PASTORALISM AND CONSERVATION – WHO BENEFITS?

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Abstract
Conservation business is booming in East Africa, but is threatened by major long term wildlife declines. Pastoralist rangelands are among the highest-earning and fastest-growing tourism destinations, but their populations have mean incomes and development indices consistently below national averages. Governments and conservation organisations see green development, often through community-based conservation (CBC), as building sustainable livelihoods and biodiversity conservation in EA rangelands. We look at the contribution conservation makes to Maasai pastoralist livelihoods, based on studies in two Tanzanian and three Kenyan sites differing in proximity to protected areas, urban settlements, markets and infrastructure, and in wildlife-related revenues, as well as in national economic and political context. Conservation brings little to household income in most sites compared to returns from livestock, cultivation, and off-farm work. Special circumstances mean conservation business brings local benefits in the Mara, but are rarely achieved elsewhere. Pace and scale of conservation-driven loss of access to resources has serious implications for livelihoods security, while negative tradeoffs from CBC and "conservation with development" initiatives may drive both impoverishment and wildlife declines.

Background
Conservation is big business in East Africa. Tourism is regularly among the top three contributors to GDP and to foreign exchange earnings in Kenya, accounting for USD 884 million in 2010 (KShs 73.7 billion[1]). Despite the global financial crisis, Tanzania earned 1.16 billion USD from tourism in 2009[2].. In both countries, tourists are largely drawn by the appeal of wildlife alongside other attractions. Conservationists see tourists' dollars as one of the principal means to generate meaningful income for the rural poor. Government policies (URT 2005; UNDP/UNEP/IIED/IUCN/WRI 2005), conservation NGO projects (AWF 2005), entrepreneurial initiatives (Nelson 2004; www.Lewa.org) and research publications (Pearce and Moran 1994, Hutton et al 2005) all promote wildlife-based tourism. Maasailand, the region of Kenya and Tanzania dominated by Maa-speaking pastoralists, is a hotspot of conservation, poverty and new initiatives to redistribute tourist income, and a good place to explore dynamics and distribution of revenues.

In Kenya, Maasailand and other pastoral areas represent among the fastest growing tourism destinations (33% growth in bed-nights 2004-5: Ministry of Tourism and Wildlife 2006). In Tanzania in 2009, 16 National Parks earned 43.8 million USD, Ngorongoro Conservation Area

[1] http://www.tourism.go.ke/ministry.nsf/pages/facts_figures; Kenya National Bureau of Statistics (economic survey; leading economic indicators) http://www.knbs.or.ke/
[2] http://www.tanzania.go.tz/economicsurveyf.html:

22.6 million USD,and tourist hunting 14.9 million USD[2]. In both Kenya and Tanzania, the highest earning protected areas are situated within, and effectively excised from, Maasailand (fig 1), as is a high proportion of the two countries' conservation estate overall. Parts of Kenyan Maasailand have shown rapid economic growth driven by wildlife conservation, rising domestic and export markets for crops and rising land values (Norton Griffiths and Said 2010). However, pastoral areas including many Maasai communities in both Kenya and Tanzania continue to display wide and deep poverty with respect to international and national rural poverty thresholds (Oxfam 2006, Kenya: Thornton et al 2006, Boone et al 2011; Tanzania: Tenga et al 2007).

Kenyan and Tanzanian governments see pastoralist livestock management (mobile transhumance on unfenced, unmodified rangelands) as unproductive and environmentally damaging (eg. URT 1997, MoLF 2006). Pastoral migration to south Tanzania is perceived, without good data, to be driven by pastoralists' own degradation of their rangelands (Brockington 2006). Regional and district governments impose draconian confiscations of cattle and fines, constraining pastoral activities while benefitting from their productivity. Wildlife tourism is portrayed as a means for pastoral groups to diversify, generate revenues and improve wellbeing.

This paper explores the role livestock play in rural Maasai household economies, and the contribution of wildlife tourism to poverty reduction and local livelihoods. Taking a comparative approach across Kenyan and Tanzanian study sites, these data allow evaluation of conservation and poverty reduction policies and practices. We argue that rural Maasai land use decisions do not support national- and international-level assumptions about the benefits of wildlife and tourism, nor about a relatively lower economic importance of livestock production. However unequally distributed and insufficient in themselves to sustain families, livestock emerge as a vital part of rural and household economies. By contrast wildlife revenues are both limited, and more vulnerable to elite capture.

