11.14

ITEM 21: olamayio_allowed_by_gvt

Response	Frequency	Wtd. Freq.
1	4	2.76
2	95	96.24

ITEM 22: bad_thing_olamayio_illegal

Response	Frequency	Wtd. Freq.
1	22	16.31
2	77	82.69

ITEM 23: all_WAs_fenced_inside_PAs

Response	Frequency	Wtd. Freq.
1	68	65.02
2	31	33.98

ITEM 24: only_problematic_fenced_WAs_inside_PAs

Response	Frequency	Wtd. Freq.
1	38	38.81
2	61	60.19

ITEM 25: all_WAs_to_be_killed_including_harmless

Response	Frequency	Wtd. Freq.
1	12	7.25
2	87	91.75

ITEM 26: only_problematic_WAs_to_be_killed

Response	Frequency	Wtd. Freq.
1	41	42.46
2	58	56.54

ITEM 27: Gvt_should_allow_to_kill_WAs_that_give_pbs

Response	Frequency	Wtd. Freq.
1	50	46.17
2	49	52.83

ITEM 28: Gvt_should_allow_to_kill_WAs_anyhowly

Response	Frequency	Wtd. Freq.
1	15	10.44
2	84	88.56

ITEM 29: GR_members_unite_set_up_own_W_tourism_project

Response	Frequency	Wtd. Freq.
1	58	62.29
2	41	36.71

ITEM 30: Gvt_give_monetary_compensation_for_pbs_caused_by_WAs

Response	Frequency	Wtd. Freq.
1	78	82.33
2	21	16.67

ITEM 31: Gvt_give_Maasai_authority_to_manage_W

Response	Frequency	Wtd. Freq.
1	41	40.38
2	58	58.62

ITEM 32: people_W_LS_stay_tog_like_in_past

Response	Frequency	Wtd. Freq.
1	46	46.26
2	53	52.74

Answer Key (1.00 = yes; 2.00 = no)

Wright 1.00
 Gvt_allows_KillW 2.00
 Bad_killW_illegal 2.00
 W_in_Maasailand 1.00
 Maa_protectW_past 2.00
 Maa_protect_now 2.00
 OK_to_kill_WAs_for_food 2.00
 OK_to_kill_WAs_for_practice 2.00
 OK_to_kill_WAs_when_defending_life_or_property 1.00
 OK_to_kill_WAs_after_pb 1.00
 OK_to_kill_WAs_for_fun 2.00
 OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc 2.00
 OK_to_kill_for_no_reason 2.00
 OK_to_kill_for_prestige 2.00
 WAs_good_things 1.00
 Wspp_never_killed 1.00
 Wspp_LIKED 1.00
 W_spp_hated 1.00
 W_spp_to_be_finished 1.00
 W_spp_to_rescue 1.00
 olamayio_allowed_by_gvt 2.00
 bad_thing_olamayio_illegal 2.00
 all_WAs_fenced_inside_PAs 1.00
 only_problematic_fenced_WAs_inside_PAs 2.00
 all_WAs_to_be_killed_including_harmless 2.00
 only_problematic_WAs_to_be_killed 2.00
 Gvt_should_allow_to_kill_WAs_that_give_pbs 2.00
 Gvt_should_allow_to_kill_WAs_anyhowly 2.00
 GR_members_unite_set_up_own_W_tourism_project 1.00
 Gvt_give_monetary_compensation_for_pbs_caused_by_WAs 1.00
 Gvt_give_Maasai_authority_to_manage_W 2.00
 people_W_LS_stay_tog_like_in_past 2.00

Competence scores saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\April 21 CCA\competence
Answer key saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\April 21 CCA\answerkey
2nd factor loadings saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\April 21 CCA\loadings_on_2nd_factor
Resp-by-resp agreement matrix saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\April 21 CCA\agreement

Running time: 00:00:01
Output generated: 23 Apr 08 02:25:08
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Appendix 21. Cultural consensus analysis (UCINET output) on Protestant informants and Traditional/Catholic informants.

Type of data: Profiles: A row of data for each respondent
Analytic model: Covariance model (True/False only)

Protestant informants:
Agreement among respondents

```
1 2 9 11 13 15 17 22 23 24 26 28 34 43 45 46 47 49 51 52 53 55 56 57 61 62 64 68 77 93 137 141 143 149 158 167 171 179 185 187
1 1.00 0.32 0.65 0.26 0.52 0.32 0.45 0.39 0.58 0.32 0.19 0.13 0.06 0.26 0.32 0.52 0.06 0.58 0.32 0.52 0.26 0.45 0.06 0.65 0.52 0.06 0.26 0.45 0.58 0.52 0.39 0.13 0.19 0.26 0.32 0.13
0.19 0.45 0.45 0.39
2 0.32 1.00 0.34 0.41 0.52 0.42 0.49 0.40 0.23 0.39 0.49 0.15 -0.05 0.08 0.45 0.45 0.32 0.36 -0.01 0.27 0.54 0.49 0.33 0.47 0.52 0.32 0.15 0.04 0.42 0.32 0.23 -0.12 0.43 0.21 0.34 -0.02
0.10 0.36 -0.03 0.06
9 0.65 0.34 1.00 0.29 0.61 0.34 0.69 0.48 0.56 0.31 0.44 0.16 0.02 0.32 0.21 0.52 0.34 0.44 0.37 0.48 0.29 0.56 0.02 0.71 0.74 0.21 0.16 0.40 0.60 0.52 0.26 0.10 0.40 0.19 0.24 0.10
0.31 0.18 0.31 0.39
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0.71 0.19 0.32 1.00
```

No. of negative competencies: 0
Largest eigenvalue: 14.266
2nd largest eigenvalue: 3.958
Ratio of largest to next: 3.604

The large eigenratio and the lack of negative competence scores indicates a good fit to the consensus model.

Competence Scores:

1

1 0.608
2 0.518
9 0.662
11 0.516
13 0.816
15 0.701
17 0.831
22 0.828
23 0.733
24 0.483
26 0.679
28 0.331
34 0.326
43 0.386
45 0.469
46 0.753
47 0.517
49 0.589
51 0.454
52 0.617
53 0.508
55 0.860
56 0.334
57 0.736
61 0.870
62 0.605
64 0.656
68 0.565
77 0.867
93 0.711
137 0.451
141 0.292
143 0.593

149 0.557
 158 0.429
 167 0.213
 171 0.440
 179 0.508
 185 0.500
 187 0.378

ITEM 1: Wright

Response	Frequency	Wtd. Freq.
1	36	37.54
2	4	2.46

ITEM 2: Gvt_allows_KillW

Response	Frequency	Wtd. Freq.
1	1	0.37
2	39	39.63

ITEM 3: Bad_killW_illegal

Response	Frequency	Wtd. Freq.
1	13	10.89
2	27	29.11

ITEM 4: W_in_Maasailand

Response	Frequency	Wtd. Freq.
1	25	25.39
2	15	14.61

ITEM 5: Maa_protectW_past

Response	Frequency	Wtd. Freq.
1	8	9.70
2	32	30.30

ITEM 6: Maa_protect_now

Response	Frequency	Wtd. Freq.
1	18	20.94
2	22	19.06

ITEM 7: OK_to_kill_WAs_for_food

Response	Frequency	Wtd. Freq.
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1	8	7.02
2	32	32.98