It is possible that the poor contribution of wildlife to local livelihoods is a factor in the drastic declines in Kenyan savanna wildlife populations over the last 30 years (Homewood et al 2001, Ottichilo 2000, Western et al 2006, Ogutu et al 2011) and declines beyond national park boundaries in some ecosystems in Tanzania (Stoner et al 2007). We explore how conservation needs and pastoral goals might be reconciled.

Approach and Methods

We seek a balanced view of the contribution of wildlife conservation to local livelihoods in rural Maasailand by asking:

- what are people doing?
- how well are they doing?
- what factors influence people's choice of income-earning activities?
- what factors influence how well they do?

We summarise detailed findings from independent researchers[3] working in three Kenyan and two Tanzanian sites (Homewood et al 2009). Standardised income and explanatory variables were collected or derived for each of the study sites. Cluster analysis identified groups of households pursuing similar livelihood and income-earning activities in each area; and regression analysis identified significant factors explaining variation in income levels across households. Family portrait studies captured qualitative, household-level picture of livelihoods and livelihoods change (Homewood et al 2009). Each case study sought to represent variation in wealth, poverty and environment (Homewood et al 2009). Sampling used wealth ranking and in some cases stratification by spatial location to represent a broad cross-section of Maasai in pastoral areas.

What we found

The five sites represent very different circumstances ranging from populations adjacent to high-earning conservation areas (Mara), to minimal- (or zero-) earning areas (Longido). They also range from remote rural areas where grazing, farming and wildlife tourism are the main options (Amboseli, Longido), to mining areas (Tarangire), to peri-urban populations (Kitengela) where land leasing, sale of produce to urban markets and off/non-farm employment are all significant sources of income. We expected comparable variability within and between sites in livelihood strategies and in wealth. Detail of site-specific cluster analyses are given in Homewood et al (2009). Here we focus on cross-site comparison (rather than within-site variation) in terms of livestock, cultivation, off-farm and wildlife-related activities.

Livestock

Most (91-100%) households have livestock, which account for well over half of mean income for the pooled samples in each site (fig 1). A significant proportion of households in all sites have too few livestock to fully support household members. Most livestock are concentrated in the hands of a few, with the top 10-20% owning half to 2/3 of all livestock[4] across all sites. Reliance on non-livestock income is therefore a necessity for most, especially for the poorest, quite apart from being a potentially positive investment option for the well-off. Nonetheless in each site, across all different wealth categories, and across most livelihood strategies, people were actively purchasing livestock. Poor households continue to seek to rebuild their herds, while better-off households continue to invest in new animals.

Cultivation

Cultivation is widely practised, despite the semi-arid nature of Maasailand as a whole, and most households' limited access to agro-ecologically favourable sites. In four out of the five sites, over half of households farm (Kitengela 68%, Amboseli 57%, Longido 67%, Tarangire 88%). In Mara, only 13% households cultivate.

While many households cultivate, yields are poor and contribute little to overall incomes. In Mara, Longido and Kitengela, over half of cultivating households harvested nothing. Amboseli

[3] Without detailing all those involved in data collection and analysis, lead researchers included (besides the present authors) David Nkedianye (Kitengela); Michael Thompson (Mara); Shaun BurnSilver (Amboseli); and Hassan Sachedina (Tarangire). See Homewood et al 2009 for full details.

[4] measured in Tropical Livestock Units or TLUs

yields were variable; again, many households failed to harvest. Crops account for just 2% income in Mara, 8% in Kitengela, 12% in Tarangire, 14% in Amboseli and 21% in Longido.

Cultivation contributes to livelihood security on several levels. In addition to the benefits for food security, and potential commercial significance (Mara, Tarangire), cultivation is an effective means of staking claim to a plot prior to land privatisation and subdivision (eg. Kenya: Mara); and of forestalling the perceived threat of protected area expansion (e.g. Tanzania: Tarangire).

Both direct observation and remotely sensed land cover analyses show extensive large-scale commercial cereal farming around Mara. This is largely driven by a relatively small elite. Commercial cultivation dropped significantly 1998-2004 with the completion of land titling across most of the area studied. Alongside poor rainfall and declining soil fertility, the transaction costs of dealing with multiple smallholders (as opposed to dealing with the group ranch committee for large areas) made large-scale farming in Kenya Maasailand difficult.

Large-scale cereal farming has also spread around Tarangire. Maize cultivation has now become lucrative for households able to invest in mechanized farming (Sachedina 2008). However such largescale farming is not widespread in most Longido villages. Former village-owned high-potential lands on the slopes of Mt Kilimanjaro (east of Longido) have long since been leased by the state to outside investors.

Off-farm activities

Half or more households (50-85%) earn off-farm income from petty trade, business, wages or salaried income and remittances. Returns from casual unskilled work are a fraction of those for regular jobs as teacher, driver or government official. Potentially large but ephemeral income streams from gemstone mining and brokerage, and land leasing, are seen as secondary in importance to livestock and other economic activities. Off-farm work accounts on average for 8% Mara, 20% Amboseli, 30% Tarangire, 34% Longido and 43% Kitengela income - second only to livestock in most sites other than Mara. This bears out analyses emphasising the need for off-land work and the willingness of pastoral peoples to pursue these activities (eg. Sandford 2006; Boku Tache 2008).

Wildlife-related income

In comparison to the universal engagement with livestock, and widespread involvement with farming and off-farm work, only a small proportion of households in most sites have wildlife earnings (3-14%). Averaging across those households which do derive income from wildlife, amounts are small in most sites, contributing <5% of mean annual income (Amboseli, Kitengela, Longido, Tarangire). Some positive impacts on household income are arguably invisible – for example the use of wildlife-related income at village level to offset cesses (village-level taxes) in Tanzania. Where data were available it was clear that village-level benefits were easily captured by local elites and were not having the broader impacts on livelihoods that could influence household decision-making (Sachedina 2008)[5]. In Mara though, two-thirds (64%) households earn some income from wildlife. Wildlife conservation accounts for 21% mean annual income

[5] This is not universally the case across Maasailand and there have been instances of community-based tourism resulting in meaningful revenues that were then well distributed (Nelson and Makko 2003).

for Mara households in our sample. While overall few Maasai households earn from wildlife, and the sums they make do not compare with main income streams from livestock, crops and off-farm sources (fig 1), landowning households close to Maasai Mara National Reserve (MMNR) see real benefits from conservation-based enterprises.

Conservation, Wealth and Poverty in the Mara.
MMNR is Kenya's highest-earning wildlife tourist destination, taking 15-20 million USD annually (Norton Griffiths 2007). Numerous additional wildlife enterprises have grown up around the Mara, with landowners[6] on the now-adjudicated, subdivided and privately-owned former group ranch lands able to capture wildlife returns both directly (through participation in campsites or other enterprises which pay rent or dividends) and indirectly (through the 19% of gate takings which the MMNR disburses to neighbouring communities). Thompson et al (2009) chart the history of the various revenue-sharing institutions which have evolved around the Mara since the 1970s, including 19% MMNR gate takings paid to the county council; Group ranch wildlife associations; post-group ranch, politically-constituted wildlife associations; and most recently, conservancy partnerships between tourism investors and landowners. These offer better security of income to landowners (through rent rather than bed-night payments) and require 5-year covenanting of the designated area, during which land sales, homestead construction, cultivation and fencing are excluded. Conservancy arrangements may offer a better deal for landowners (Thompson et al 2009) and better conservation outcomes (Western et al 2006), but remain to be evaluated.

In the Mara, wildlife revenue makes up 15-30% of mean household income from the poorest quintiles to the best-off, and is second in importance only to livestock. However, the top 25% Mara households by wealth consistently capture 60-70% of conservation income. The bottom 25% by contrast capture around 5%, rising to 15% if all forms of associated conservation-related employment are included. The middle 50% get a steady 25% of conservation-related income across the board. Despite significant changes in the volume of tourism returns 1998-2004, there was minimal change in this pattern of distribution across wealth ranks. The poorest 20% of households are consistently more likely to be engaged in cultivation and/or off-farm work, and significantly less likely to receive wildlife income than are other households.

The total volume of tourism returns in Kenya fell significantly 1998-2004, probably as a result of the impact of 9/11 on tourism internationally, and tourism collapsed again in 2007-8 following post-election violence. In 2004, mean conservation incomes to households earning from Mara wildlife associations and campsites averaged just 25% of their 1998 value. Within that changing flow of revenue, the relative proportions captured by the wealthiest, middle and poorest Mara households stayed remarkably constant. However, between 1998-2004, proportions of households receiving income from wildlife associations fell from 55% to 37%. Overall the proportion of households reporting income from wildlife associations and campsites dropped from 55% to 41%.