ITEM 8: OK_to_kill_WAs_for_practice

Response	Frequency	Wtd. Freq.
1	2	1.05
2	38	38.95

ITEM 9: OK_to_kill_WAs_when_defending_life_or_property

Response	Frequency	Wtd. Freq.
1	33	33.97
2	7	6.03

ITEM 10: OK_to_kill_WAs_after_pb

Response	Frequency	Wtd. Freq.
1	25	24.54
2	15	15.46

ITEM 11: OK_to_kill_WAs_for_fun

Response	Frequency	Wtd. Freq.
1	0	0.00
2	40	40.00

ITEM 12: OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc

Response	Frequency	Wtd. Freq.
1	3	2.53
2	37	37.47

ITEM 13: OK_to_kill_for_no_reason

Response	Frequency	Wtd. Freq.
1	0	0.00
2	40	40.00

ITEM 14: OK_to_kill_for_prestige

Response	Frequency	Wtd. Freq.
1	2	2.03
2	38	37.97

ITEM 15: WAs_good_things

Response	Frequency	Wtd. Freq.
1	24	26.74
2	16	13.26

ITEM 16: Wspp_never_killed

Response	Frequency	Wtd. Freq.
1	20	22.44
2	20	17.56

ITEM 17: Wspp_LIKED

Response	Frequency	Wtd. Freq.
1	31	33.48
2	9	6.52

ITEM 18: W_spp_hated

Response	Frequency	Wtd. Freq.
1	32	33.42
2	8	6.58

ITEM 19: W_spp_to_be_finished

Response	Frequency	Wtd. Freq.
1	29	30.87
2	11	9.13

ITEM 20: W_spp_to_rescue

Response	Frequency	Wtd. Freq.
1	31	33.39
2	9	6.61

ITEM 21: olamayio_allowed_by_gvt

Response	Frequency	Wtd. Freq.
1	3	2.63
2	37	37.37

ITEM 22: bad_thing_olamayio_illegal

Response	Frequency	Wtd. Freq.
1	7	5.35
2	33	34.65

ITEM 23: all_WAs_fenced_inside_PAs

Response	Frequency	Wtd. Freq.
1	30	29.80
2	10	10.20

ITEM 24: only_problematic_fenced_WAs_inside_PAs

Response	Frequency	Wtd. Freq.
1	12	11.69
2	28	28.31

ITEM 25: all_WAs_to_be_killed_including_harmless

Response	Frequency	Wtd. Freq.
1	6	4.54
2	34	35.46

ITEM 26: only_problematic_WAs_to_be_killed

Response	Frequency	Wtd. Freq.
1	9	8.71
2	31	31.29

ITEM 27: Gvt_should_allow_to_kill_WAs_that_give_pbs

Response	Frequency	Wtd. Freq.
1	18	17.15
2	22	22.85

ITEM 28: Gvt_should_allow_to_kill_WAs_anyhowly

Response	Frequency	Wtd. Freq.
1	5	3.93
2	35	36.07

ITEM 29: GR_members_unite_set_up_own_W_tourism_project

Response	Frequency	Wtd. Freq.
1	25	27.64
2	15	12.36

ITEM 30: Gvt_give_monetary_compensation_for_pbs_caused_by_WAs

Response	Frequency	Wtd. Freq.
1	30	31.74
2	10	8.26

ITEM 31: Gvt_give_Maasai_authority_to_manage_W

Response	Frequency	Wtd. Freq.
1	15	14.07
2	25	25.93

ITEM 32: people_W_LS_stay_tog_like_in_past

Response	Frequency	Wtd. Freq.
1	14	12.85
2	26	27.15

Answer Key

 Wright 1.00
 Gvt_allows_KillW 2.00
 Bad_killW_illegal 2.00
 W_in_Maasailand 1.00
 Maa_protectW_past 2.00
 Maa_protect_now 1.00
 OK_to_kill_WAs_for_food 2.00
 _to_kill_WAs_for_practice 2.00
 OK_to_kill_WAs_when_defending_life_or_property 1.00
 OK_to_kill_WAs_after_pb 1.00
 OK_to_kill_WAs_for_fun 2.00
 OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc 2.00
 OK_to_kill_for_no_reason 2.00
 OK_to_kill_for_prestige 2.00
 WAs_good_things 1.00
 Wspp_never_killed 1.00
 Wspp_LIKED 1.00
 W_spp_hated 1.00
 W_spp_to_be_finished 1.00
 W_spp_to_rescue 1.00
 olamayio_allowed_by_gvt 2.00
 bad_thing_olamayio_illegal 2.00
 all_WAs_fenced_inside_PAs 1.00
 only_problematic_fenced_WAs_inside_PAs 2.00
 all_WAs_to_be_killed_including_harmless 2.00
 only_problematic_WAs_to_be_killed 2.00
 Gvt_should_allow_to_kill_WAs_that_give_pbs 2.00
 Gvt_should_allow_to_kill_WAs_anyhowly 2.00
 GR_members_unite_set_up_own_W_tourism_project 1.00
 Gvt_give_monetary_compensation_for_pbs_caused_by_WAs 1.00
 Gvt_give_Maasai_authority_to_manage_W 2.00

people_W_LS_stay_tog_like_in_past 2.00

Competence scores saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\competence

Answer key saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\answerkey

2nd factor loadings saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\loadings_on_2nd_factor

Resp-by-resp agreement matrix saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\agreement

Running time: 00:00:01

Output generated: 27 Jun 08 12:34:07

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Traditional/Catholic informants:

Type of data: Profiles: A row of data for each respondent

Analytic model: Covariance model (True/False only)