Despite inequalities, conservation earnings reach most households in our Mara sample, and returns at household level, while very variable, on average make a significant contribution.

[6] this paper does not go into the process of privatization, which dispossessed many vulnerable families (Galaty 1999) but focuses on the impact of conservation business on current, mostly landowning residents.

However, comparison of Mara with the four other sites suggests that these benefits derive from conditions rarely met elsewhere. The Mara National reserve is high-earning compared to other tourism destinations. The households sampled are predominantly now landowners situated close to the MMNR, able to command pay for game viewing or accommodation on that land[7]. By contrast, households elsewhere are remote from tourist attractions or near lower-earning sites, do not own the land, are unable to compete for conservation jobs, or have little access to wildlife income overall. This applies to the outer Amboseli households; those close to Amboseli Park reportedly earn significantly more, possibly comparable to Mara (Western, pers.com. 2008).

Summary of income data

Our findings emphasise the generally limited contribution of wildlife conservation income to households, (other than those under special circumstances as in the Mara). They underline the lasting, central importance of livestock to livelihoods across Maasailand. As for other studies (Boku Tache 2008) statistical modelling shows livestock holdings represent the single strongest measure or indicator of other dimensions of wealth in all sites[8]. Diversification is clearly extensive but not always profitable. Non-livestock income presents a potentially positive investment option for the better-off able to access high-quality, well-watered farmland, or relatively high-paying jobs. For the poorest families non-livestock income represents the only means to achieve food security and the only hope of rebuilding the herd. In practice, however, returns to marginal agriculture and irregular unskilled work and petty trade are so low that these households end up drawing down on their assets rather than building them up.

So what?

Our findings firstly underline the lasting importance of livestock to Maasai households. Livestock remain central to subsistence, to pathways out of poverty and to wealth storage/accumulation strategies, alongside the need to diversify into non-livestock activities. Were we to consider the social importance of livestock in maintaining social relations, and not just their economic value, their significance would be all the greater. Secondly, cultivation is widely practised but gives very limited returns. Besides adding to food security, it may be a tenure strategy, curbing what is perceived locally as encroachment of conservation on customary rangelands (Sachedina 2008). Third, off-farm income is a very significant component of present-day Maasai livelihoods, usually more so than agriculture, but ranges from poorly paid, insecure, often dangerous work (miners, watchmen, sex workers) to secure jobs with wider political/ economic prospects (teachers, MPs). Fourth, our results suggest that communities portrayed by some as the wealthiest land- and stock-owners in East Africa (Norton-Griffiths and Said 2010) have average incomes far below the dollar-per-day international poverty line, and often below national rural poverty thresholds. Given that these average income values are skewed upwards by a small number of well-off households (Homewood et al 2009), and median incomes are in most cases around half mean values, poverty remains both wide and deep in Maasai rangelands despite potential land values and tourism earnings (Homewood 2009).

[7] Households which were not able to secure claim to a private plot have been excluded not only from the possibility of such wildlife income but from the landscape as a whole (Galaty 1999). By definition, they cannot appear in our sample.

[8] except for Tarangire, where data do not allow for direct comparison

Last but not least, wildlife generally performs poorly for livelihoods. With the exception of the Mara, wildlife brings little or nothing to the vast majority of Maasai. If wildlife do not become locally valuable they may continue to decline (Norton-Griffiths 2007, Norton-Griffiths and Said 2010, Ogutu et al in press). Why does such a potentially profitable enterprise bring so little local benefit?

These communities have historically captured little of total tourism earnings, with ~95% accruing to tour operators, service industry workers, and the state (Norton-Griffiths 2007, and Norton-Griffiths and Said 2010). The small amounts captured are then poorly distributed. Proportions captured by local residents are even less in Tanzania (Sachedina 2008) as they trickle through official channels (from central and District government through to the communal level via Wildlife Management Areas (WMAs).