Agreement among respondents

```

  7  27  33  35  39  54  63  65  66  67  70  72  73  75  78  82  83  94  85  86  89  95  96  97  98  99 100 101 102 103 104 105 107 108 111 112 115 119 120 122
123 124 126 127 128 129 130 132 135 146 150 151 165 168 169 184 186 188 189
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 27 0.41 1.00 0.51 0.66 0.38 0.46 0.32 0.59 0.17 0.39 0.40 0.35 0.34 0.26 0.41 0.29 0.50 0.42 0.40 0.35 0.27 0.39 0.35 0.45 0.40 0.44 0.35 0.45 0.26 0.15 0.15 0.49 0.19 0.34 0.11 0.30
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 33 0.54 0.51 1.00 0.40 0.64 0.33 0.58 0.59 0.43 0.52 0.66 0.48 0.47 0.52 0.54 0.42 0.50 0.54 0.40 0.48 0.53 0.52 0.48 0.84 0.53 0.57 0.48 0.32 0.39 0.02 0.54 0.49 0.58 0.47 0.50 0.30
0.64 0.39 0.67 0.54 0.31 -0.19 0.65 0.57 0.28 0.52 0.59 0.65 0.28 -0.03 0.25 0.40 0.54 0.23 0.39 0.58 0.44 0.26 0.47
 35 0.33 0.66 0.40 1.00 0.53 0.56 0.45 0.56 0.01 0.38 0.35 0.23 0.40 0.25 0.20 0.17 0.29 0.30 0.61 0.35 0.22 0.38 0.25 0.32 0.35 0.60 0.38 0.32 0.25 0.08 0.33 0.47 0.32 0.27 0.19 0.25
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 39 0.54 0.38 0.64 0.53 1.00 0.46 0.58 0.59 0.30 0.52 0.40 0.23 0.47 0.52 0.28 0.29 0.50 0.42 0.40 0.35 0.40 0.39 0.48 0.58 0.53 0.44 0.35 0.32 0.26 0.15 0.54 0.36 0.58 0.60 0.50 0.17
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 54 0.54 0.46 0.33 0.56 0.46 1.00 0.52 0.63 0.18 0.44 0.56 0.19 0.74 0.31 0.41 0.27 0.35 0.27 0.69 0.32 0.56 0.70 0.47 0.39 0.43 0.53 0.34 0.65 0.31 0.10 0.28 0.51 0.39 0.35 0.23 0.23
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 63 0.58 0.32 0.58 0.45 0.58 0.52 1.00 0.77 0.26 0.84 0.71 0.26 0.77 0.32 0.58 0.19 0.58 0.45 0.71 0.52 0.71 0.58 0.39 0.52 0.19 0.52 0.52 0.65 0.19 0.60 0.45 0.58 0.39 0.26 0.32 0.06
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 65 0.80 0.59 0.59 0.56 0.59 0.63 0.77 1.00 0.18 0.70 0.69 0.19 0.74 0.19 0.67 0.14 0.35 0.52 0.69 0.58 0.56 0.57 0.47 0.52 0.30 0.52 0.47 0.39 0.06 -0.03 0.41 0.51 0.39 0.35 0.23 0.23
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 66 0.19 0.17 0.43 0.01 0.30 0.18 0.26 0.18 1.00 0.22 0.40 0.19 0.23 0.48 0.31 0.23 0.38 0.23 0.27 0.32 0.27 0.22 0.27 0.39 0.27 -0.34 0.27 0.26 0.46 0.10 0.31 0.15 0.39 0.22 0.46 -0.06
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 72 0.29 0.35 0.46 0.23 0.23 0.19 0.26 0.19 0.19 0.42 0.35 1.00 0.26 0.29 0.29 0.61 0.42 0.48 0.35 0.26 0.23 0.42 0.32 0.52 0.35 0.32 0.45 0.26 0.55 0.13 0.29 0.29 0.39 0.13 0.35 0.35
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 75 0.24 0.26 0.52 0.25 0.52 0.31 0.32 0.19 0.48 0.38 0.50 0.29 0.31 1.00 0.24 0.36 0.66 0.36 0.38 0.29 0.38 0.25 0.43 0.45 0.38 0.59 0.30 0.32 0.38 0.11 0.50 0.29 0.71 0.31 0.54 0.08
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 78 0.67 0.41 0.54 0.20 0.28 0.41 0.58 0.67 0.31 0.63 0.71 0.29 0.63 0.24 1.00 0.25 0.32 0.50 0.46 0.55 0.71 0.50 0.46 0.45 0.33 0.49 0.46 0.32 0.24 -0.08 0.29 0.46 0.32 0.24 0.23 0.04
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 82 0.25 0.29 0.42 0.17 0.29 0.27 0.19 0.14 0.23 0.36 0.43 0.61 0.34 0.36 0.25 1.00 0.34 0.45 0.30 0.23 0.30 0.36 0.28 0.45 0.56 0.25 0.41 0.32 0.62 0.15 0.25 0.20 0.19 0.34 0.40 0.33
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```

No. of negative competencies:	2
Largest eigenvalue:	22.425
2nd largest eigenvalue:	4.651
Ratio of largest to next:	4.821

Competence Scores:

1

7	0.725
27	0.575
33	0.783
35	0.562
39	0.697
54	0.735
63	0.749
65	0.761
66	0.418
67	0.756
70	0.795
72	0.498
73	0.751
75	0.605
78	0.637
82	0.507
83	0.663
84	0.627
85	0.713
86	0.542
89	0.666
95	0.700
96	0.594
97	0.750
98	0.619
99	0.738
100	0.609
101	0.587
102	0.473
103	0.116
104	0.570
105	0.653
107	0.660
108	0.531
111	0.576
112	0.328
115	0.646
119	0.674
120	0.700
122	0.655
123	0.533
124	-0.106
126	0.760

127 0.775
 128 0.398
 129 0.747
 130 0.780
 132 0.819
 135 0.536
 146 -0.009
 150 0.545
 151 0.489
 165 0.555
 168 0.311
 169 0.288
 184 0.739
 186 0.674
 188 0.451
 189 0.454

ITEM 1: Wright

Response	Frequency	Wtd. Freq.

1	47	48.98
2	12	10.02

ITEM 2: Gvt_allows_KillW

Response	Frequency	Wtd. Freq.

1	0	0.00
2	59	59.00

ITEM 3: Bad_killW_illegal

Response	Frequency	Wtd. Freq.

1	30	26.47
2	29	32.53

ITEM 4: W_in_Maasailand

Response	Frequency	Wtd. Freq.

1	37	39.74
2	22	19.26

ITEM 5: Maa_protectW_past

Response	Frequency	Wtd. Freq.

1	11	11.24
2	48	47.76

ITEM 6: Maa_protect_now

Response	Frequency	Wtd. Freq.
1	25	26.14
2	34	32.86

ITEM 7: OK_to_kill_WAs_for_food

Response	Frequency	Wtd. Freq.
1	19	16.76
2	40	42.24

ITEM 8: OK_to_kill_WAs_for_practice

Response	Frequency	Wtd. Freq.
1	6	2.23
2	53	56.77

ITEM 9: OK_to_kill_WAs_when_defending_life_or_property

Response	Frequency	Wtd. Freq.
1	59	59.00
2	0	0.00

ITEM 10: OK_to_kill_WAs_after_pb

Response	Frequency	Wtd. Freq.
1	46	46.10
2	13	12.90

ITEM 11: OK_to_kill_WAs_for_fun

Response	Frequency	Wtd. Freq.
1	5	1.65
2	54	57.35

ITEM 12: OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc

Response	Frequency	Wtd. Freq.
1	8	4.00
2	51	55.00

ITEM 13: OK_to_kill_for_no_reason

Response	Frequency	Wtd. Freq.
1	3	0.20

2 56 58.80

ITEM 14: OK_to_kill_for_prestige

Response	Frequency	Wtd. Freq.
1	11	7.24
2	48	51.76

ITEM 15: WAs_good_things

Response	Frequency	Wtd. Freq.
1	28	31.19
2	31	27.81

ITEM 16: Wspp_never_killed

Response	Frequency	Wtd. Freq.
1	31	33.01
2	28	25.99

ITEM 17: Wspp_LIKED

Response	Frequency	Wtd. Freq.
1	37	39.86
2	22	19.14

ITEM 18: W_spp_hated

Response	Frequency	Wtd. Freq.
1	56	56.60
2	3	2.40

ITEM 19: W_spp_to_be_finished

Response	Frequency	Wtd. Freq.
1	56	56.02
2	3	2.98

ITEM 20: W_spp_to_rescue

Response	Frequency	Wtd. Freq.
1	51	54.49
2	8	4.51

ITEM 21: olamayio_allowed_by_gvt

Response	Frequency	Wtd. Freq.
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1	1	0.00
2	58	59.00

ITEM 22: bad_thing_olamayio_illegal

Response	Frequency	Wtd. Freq.
1	15	11.10
2	44	47.90

ITEM 23: all_WAs_fenced_inside_PAs

Response	Frequency	Wtd. Freq.
1	38	35.97
2	21	23.03

ITEM 24: only_problematic_fenced_WAs_inside_PAs

Response	Frequency	Wtd. Freq.
1	26	26.63
2	33	32.37

ITEM 25: all_WAs_to_be_killed_including_harmless

Response	Frequency	Wtd. Freq.
1	6	2.62
2	53	56.38

ITEM 26: only_problematic_WAs_to_be_killed

Response	Frequency	Wtd. Freq.
1	32	33.32
2	27	25.68

ITEM 27: Gvt_should_allow_to_kill_WAs_that_give_pbs

Response	Frequency	Wtd. Freq.
1	32	28.54
2	27	30.46

ITEM 28: Gvt_should_allow_to_kill_WAs_anyhowly

Response	Frequency	Wtd. Freq.
1	10	6.40
2	49	52.60

ITEM 29: GR_members_unite_set_up_own_W_tourism_project

Response	Frequency	Wtd. Freq.
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1	33	35.25
2	26	23.75

ITEM 30: Gvt_give_monetary_compensation_for_pbs_caused_by_WAs

Response	Frequency	Wtd. Freq.
1	48	50.10
2	11	8.90

ITEM 31: Gvt_give_Maasai_authority_to_manage_W

Response	Frequency	Wtd. Freq.
1	26	25.60
2	33	33.40

ITEM 32: people_W_LS_stay_tog_like_in_past

Response	Frequency	Wtd. Freq.
1	32	32.42
2	27	26.58

Answer Key (1.00 = yes; 2.00 = no)

trad

Wright 1.00
 Gvt_allows_KillW 2.00
 Bad_killW_illegal 2.00
 W_in_Maasailand 1.00
 Maa_protectW_past 2.00
 Maa_protect_now 2.00
 OK_to_kill_WAs_for_food 2.00
 OK_to_kill_WAs_for_practice 2.00
 OK_to_kill_WAs_when_defending_life_or_property 1.00
 OK_to_kill_WAs_after_pb 1.00
 OK_to_kill_WAs_for_fun 2.00
 OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc 2.00
 OK_to_kill_for_no_reason 2.00
 OK_to_kill_for_prestige 2.00
 WAs_good_things 1.00
 Wspp_never_killed 1.00
 Wspp_LIKED 1.00
 W_spp_hated 1.00
 W_spp_to_be_finished 1.00
 W_spp_to_rescue 1.00
 olamayio_allowed_by_gvt 2.00
 bad_thing_olamayio_illegal 2.00

all_WAs_fenced_inside_PAs 1.00
only_problematic_fenced_WAs_inside_PAs 2.00
all_WAs_to_be_killed_including_harmless 2.00
only_problematic_WAs_to_be_killed 1.00
Gvt_should_allow_to_kill_WAs_that_give_pbs 2.00
Gvt_should_allow_to_kill_WAs_anyhowly 2.00
GR_members_unite_set_up_own_W_tourism_project 1.00
Gvt_give_monetary_compensation_for_pbs_caused_by_WAs 1.00
Gvt_give_Maasai_authority_to_manage_W 2.00
people_W_LS_stay_tog_like_in_past 1.00

Competence scores saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\competence

Answer key saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\answerkey

2nd factor loadings saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\loadings_on_2nd_factor

Resp-by-resp agreement matrix saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\agreement

Running time: 00:00:01

Output generated: 27 Jun 08 12:30:06

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46 0.52 0.45 0.58 0.52 0.39 0.65 0.71 0.58 0.65 0.58 0.32 0.58 0.45 0.26 0.58 0.19 0.45 0.45 0.13 0.32 1.00 0.32 0.45 0.19 0.65 0.39 0.77 0.58 0.19 0.77
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112 -0.06 -0.05 0.29 0.15 -0.07 0.10 0.30 0.08 0.10 0.08 -0.01 0.21 0.30 0.31 0.30 0.16 0.25 0.17 0.15 -0.18 0.32 0.08 -0.04 0.17 0.23 -0.20 0.23 0.08 -0.10 0.15 0.10 0.33 0.06 0.19 0.23 -0.06 0.08 0.25 0.13 0.35 0.15 0.08 0.04 0.04 0.33 0.13 0.33 0.13 0.10 -0.00 0.19 0.21 0.19 0.32 0.38 0.15 0.19 0.19 0.21 0.08 0.17 0.18 0.19 0.40 0.22 1.00 0.17 0.08 0.29 0.29 0.24 0.19 0.21 0.28 0.42 0.21

115 0.45 0.16 0.41 0.47 0.35 0.46 0.51 0.65 0.59 0.52 0.29 0.52 0.25 0.09 0.64 0.17 0.40 0.51 -0.05 0.42 0.58 0.42 0.39 0.15 0.33 0.48 0.46 0.52 0.17 0.47 0.59 0.29 0.71 0.48 0.59 0.17 0.65 0.40 0.66 0.10 0.60 0.39 0.51 0.41 0.16 0.38 0.16 0.40 0.23 0.66 0.58 0.52 0.22 0.58 0.40 0.44 0.48 0.45 0.00 0.02 0.41 0.49 0.45 0.34 0.37 0.17 1.00 0.65 0.54 0.28 0.31 -0.45 0.26 0.57 0.02 0.65

119 0.58 0.23 0.37 0.56 0.43 0.44 0.39 0.64 0.57 0.64 0.22 0.38 0.26 0.17 0.39 0.21 0.38 0.39 0.31 0.23 0.45 0.23 0.38 0.50 0.44 0.30 0.57 0.77 0.08 0.44 0.57 0.23 0.71 0.43 0.44 0.22 0.64 0.63 0.63 0.29 0.69 0.51 0.65 0.50 0.36 0.53 0.36 0.50 0.42 0.76 0.71 0.51 0.17 0.32 0.38 0.59 0.30 0.71 0.38 -0.02 0.11 0.54 0.45 0.31 0.41 0.08 0.65 1.00 0.50 0.37 0.60 -0.19 0.51 0.59 -0.02 0.51

120 0.32 0.25 0.67 0.37 0.07 0.41 0.54 0.50 0.54 0.63 0.21 0.63 0.54 0.07 0.67 0.17 0.33 0.41 0.11 0.38 0.58 0.38 0.50 0.16 0.54 0.20 0.54 0.50 0.29 0.50 0.54 0.50 0.45 0.59 0.67 0.19 0.50 0.46 0.71 0.29 0.63 0.37 0.41 0.67 0.38 0.32 0.50 0.33 0.55 0.58 0.58 0.50 0.46 0.45 0.58 0.49 0.33 0.32 0.24 -0.08 0.29 0.40 0.32 0.50 0.23 0.29 0.54 0.50 1.00 0.67 0.27 -0.19 0.50 0.49 0.29 0.50

122 0.32 0.38 0.54 0.37 0.07 0.41 0.41 0.50 0.54 0.50 0.21 0.50 0.41 0.20 0.54 0.17 0.20 0.28 0.11 0.25 0.71 0.38 0.37 0.16 0.54 0.20 0.54 0.50 0.29 0.63 0.54 0.63 0.45 0.46 0.54 0.31 0.37 0.46 0.58 0.29 0.63 0.37 0.54 0.54 0.38 0.45 0.63 0.46 0.55 0.46 0.32 0.37 0.59 0.32 0.46 0.36 0.20 0.45 0.37 -0.08 0.42 0.40 0.19 0.50 0.23 0.29 0.28 0.37 0.67 1.00 0.27 -0.06 0.63 0.49 0.42 0.50

123 0.26 0.18 0.27 0.19 0.23 0.29 0.31 0.34 0.29 0.21 0.08 0.21 0.31 0.23 0.31 0.24 0.37 0.31 0.19 0.05 0.39 0.05 0.34 0.40 0.42 0.10 0.42 0.47 0.11 0.19 0.29 0.18 0.39 0.23 0.29 0.16 0.34 0.37 0.24 0.39 0.32 0.21 0.44 0.27 0.44 0.40 0.31 0.37 0.26 0.37 0.52 0.60 0.10 0.26 0.37 0.61 0.23 0.39 0.60 0.06 0.15 0.60 0.39 0.32 0.50 0.24 0.31 0.60 0.27 0.27 1.00 -0.13 0.47 0.48 0.40 0.34

124 -0.26 -0.19 -0.06 -0.13 -0.13 0.00 -0.19 -0.32 -0.13 -0.06 -0.06 -0.19 0.06 0.52 -0.19 0.19 0.19 -0.06 0.52 -0.32 -0.26 -0.06 -0.45 0.19 0.00 -0.39 -0.13 -0.06 -0.19 -0.26 -0.26 0.19 -0.26 0.13 -0.26 0.00 -0.19 0.06 -0.19 0.26 -0.13 -0.06 -0.19 -0.19 -0.06 0.19 -0.06 0.00 -0.32 -0.13 -0.32 0.00 -0.13 0.19 -0.13 0.00 0.00 0.19 0.26 -0.06 -0.19 -0.13 0.13 -0.06 0.19 -0.45 -0.19 -0.19 -0.06 -0.13 1.00 0.06 -0.26 0.19 -0.32

126 0.45 0.23 0.50 0.31 0.17 0.31 0.52 0.38 0.44 0.51 0.09 0.25 0.39 0.30 0.65 0.34 0.25 0.52 0.31 0.23 0.45 0.23 0.51 0.50 0.44 0.04 0.44 0.51 0.21 0.31 0.44 0.62 0.45 0.69 0.31 0.48 0.51 0.76 0.50 0.55 0.44 0.64 0.52 0.50 0.49 0.79 0.62 0.38 0.42 0.50 0.58 0.51 0.56 0.58 0.63 0.59 0.43 0.45 0.64 0.11 0.50 0.54 0.58 0.56 0.54 0.21 0.26 0.51 0.50 0.63 0.47 0.06 1.00 0.59 0.50 0.38

127 0.77 0.38 0.36 0.68 0.31 0.53 0.57 0.46 0.40 0.59 0.27 0.33 0.57 0.18 0.57 0.02 0.48 0.44 0.16 0.25 0.77 0.12 0.59 0.23 0.66 0.18 0.79 0.46 0.02 0.68 0.53 0.25 0.52 0.31 0.53 0.34 0.46 0.60 0.60 0.32 0.55 0.46 0.57 0.36 0.38 0.56 0.25 0.60 0.19 0.60 0.65 0.72 0.31 0.65 0.48 0.63 0.44 0.65 0.46 0.16 0.23 0.65 0.52 0.42 0.41 0.28 0.57 0.59 0.49 0.49 0.48 -0.26 0.59 1.00 0.23 0.85

128 -0.06 -0.01 0.42 0.11 -0.19 0.15 0.28 0.11 0.15 0.11 -0.05 0.24 0.28 0.33 0.28 0.29 0.20 0.41 0.11 -0.01 0.32 0.25 0.24 0.29 0.28 -0.06 0.28 0.24 0.17 0.11 0.15 0.50 0.06 0.33 0.28 0.19 0.11 0.20 0.07 0.29 0.11 0.11 0.28 0.16 0.25 0.32 0.38 0.07 0.16 -0.06 0.19 0.24 0.33 0.19 0.58 0.23 0.20 0.06 0.37 0.05 0.42 0.27 0.32 0.63 0.36 0.42 0.02 -0.02 0.29 0.42 0.40 0.19 0.50 0.23 1.00 0.11

129 0.71 0.36 0.50 0.69 0.43 0.70 0.52 0.64 0.57 0.51 0.35 0.51 0.39 0.17 0.52 0.08 0.50 0.52 0.18 0.23 0.84 0.23 0.51 0.24 0.70 0.30 0.83 0.51 0.08 0.82 0.70 0.23 0.71 0.30 0.70 0.22 0.51 0.38 0.63 0.16 0.69 0.38 0.65 0.37 0.23 0.40 0.23 0.76 0.29 0.63 0.58 0.77 0.43 0.58 0.25 0.59 0.43 0.58 0.25 0.11 0.37 0.54 0.45 0.31 0.28 0.21 0.65 0.51 0.50 0.50 0.34 -0.32 0.38 0.85 0.11 1.00

No. of negative competencies: 1

Largest eigenvalue: 30.209

2nd largest eigenvalue: 5.825

Ratio of largest to next: 5.186

The large eigenratio indicates good fit to the consensus model.

However there are some negative competence scores, which indicates lack of fit.

Competence Scores:

1	

1	0.614
2	0.460
7	0.738
9	0.644
11	0.498
13	0.781
15	0.738
17	0.802
22	0.805
23	0.754
24	0.443
26	0.671
27	0.578
28	0.324
33	0.742
34	0.334
35	0.568
39	0.664
43	0.361
45	0.439
46	0.795
47	0.468
49	0.606
51	0.464
52	0.648
53	0.441
54	0.738
55	0.821
56	0.298
57	0.728
61	0.841
62	0.597
63	0.853
64	0.677
65	0.834
66	0.393
67	0.814
68	0.637

70 0.831
 72 0.436
 73 0.817
 75 0.518
 77 0.832
 78 0.710
 82 0.420
 83 0.649
 84 0.608
 85 0.759
 86 0.582
 89 0.731
 93 0.750
 95 0.706
 96 0.578
 97 0.695
 98 0.530
 99 0.710
 100 0.615
 101 0.630
 102 0.410
 103 0.070
 104 0.535
 105 0.668
 107 0.581
 108 0.472
 111 0.478
 112 0.250
 115 0.670
 119 0.711
 120 0.696
 122 0.656
 123 0.493
 124 -0.151
 126 0.707
 127 0.749
 128 0.323
 129 0.769

ITEM 1: Wright

Response	Frequency	Wtd. Freq.
1	64	67.26
2	12	8.74

ITEM 2: Gvt_allows_KillW

Response	Frequency	Wtd. Freq.
1	0	0.00
2	76	76.00

ITEM 3: Bad_killW_illegal

Response	Frequency	Wtd. Freq.
1	28	23.99
2	48	52.01

ITEM 4: W_in_Maasailand

Response	Frequency	Wtd. Freq.
1	48	50.83
2	28	25.17

ITEM 5: Maa_protectW_past

Response	Frequency	Wtd. Freq.
1	17	18.17
2	59	57.83

ITEM 6: Maa_protect_now

Response	Frequency	Wtd. Freq.
1	37	40.86
2	39	35.14

ITEM 7: OK_to_kill_WAs_for_food

Response	Frequency	Wtd. Freq.
1	13	11.68
2	63	64.32

ITEM 8: OK_to_kill_WAs_for_practice

Response	Frequency	Wtd. Freq.
1	5	2.04
2	71	73.96

ITEM 9: OK_to_kill_WAs_when_defending_life_or_property

Response	Frequency	Wtd. Freq.
1	69	70.69
2	7	5.31

ITEM 10: OK_to_kill_WAs_after_pb

Response	Frequency	Wtd. Freq.
1	51	52.08
2	25	23.92

ITEM 11: OK_to_kill_WAs_for_fun

Response	Frequency	Wtd. Freq.
1	2	0.12
2	74	75.88

ITEM 12: OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc

Response	Frequency	Wtd. Freq.
1	5	2.67
2	71	73.33

ITEM 13: OK_to_kill_for_no_reason

Response	Frequency	Wtd. Freq.
1	2	0.12
2	74	75.88

ITEM 14: OK_to_kill_for_prestige

Response	Frequency	Wtd. Freq.
1	8	5.94
2	68	70.06

ITEM 15: WAs_good_things

Response	Frequency	Wtd. Freq.
1	46	50.68
2	30	25.32

ITEM 16: Wspp_never_killed

Response	Frequency	Wtd. Freq.
1	40	43.24
2	36	32.76

ITEM 17: Wspp_LIKED

Response	Frequency	Wtd. Freq.
1	54	58.50

2 22 17.50

ITEM 18: W_spp_hated

Response	Frequency	Wtd. Freq.
1	68	70.12
2	8	5.88

ITEM 19: W_spp_to_be_finished

Response	Frequency	Wtd. Freq.
1	66	67.61
2	10	8.39

ITEM 20: W_spp_to_rescue

Response	Frequency	Wtd. Freq.
1	65	69.08
2	11	6.92

ITEM 21: olamayio_allowed_by_gvt

Response	Frequency	Wtd. Freq.
1	1	1.22
2	75	74.78

ITEM 22: bad_thing_olamayio_illegal

Response	Frequency	Wtd. Freq.
1	13	8.86
2	63	67.14

ITEM 23: all_WAs_fenced_inside_PAs

Response	Frequency	Wtd. Freq.
1	53	51.18
2	23	24.82

ITEM 24: only_problematic_fenced_WAs_inside_PAs

Response	Frequency	Wtd. Freq.
1	26	25.99
2	50	50.01

ITEM 25: all_WAs_to_be_killed_including_harmless

Response	Frequency	Wtd. Freq.
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1	7	4.14
2	69	71.86

ITEM 26: only_problematic_WAs_to_be_killed

Response	Frequency	Wtd. Freq.
1	29	29.65
2	47	46.35

ITEM 27: Gvt_should_allow_to_kill_WAs_that_give_pbs

Response	Frequency	Wtd. Freq.
1	33	31.04
2	43	44.96

ITEM 28: Gvt_should_allow_to_kill_WAs_anyhowly

Response	Frequency	Wtd. Freq.
1	9	6.78
2	67	69.22

ITEM 29: GR_members_unite_set_up_own_W_tourism_project

Response	Frequency	Wtd. Freq.
1	47	51.14
2	29	24.86

ITEM 30: Gvt_give_monetary_compensation_for_pbs_caused_by_WAs

Response	Frequency	Wtd. Freq.
1	58	62.80
2	18	13.20

ITEM 31: Gvt_give_Maasai_authority_to_manage_W

Response	Frequency	Wtd. Freq.
1	31	32.13
2	45	43.87

ITEM 32: people_W_LS_stay_tog_like_in_past

Response	Frequency	Wtd. Freq.
1	35	35.60
2	41	40.40

Answer Key

CCA

Wright 1.00
 Gvt_allows_KillW 2.00
 Bad_killW_illegal 2.00
 W_in_Maasailand 1.00
 Maa_protectW_past 2.00
 Maa_protect_now 1.00
 OK_to_kill_WAs_for_food 2.00
 OK_to_kill_WAs_for_practice 2.00
 OK_to_kill_WAs_when_defending_life_or_property 1.00
 OK_to_kill_WAs_after_pb 1.00
 OK_to_kill_WAs_for_fun 2.00
 OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc 2.00
 OK_to_kill_for_no_reason 2.00
 OK_to_kill_for_prestige 2.00
 WAs_good_things 1.00
 Wspp_never_killed 1.00
 Wspp_LIKED 1.00
 W_spp_hated 1.00
 W_spp_to_be_finished 1.00
 W_spp_to_rescue 1.00
 olamayio_allowed_by_gvt 2.00
 bad_thing_olamayio_illegal 2.00
 all_WAs_fenced_inside_PAs 1.00
 only_problematic_fenced_WAs_inside_PAs 2.00
 all_WAs_to_be_killed_including_harmless 2.00
 only_problematic_WAs_to_be_killed 2.00
 Gvt_should_allow_to_kill_WAs_that_give_pbs 2.00
 Gvt_should_allow_to_kill_WAs_anyhowly 2.00
 GR_members_unite_set_up_own_W_tourism_project 1.00
 Gvt_give_monetary_compensation_for_pbs_caused_by_WAs 1.00
 Gvt_give_Maasai_authority_to_manage_W 2.00
 people_W_LS_stay_tog_like_in_past 2.00

Competence scores saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\competence

Answer key saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land & Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land tenure\answerkey

2nd factor loadings saved as: C:\Documents and Settings\jorp\My Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land &

Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land
tenure\loadings_on_2nd_factor
Resp-by-resp agreement matrix saved as: C:\Documents and Settings\jorp\My
Documents\LENOVO laptop\DISSERTATION\CHAPTERS\Ch. 3 Land &
Conservation\CULTURAL CONSENSUS\april 16 CCA yes no only Land
tenure\agreement

Running time: 00:00:01
Output generated: 27 Jun 08 12:38:16
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Private ranch residents (Osilalei):

Type of data: Profiles: A row of data for each respondent
Analytic model: Covariance model (True/False only)

Agreement among respondents

	130	132	135	137	141	143	146	149	150	151	158	165	167	168	169	171	179	184	185	186	187	188	189
130	1.00	0.70	0.41	0.32	0.24	0.30	-0.01	0.35	0.46	0.43	0.48	0.27	0.18	0.25	0.06	0.31	0.19	0.65	0.44	0.66	0.26	0.44	0.35
132	0.70	1.00	0.50	0.42	0.31	0.38	-0.23	0.44	0.39	0.38	0.27	0.36	0.35	0.16	-0.00	0.13	0.38	0.58	0.51	0.59	0.19	0.13	0.44
135	0.41	0.50	1.00	0.42	0.41	0.33	-0.25	0.37	0.54	0.33	0.06	0.12	0.44	0.27	-0.02	0.37	0.24	0.45	0.50	0.36	0.06	0.11	0.24
137	0.32	0.42	0.42	1.00	0.06	0.48	-0.10	0.65	0.23	0.23	0.03	0.35	0.32	0.29	0.03	0.16	0.42	0.39	0.42	0.32	0.00	0.16	0.26
141	0.24	0.31	0.41	0.06	1.00	0.04	0.12	0.23	0.59	0.30	0.22	0.27	0.44	0.25	0.57	0.57	0.44	0.52	0.44	0.40	0.52	0.31	-0.03
143	0.30	0.38	0.33	0.48	0.04	1.00	-0.04	0.53	0.27	0.22	-0.09	0.56	0.27	0.21	0.12	0.25	0.25	0.32	0.12	0.09	0.19	0.25	0.15
146	-0.01	-0.23	-0.25	-0.10	0.12	-0.04	1.00	0.05	0.10	0.08	0.04	0.07	-0.10	0.06	0.29	0.29	0.03	0.06	0.03	0.01	0.32	0.29	-0.08
149	0.35	0.44	0.37	0.65	0.23	0.53	0.05	1.00	0.34	0.53	-0.02	0.60	0.35	0.44	0.18	0.31	0.44	0.52	0.44	0.29	0.13	0.44	0.19
150	0.46	0.39	0.54	0.23	0.59	0.27	0.10	0.34	1.00	0.27	0.25	0.29	0.17	0.49	0.13	0.39	0.26	0.71	0.26	0.44	0.32	0.52	-0.05
151	0.43	0.38	0.33	0.23	0.30	0.22	0.08	0.53	0.27	1.00	0.17	0.30	0.14	0.34	0.38	0.50	0.12	0.45	0.25	0.22	0.45	0.38	0.15
158	0.48	0.27	0.06	0.03	0.22	-0.09	0.04	-0.02	0.25	0.17	1.00	-0.04	-0.14	0.17	0.14	0.27	0.40	0.32	0.27	0.43	0.32	0.27	0.37
165	0.27	0.36	0.12	0.35	0.27	0.56	0.07	0.60	0.29	0.30	-0.04	1.00	0.23	0.20	0.36	0.23	0.36	0.45	0.23	0.25	0.19	0.49	0.21
167	0.18	0.35	0.44	0.32	0.44	0.27	-0.10	0.35	0.17	0.14	-0.14	0.23	1.00	0.15	0.09	0.22	0.48	0.26	0.48	0.21	0.00	0.09	0.23
168	0.25	0.16	0.27	0.29	0.25	0.21	0.06	0.44	0.49	0.34	0.17	0.20	0.15	1.00	0.29	0.29	0.16	0.45	0.29	0.14	0.32	0.42	-0.08
169	0.06	-0.00	-0.02	0.03	0.57	0.12	0.29	0.18	0.13	0.38	0.14	0.36	0.09	0.29	1.00	0.64	0.25	0.32	0.38	0.20	0.84	0.25	0.05
171	0.31	0.13	0.37	0.16	0.57	0.25	0.29	0.31	0.39	0.50	0.27	0.23	0.22	0.29	0.64	1.00	0.38	0.32	0.38	0.07	0.71	0.13	0.05
179	0.19	0.38	0.24	0.42	0.44	0.25	0.03	0.44	0.26	0.12	0.40	0.36	0.48	0.16	0.25	0.38	1.00	0.45	0.64	0.33	0.19	0.13	0.56
184	0.65	0.58	0.45	0.39	0.52	0.32	0.06	0.52	0.71	0.45	0.32	0.45	0.26	0.45	0.32	0.32	0.45	1.00	0.58	0.77	0.39	0.58	0.26
185	0.44	0.51	0.50	0.42	0.44	0.12	0.03	0.44	0.26	0.25	0.27	0.23	0.48	0.29	0.38	0.38	0.64	0.58	1.00	0.59	0.32	0.13	0.56
186	0.66	0.59	0.36	0.32	0.40	0.09	0.01	0.29	0.44	0.22	0.43	0.25	0.21	0.14	0.20	0.07	0.33	0.77	0.59	1.00	0.26	0.46	0.42
187	0.26	0.19	0.06	0.00	0.52	0.19	0.32	0.13	0.32	0.45	0.32	0.19	0.00	0.32	0.84	0.71	0.19	0.39	0.32	0.26	1.00	0.19	0.00
188	0.44	0.13	0.11	0.16	0.31	0.25	0.29	0.44	0.52	0.38	0.27	0.49	0.09	0.42	0.25	0.13	0.13	0.58	0.13	0.46	0.19	1.00	0.05
189	0.35	0.44	0.24	0.26	-0.03	0.15	-0.08	0.19	-0.05	0.15	0.37	0.21	0.23	-0.08	0.05	0.05	0.56	0.26	0.56	0.42	0.00	0.05	1.00

No. of negative competencies: 0
Largest eigenvalue: 7.142
2nd largest eigenvalue: 2.321
Ratio of largest to next: 3.078

The large eigenratio and the lack of negative competence scores
indicates a good fit to the consensus model.

Competence Scores:

1

130 0.673
132 0.659

135 0.564
 137 0.510
 141 0.609
 143 0.438
 146 0.076
 149 0.658
 150 0.639
 151 0.550
 158 0.358
 165 0.528
 167 0.426
 168 0.468
 169 0.435
 171 0.550
 179 0.586
 184 0.865
 185 0.703
 186 0.663
 187 0.488
 188 0.511
 189 0.373

ITEM 1: Wright

Response	Frequency	Wtd. Freq.
1	19	19.11
2	4	3.89

ITEM 2: Gvt_allows_KillW

Response	Frequency	Wtd. Freq.
1	1	0.79
2	22	22.21

ITEM 3: Bad_killW_illegal

Response	Frequency	Wtd. Freq.
1	15	15.02
2	8	7.98

ITEM 4: W_in_Maasailand

Response	Frequency	Wtd. Freq.
1	14	14.44
2	9	8.56

ITEM 5: Maa_protectW_past

Response	Frequency	Wtd. Freq.
1	2	1.90
2	21	21.10

ITEM 6: Maa_protect_now

Response	Frequency	Wtd. Freq.
1	6	4.95
2	17	18.05

ITEM 7: OK_to_kill_WAs_for_food

Response	Frequency	Wtd. Freq.
1	14	13.50
2	9	9.50

ITEM 8: OK_to_kill_WAs_for_practice

Response	Frequency	Wtd. Freq.
1	3	1.81
2	20	21.19

ITEM 9: OK_to_kill_WAs_when_defending_life_or_property

Response	Frequency	Wtd. Freq.
1	23	23.00
2	0	0.00

ITEM 10: OK_to_kill_WAs_after_pb

Response	Frequency	Wtd. Freq.
1	20	20.18
2	3	2.82

ITEM 11: OK_to_kill_WAs_for_fun

Response	Frequency	Wtd. Freq.
1	3	2.21
2	20	20.79

ITEM 12: OK_to_kill_in_order_to_make_money_by_selling_meat_skin_etc

Response	Frequency	Wtd. Freq.
1	6	5.02

2 17 17.98

ITEM 13: OK_to_kill_for_no_reason

Response	Frequency	Wtd. Freq.
1	1	0.14
2	22	22.86

ITEM 14: OK_to_kill_for_prestige

Response	Frequency	Wtd. Freq.
1	5	3.83
2	18	19.17

ITEM 15: WAS_good_things

Response	Frequency	Wtd. Freq.
1	6	5.61
2	17	17.39

ITEM 16: Wspp_never_killed

Response	Frequency	Wtd. Freq.
1	11	11.63
2	12	11.37

ITEM 17: Wspp_LIKED

Response	Frequency	Wtd. Freq.
1	14	14.02
2	9	8.98

ITEM 18: W_spp_hated

Response	Frequency	Wtd. Freq.
1	20	20.54
2	3	2.46

ITEM 19: W_spp_to_be_finished

Response	Frequency	Wtd. Freq.
1	19	19.59
2	4	3.41

ITEM 20: W_spp_to_rescue

Response	Frequency	Wtd. Freq.
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1	17	17.95
2	6	5.05

ITEM 21: olamayio_allowed_by_gvt

Response	Frequency	Wtd. Freq.
1	3	1.75
2	20	21.25

ITEM 22: bad_thing_olamayio_illegal

Response	Frequency	Wtd. Freq.
1	9	8.61
2	14	14.39

ITEM 23: all_WAs_fenced_inside_PAs

Response	Frequency	Wtd. Freq.
1	15	14.48
2	8	8.52

ITEM 24: only_problematic_fenced_WAs_inside_PAs

Response	Frequency	Wtd. Freq.
1	12	13.71
2	11	9.29

ITEM 25: all_WAs_to_be_killed_including_harmless

Response	Frequency	Wtd. Freq.
1	5	3.92
2	18	19.08

ITEM 26: only_problematic_WAs_to_be_killed

Response	Frequency	Wtd. Freq.
1	12	13.03
2	11	9.97

ITEM 27: Gvt_should_allow_to_kill_WAs_that_give_pbs

Response	Frequency	Wtd. Freq.
1	17	16.53
2	6	6.47

ITEM 28: Gvt_should_allow_to_kill_WAs_anyhowly

Response	Frequency	Wtd. Freq.
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1	6	4.43
2	17	18.57

ITEM 29: GR_members_unite_set_up_own_W_tourism_project

Response	Frequency	Wtd. Freq.
1	11	10.89
2	12	12.11

ITEM 30: Gvt_give_monetary_compensation_for_pbs_caused_by_WAs

Response	Frequency	Wtd. Freq.
1	20	19.94
2	3	3.06

ITEM 31: Gvt_give_Maasai_authority_to_manage_W

Response	Frequency	Wtd. Freq.
1	10	8.76
2	13	14.24

ITEM 32: people_W_LS_stay_tog_like_in_past

Response	Frequency	Wtd. Freq.
1	11	10.03
2	12	12.97

Answer Key

CCA

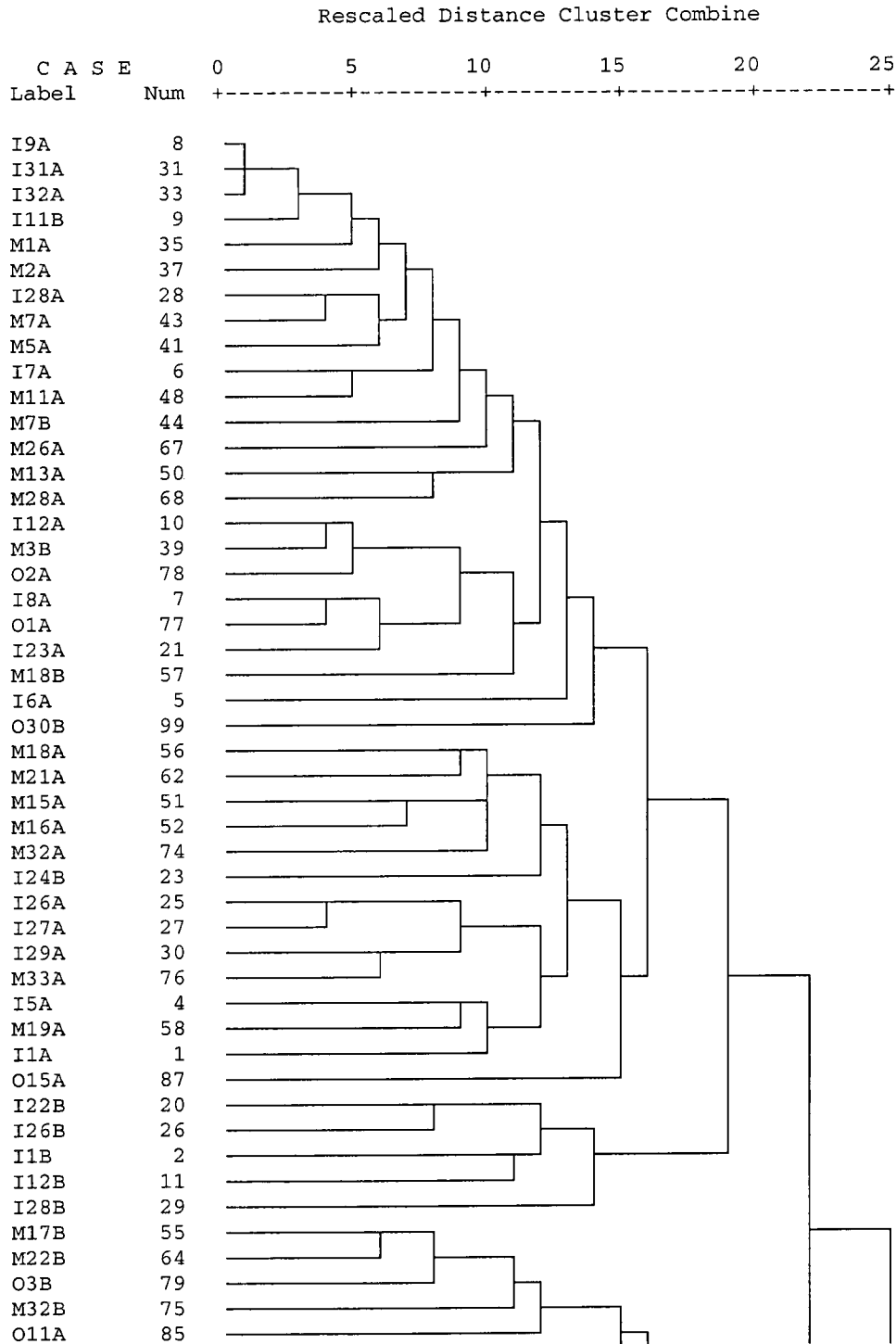
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 OK_to_kill_WAs_for_practice 2.00
 OK_to_kill_WAs_when_defending_life_or_property 1.00
 OK_to_kill_WAs_after_pb 1.00
 OK_to_kill_WAs_for_fun 2.00
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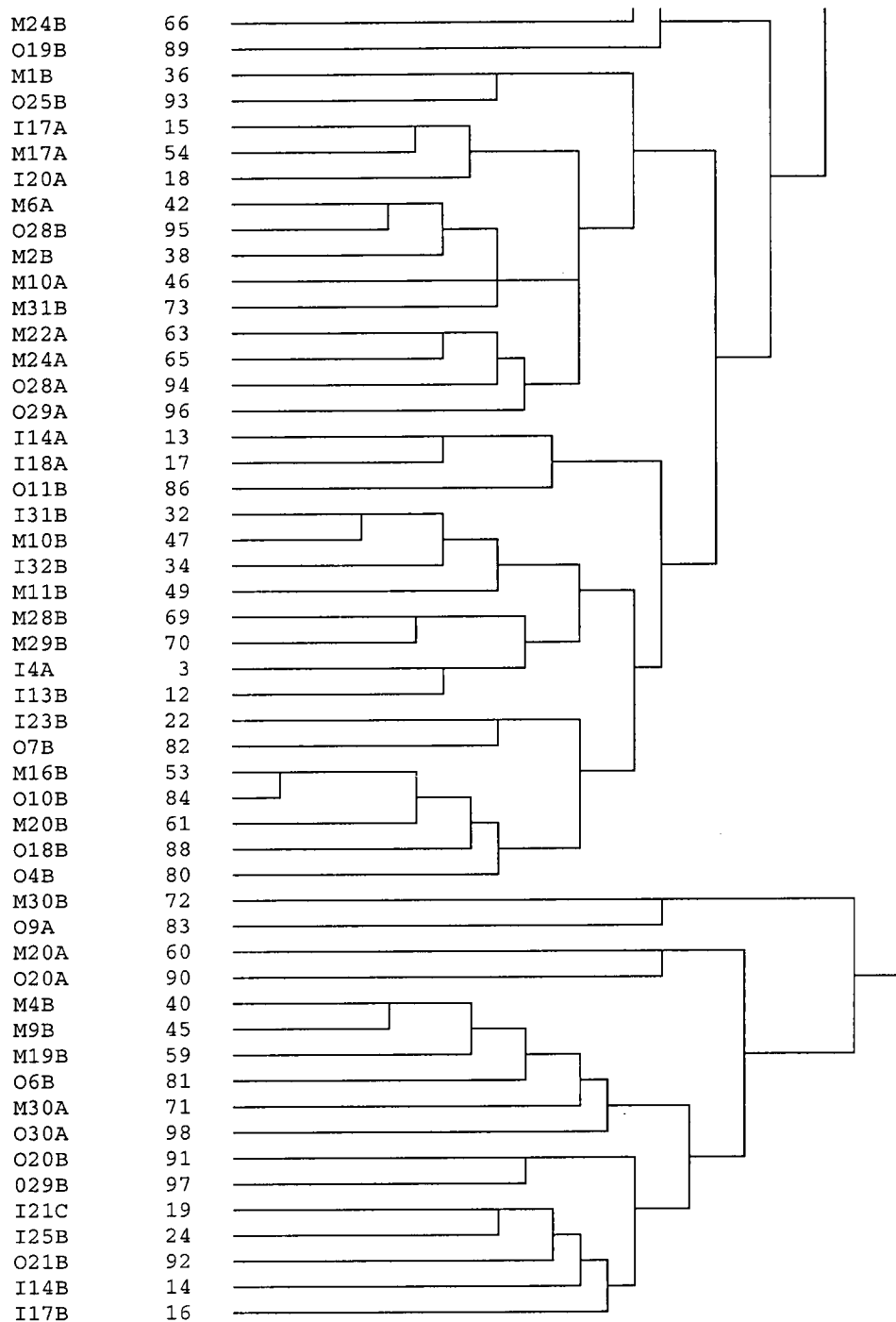
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 W_spp_to_be_finished 1.00
 W_spp_to_rescue 1.00
 olamayio_allowed_by_gvt 2.00
 bad_thing_olamayio_illegal 2.00
 all_WAs_fenced_inside_PAs 1.00
 only_problematic_fenced_WAs_inside_PAs 1.00
 all_WAs_to_be_killed_including_harmless 2.00
 only_problematic_WAs_to_be_killed 1.00
 Gvt_should_allow_to_kill_WAs_that_give_pbs 1.00
 Gvt_should_allow_to_kill_WAs_anyhowly 2.00
 GR_members_unite_set_up_own_W_tourism_project 2.00
 Gvt_give_monetary_compensation_for_pbs_caused_by_WAs 1.00
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Appendix 23. Cluster analysis on inter-informant agreement matrix (label = Interview ID number: I=Swamps; M=Emeshenani; O= Osilalei; Household number; A: household head; B: dependant).

Dendrogram using Average Linkage (Within Group)





Appendix 24. List of open-ended and free list questions used in the analysis of aesthetic value of wildlife and preferences thereof.

1. Are there good things about wild animals (both the 'polite' and 'aggressive' ones)?
 - 1.1. Which good things?
2. Are there some wild animals (both the 'polite' and 'aggressive' ones) that you like, for any reason?
 - 2.1. Which species do you like?
 - 2.2. Why do you like this species?
 - 2.3. Rank these species
3. Are there some wild animals (both the 'polite' and 'aggressive' ones) that you dislike, for any reason?
 - 3.1. Which species do you dislike?
 - 3.2. Why do you dislike this species?
 - 3.3. Rank these species
4. Are there wild animals (both the 'polite' and 'aggressive' ones) that you find beautiful?
 - 4.1. Which species do you find beautiful?
 - 4.2. Why do you find these species beautiful? What makes them beautiful?
 - 4.3. Rank these species in terms of their relative beauty
5. Are there wild animals (both the 'polite' and 'aggressive' ones) that you find ugly?
 - 4.1. Which species do you find ugly?
 - 4.2. Why do you find these species ugly? What makes them ugly?
 - 4.3. Rank these species in terms of their relative ugliness
6. If you were given the power by God to make some wild animals (both the 'polite' and 'aggressive' ones) completely disappear from this land, which ones would you make disappear?
 - 6.1. Why?
7. If all the wild animals (both the 'polite' and 'aggressive' ones) were disappearing from this land for some reason and you were given by God the power to rescue some of them, which ones would you rescue?
 - 7.1. Why?

Appendix 25. List of local wildlife species and their Maasai and scientific names.

In the course of the interviews, informants identified species by pointing at them in an African wildlife guidebook (Alden et al 1995). However, given the fact that some old informants did not see well, this does not guarantee that all the species were correctly identified. Some species were not found in the book.

Unless specified otherwise, these names are used in both the Kisonko and Matapato sections. These names are not necessarily present in other Maasai sections.

Table 1. Names of wild animals in the Amboseli Ecosystem (Maasai and Scientific).

Common & scientific names	Maasai name	Comments
Aardvark <i>Orycteropus afer</i>	<i>Enaishir dama</i> , pl. <i>inaaishir dama</i> ('The one-that-cries-at-daytime')	Rarely seen. When seen, considered a lucky animal, sign of good luck. Driving at night, an aardvark crossing the road bumped onto the front side of our car, even denting the front of it.
Bat	<i>Esarambalani</i>	
Black mamba	<i>Olasurai orok loolkanchaoni</i> ('The black snake of the elephants') <i>Olasurailoolaiserr</i> ('the snake of the Ilaiserr')	Members of the Ilaiserr clan are not allowed to kill it.
Bush Pig <i>Potamochoerus larvatus</i>	Olkurupe (pl. ilkurupen) losero ('the pig of the bush')	
Bushbuck <i>Tragelaphus scriptus</i>	<i>Olpua</i> , pl. <i>ipuai</i>	
Cape Buffalo <i>Syncerus caffer</i>	<i>Olosowuan</i> , pl. <i>ilosowuani</i> <i>Olarro</i> , pl. <i>ilarroi</i> <i>Olangito orok</i> ('the black wild animal/herbivore') <i>Olchangito sapuk</i> ('the big wild animal/herbivore')	

Hare	<i>Enkitejo</i> , pl. <i>inkitejon</i>	
Caracal	<i>Enkaiteeri</i> , pl. <i>inkaiteerr</i>	
Cheetah <i>Acinonyx jubatus</i>	<i>Olkinyalasho</i> , pl. <i>ilkinyalasho</i> ('the one that eats calves') <i>Sapuk elukunya</i> ('the one with the big head')	
	<i>Olowaru keru</i> , pl. <i>ilowarak kerin</i> ('the spotted lion/carnivore') <i>Olowaru keru sapuk elukunya</i> ('the spotted lion with the big head')	
	<i>Olkelusa</i> , pl. <i>ilkelusani</i> <i>Enkelusa</i> , pl. <i>inkelusani</i> <i>Enkowaru keru</i> ('the small spotted lion')	
	<i>Olointare</i> ('the one of the shoats' [sheep + goats]) <i>Olchita</i> ('ol-cheetah')	
	<i>Olowaru oirimo</i> ('the lion daubed with spots')	
	<i>Oltara</i> ('the spotted one')	
Common duiker	<i>Oronko</i> , pl. <i>ironkon</i> (Matapato section) <i>Olgilesho?</i> (Matapato section) <i>Embasani</i> , pl. <i>imbasani</i> (Kaputei section)	
Crested francolin	<i>Enkurlee</i> , pl. <i>inkurlee</i>	
Crested hoopoe	<i>Olmongo</i>	
Dikdik	<i>Esuni</i>	Sometimes confused with hare.
Dung beetle	<i>Olmoilaa</i>	
Eastern black-and-white colobus monkey <i>Colobus guereza</i>	<i>Olkoroi</i> , pl. <i>ilkoroin</i>	Black and white tail used as ornament tied to necklaces (<i>enkoroi</i>) at ceremonies.
Eland (Common)	<i>Osirua</i> , pl. <i>isiruai</i>	From <i>sirua</i> , a color and cattle coat color pattern: white, splendid. Elands with <i>olmasi</i> (<i>osirua lolmasi</i>) must never be killed.
Elephant <i>Loxodonta africana</i>	<i>Olkanchaoi</i> , pl. <i>ilkanchaoni</i> <i>Olenkaina</i> , pl. <i>iloonkaik</i> ('the-one-of-the-hand' [trunk]) <i>Oltome</i> , pl. <i>iltomia</i>	

Olchangito sapuk, pl. *ilchangito sapukin* ('the big wild animal'; 'the big herbivore')

Fox (bat-eared)
Otocyon megalotis

Esiro, pl. *isiron*

Genet (Common)

Enkinya ingirri ('the one that eats meat')
Olpaka liaangata ('the cat of the bush')

Gerenuk

Olanchaat, pl. *ilanchaati*
Enanchaat, pl. *inanchaati*
Inaanyokiyo adoru ilgoso ('the red ones with long necks')

Gorilla

Olgorila

Seen in pictures. Likened to Kuku Tungani or Nenaunerr, the "human monster", a hairy, very tall primate-like animal, with two mouths, believed to inhabit the forest of Mt Kilimanjaro. Believed by the research assistants to have been seen close to our campsite, at least once.

Grant's gazelle

Inaiborr kurumi ('the ones with white buttocks')
Ewuargas, pl. *iwuargasin*;
Inkoiliin wuasin

Gray Crowned cranes

Engool

Hartebeest *Alcelaphus buselaphus*

Olkondi, pl. *ilkondin*
Olkorrikor, pl. *ilkorrikorri*

Hedgehog

Enjolis, pl. *injolis*

Lucky animal: put inside the shoat pen so that shoats grow as many as the hedgehog's quills.

Helmeted guinea fowl

Olkeresure, pl. *ilkeresureni*

Hippopotamus

Olmakao, pl. *ilmakain*

Honey badger

Olpilis
Enkairrungurrungi
Olchanga, pl. *ilchangan*

Hyena *Crocuta crocuta*,
Hyaena hyaena

Olngojine, pl. *ilingojiniao* ('the limping one')
Olmengani, pl. *ilmenenga* ('the dead one')

The 'dead one' name refers to the fact that hyenas are used to dispose of corpses. The dead person is placed in the bush and hyenas are supposed to

	<i>Olorok kutuk</i> , pl. <i>ilorok kutukie</i> ('the one with the black mouth')	come and eat the corpse. If they don't come promptly, a goat is slaughtered and placed atop the corpse.
	<i>Oltolut loosero</i> ('the cursed one of the bush')	
	<i>Olkonoi</i> (in Matapato section)	
	<i>Ilowarak bata</i> ('the dangerous lions')	
Hyena (Stripped)	<i>Nemelil</i> (in Matapato section)	
Hyrax (tree)	<i>Enkijujurr</i>	
<i>Dendrohyrax arboreus</i>	<i>Endeer</i> , pl. <i>indeeri</i>	
Impala	<i>Ololubo</i>	
	<i>Enalubo</i>	
	<i>Enkalubo</i>	
	<i>Enanyokio</i>	
	<i>Inalubo ngojiniak</i> ('the limping hungry ones')	
Jackal (golden & black-baked)	<i>Enterrash</i> , pl. <i>interrashin</i>	
<i>Canis spp</i>	<i>Embarie</i> , pl. <i>imbarien</i>	
Chameleon	<i>Ngoto tanki</i>	
Kori bustard	<i>Enkurle</i>	If crosses your path, it means you are going to eat meat/going to be successful. Lucky animal.
	<i>Emamurra</i>	
Kudu (Greater)	<i>Emaalo</i>	Not present locally. Horn used as instrument at ceremonies.
<i>Tragelaphus strepsiceros</i>		
Kudu (Lesser)	<i>Osiram</i> , pl. <i>isirami</i>	
<i>Tragelaphus imberbis</i>		
Leopard	<i>Olowuaru keri</i> , pl. <i>ilowuaraak kerin</i> ('the spotted carnivore')	
<i>Panthera pardus</i>	<i>Olkeri</i> , pl. <i>ilkerin</i> ('the spotted-one')	
	<i>Olkinya lasho</i> (the 'eater of calves')	
	<i>Olowaru keri lolasho</i> ('the spotted lion of the calves')	
	<i>Olowaru sapuk lolasho</i> ('the big lion of the calves')	
	<i>Olkelusa</i> , pl. <i>ilkelusani</i>	
	<i>Osapuk lukunya</i>	
	<i>Olointare</i> ('the one of the shoats' [sheep & goats])	
	<i>Olowaru oirimo</i> ('the lion daubed with spots')	

Lion <i>Panthera leo</i>	<i>Olchui</i> (from KiSwahili, <i>chui</i>) <i>Olingatuny</i> , pl. <i>ilingatunyo</i> <i>Olowuaru</i> , pl. <i>ilowuarak</i> <i>Olowuaru kitok</i> , pl. <i>ilowuarak kituaak</i> ('the big/important lion/carnivore') <i>Olowaru sapuk</i> ('the big carnivore/lion') <i>Olowaru lolmurrān</i> ('the lion of the morans') <i>Engues sapuk</i> ('the big wild animal')
Marabou stork	<i>Enaado gos</i> ('the one with the tall/long neck')
Martial eagle	<i>Olkitili</i>
Masai giraffe	<i>Olmeut</i> , pl. <i>ilmeuti</i> <i>Oloodo kirragata</i> ('the one with the long bed') <i>Oltwiga</i> (from KiSwahili 'twiga') <i>Oloodo kirragt</i> (M19A)
Mongoose	<i>Olkinya inaishi</i> ('the eater of honey')
Monkeys in Osilalei	<i>Inayook kutukie</i>
Nile crocodile	<i>Olkinyang</i> , pl. <i>ilkinyangin</i>
Nile monitor lizard <i>Varanus niloticus</i>	<i>Olmaima</i> , pl. <i>ilmaiman</i> ('the cripple/lame one')
Oryx (Beisa) <i>Oryx beisa</i>	<i>Olkimosorok</i> , pl. <i>ilkimosoroki</i>
Ostrich (Masai) <i>Struthio camelus</i>	<i>Esidai</i> , pl. <i>isidan</i> ('the beautiful one'; 'the good one')
Owl	<i>Emotonyi oonkiyia</i> ('the bird of the ears') owl (emotonyi oonkiyia bird with ears)
Porcupine	<i>Oyioyai</i> , pl. <i>iyiaya</i>
Puff adder	<i>Enturbubua</i> , pl. <i>intuturbubuai</i>

Python	<i>Endara</i> , pl. <i>indarai</i>	
Ratel	<i>Inchangan</i>	Enkaiseri: woman of Ilaiser clan
Rhinoceros (Black) <i>Diceros bicornis</i>	<i>Emunyi</i> , pl. <i>imunyi</i> <i>Entolut</i> ('the cursed one') <i>Entoki torrono</i> ('the horrible/terrible thing') <i>Olguasat</i> (the rhino calf) <i>Olmangatinta</i> ('the enemy') <i>Enkaiseri emolo</i> ('woman of the Ilaiserr clan with a stick?').	Richard knows a shout/song for rhinos: "hol hol kule esiote norkila oiborr!" ("you children! The one of the white calabash is coming!") [<i>kule</i> : milk; <i>esiote</i> : lid of calabash; <i>norkila</i> : cloth; <i>oiborr</i> : white]. <i>Kule esiote</i> : the ones who drink milk from lid of calabash, which is a "code name" for children because it is believed that rhino understand human language. Also don't mention rhino by name because rhino will hear it. For example, if you call a dog by its name, "oldia", it will look at you, knowing that you're talking about it.
Savanna baboon	<i>Oltulal</i> , pl. <i>iltulali</i>	
Savanna Hare	<i>Enkitejo</i> , pl. <i>inkitejon</i>	
Secretary bird	<i>Kukuo keli</i>	
Squirrel	<i>Karbobo</i>	
"Snakes"	<i>Olasurai</i> , pl. <i>ilasuriak</i> <i>Enkeene enkop</i> ('the rope/strap of the land') <i>Entoki enkop</i> ('the thing of the land'). <i>Inguesi ronkeni</i> ('the narrow wild animals')	Universally hated and killed when met (except for specific snake species by specific clan members). Snakes are among those animals (rhino: 'the cursed one', 'the bad thing' also) whose names must not be pronounced for fear of attracting them – hence they are known as "ropes of the land" "The ones under the grass that you don't see" [the not being seen seems to be what people hate the most about them: the opposite of other animals that will fight openly, bravely].
Termite	<i>Oririi</i>	
Thomson's gazelle	<i>Enkoopera</i> , pl. <i>inkoopera</i> <i>Iwuasin</i> ('the ones with black sides')	Believed to be very fierce: can fight hyenas back and lions can only get them by surprise.
Tortoise	<i>Oloikuma loolkanchaoni</i> , pl. <i>iloikuman loolkanchaoni</i> ('The tortoise of the elephants').	Leopard tortoise.

Vervet monkey	<i>Endere</i> , pl. <i>inderei</i> - narok kutuk = vervet monkey: also here - enarokkutuk, inaarookutukie: vervet monkey # 156	
Vulture	<i>Olmotonyi loolmurrar</i> ('the bird of the morans')	
Warthog	<i>Olbitirr</i> , pl. <i>ilbitirro</i>	Believed that if a warthog crosses your path, you will eat meat.
Waterbuck <i>Kobus</i> spp	<i>Olmoinko</i> , pl. <i>ilmoinkoni</i>	
Wild dog <i>Lycaon pictus</i>	<i>Osuyian</i> , pl. <i>isuyian</i> <i>Olkushaa</i>	Called 'wolf' in some interviews.
Wildebeest (Blue) <i>Connochaetes taurinus</i>	<i>Oinkat</i> , pl. <i>inkati</i>	
Zebra	<i>Oloitiko</i> , pl. <i>iloitikoshi</i>	

Appendix 26. Cattle “colors” in Amboseli (skin color and color configurations).

Cow “colors”	Cows’ colors	Wild animals with similar colors as cows	Informants’ comments
<i>Enkiteng sampu</i>	White or red cow with very thin black stripes.	Kudu (<i>osiram</i>); zebra.	Not very common.
<i>Enkiteng narok</i>	Completely black cow.	Buffalo (<i>olchangito orok</i> , the black herbivore)	Very beautiful
<i>Enkiteng ngiro</i>	Completely brown cow.	Elephant	The least beautiful
<i>Enkiteng keru</i>	Cow completely black except for white back and white belly; spotted black and white.	Leopard and cheetah (<i>Olowaru keru</i> , the spotted lion); Giraffe	
<i>Enkiteng keru enyokie</i>	Red cow with white back and white belly.		Beautiful
<i>Enkiteng naibor</i>	Completely white.		Beautiful
<i>Enkiteng sirua</i>	Completely gray; completely white.	Eland (<i>osirua</i>)	Beautiful
<i>Enkiteng wuas</i>	Black or red with white spots on ribs.	White-browed coucal (<i>olwuas</i> , pl. <i>iwuasin</i>)	
<i>Enkiteng arus</i>	Black with small white spots along dewlap.	Vulture, (“ the black-and-white one”, <i>Olarus</i>)	Beautiful
<i>Enkiteng mugie</i>	Black color mixed with red.		Beautiful
<i>Enkiteng noonturot</i>	Red or black with big white spots all over the body.		Beautiful
<i>Enkiteng nanyokie</i>	Completely red cow.	Hartebeest (<i>olkondi</i>)	Beautiful
<i>Enkiteng nadolokunya or narok lokunya</i>	Cow with red or black head		Beautiful
<i>Enkiteng aisirariai</i>	Black with white stripe along belly, not on the back.		Beautiful
<i>Enkiteng tara</i>	Black with small white spots all over the body	Similar to the color of lion.	
<i>Enkiteng lerai</i>	Yellowish cow; Dull white color		
<i>Enkiteng dere</i>	Gray cattle	<i>Endere</i> (vervet monkey)	
<i>Enkiteng suyaan</i>	Greyish cow	<i>Osuyan</i> (wild dog)	
<i>Enkiteng owuaru</i>	Similar to the	<i>Olowaru</i> (carnivore, lion)	

color of lion

Enkiteng sintet

Enkiteng kima

Enkiteng kerī-abori

Enkiten wuarrikii

Enkiteng kaldes