In part this reflects chronic problems of governance and accountability at local, district and national levels (eg Walpole and Leader Williams 2001; Homewood 2009). Wildlife enterprises earned tens of thousands of dollars annually for one village on the edge of Tarangire and yet these revenues were easily dominated by local elites (Sachedina 2008). Ololoskwan village east of Serengeti was able, briefly, to earn around $50,000 per year from photographic safari operator use of its lands. However the central government feared it would conflict with a hunting block, whose revenues they control. In November 2007 a surprise Ministerial declaration criminalised local-level deals for wildlife-related enterprises, capturing all such returns for the State, with no requirement for a set proportion to be returned to the community (TNRF 2007). Such unequal contests between state and local communities for control of conservation enterprises and their returns have become a common occurrence in Tanzania (Nelson 2004, Nelson 2006, Baldus 2009). They are made the more unequal by the involvement of global investors (Igoe 2007). In their comparative study of community-based conservation Nelson and Agrawal (2008) observe that the hunting industry in Tanzania is eminently corruptible, providing easily-diverted revenues within a generally impoverished national economy.

The third reason is the historical experience of many Maa-speaking pastoralists. Conservation for them is associated with large-scale eviction and exclusion (from Serengeti, Ngorongoro, Tarangire, Amboseli, Mkomazi) with fines and harassment, compromises and deals that were not honoured, and outreach programmes providing few tangible benefits. Their experience of new revenue-sharing initiatives is rarely positive. The livelihood choices they face now are shaped by decades of such experiences, perceptions and stories as well as by complex communal politics, making it hard to build trust and co-operation.

A fourth reason results from the efforts of the conservation lobby itself. The financial success of the African Wildlife Foundation led to its growing out of touch with dilemmas in Maasai villages (Sachedina 2008). This meant that it was poorly equipped to engage effectively with the fierce local politics that surround conservation initiatives in this region. Engaging with communities with such a record is an extremely difficult task.

The fifth reason may be the gloss draped over these conservation enterprises, portrayed by their advocates as win-wins, good for wildlife, good for people, good for the economy, participatory, empowering and liberating (Igoe 2010). Wallowing in happy sentiment it is difficult for criticism

to find purchase. Yet, when examined in detail these schemes rarely produce the benefits they claim. As this paper underlines, revenues from wildlife rarely begin to compensate for loss of mobility, access to and control over important natural resources, which 'community-based' and other conservation restrictions entail. Even relatively successful schemes produce thoroughly dissatisfied groups marginalised from the lucrative revenue streams flowing past them (Il Ngwesi, Kenya: Castillo 2004). Tanzanian WMAs in Burunge (west of Tarangire: Igoe and Croucher 2007) and Longido (Homewood et al 2005) restricted the use of villages' grazing lands while removing their right to control returns, or else caused local displacement and eviction.

And yet conservation business is booming in East Africa; wildlife-based tourism remains a big earner for some, and conservation NGOs readily sell the idea to their northern support base. This is an arena where considerable profits can be made precisely because the distribution of revenues is so uneven, and local and national governments so easily compliant. But circumstances are hardly conducive to mutually beneficial relationships sought by conservationists, governments and development organisations.

The prospects are not good. In Kenya, the draft National Land policy set out innovative and socially equalising reforms which have come up against vociferous challenge by vested interests (MoL 2007a, b, Homewood 2009). The Wildlife Bill 2007 (MTW 2007) proposes command and control of wildlife-related activities on private land. Private conservancies buy out some pastoralist landowners, and establish set-aside agreements with others (Thompson et al 2009). The extent to which they work for people on the one hand and wildlife on the other remain to be shown.

In Tanzania the situation is more alarming still. A strong anti-pastoral environmentalism pervades the country, driving evictions from Usangu in 2007, in which people died, removals from Loliondo, a resumption of attempts to evict pastoralists from the joint land use area of Ngorongoro Conservation Area and large-scale confiscations and fines in Kilosa and Mbarali. Meanwhile President Kikwete was feted for his conservation commitments (before the Serengeti Road issue surfaced: Homewood et al 2010) by US politicians and their sponsors at the International Conservation Caucus Foundation in Washington DC. These are not incentives likely to make conservation-based enterprises work for Maasai communities in Tanzania. The short-sighted and self-defeating way in which Tanzania has implemented "community conservation" has been severely criticised by one of the most experienced conservation practitioners in the field (Baldus 2009). There is a real role for international conservation agencies to use maximum integrity and skill to encourage the state to consider local needs and voices and to foster policies and practices that can genuinely bring benefits to local poor people as well as to international conservation.

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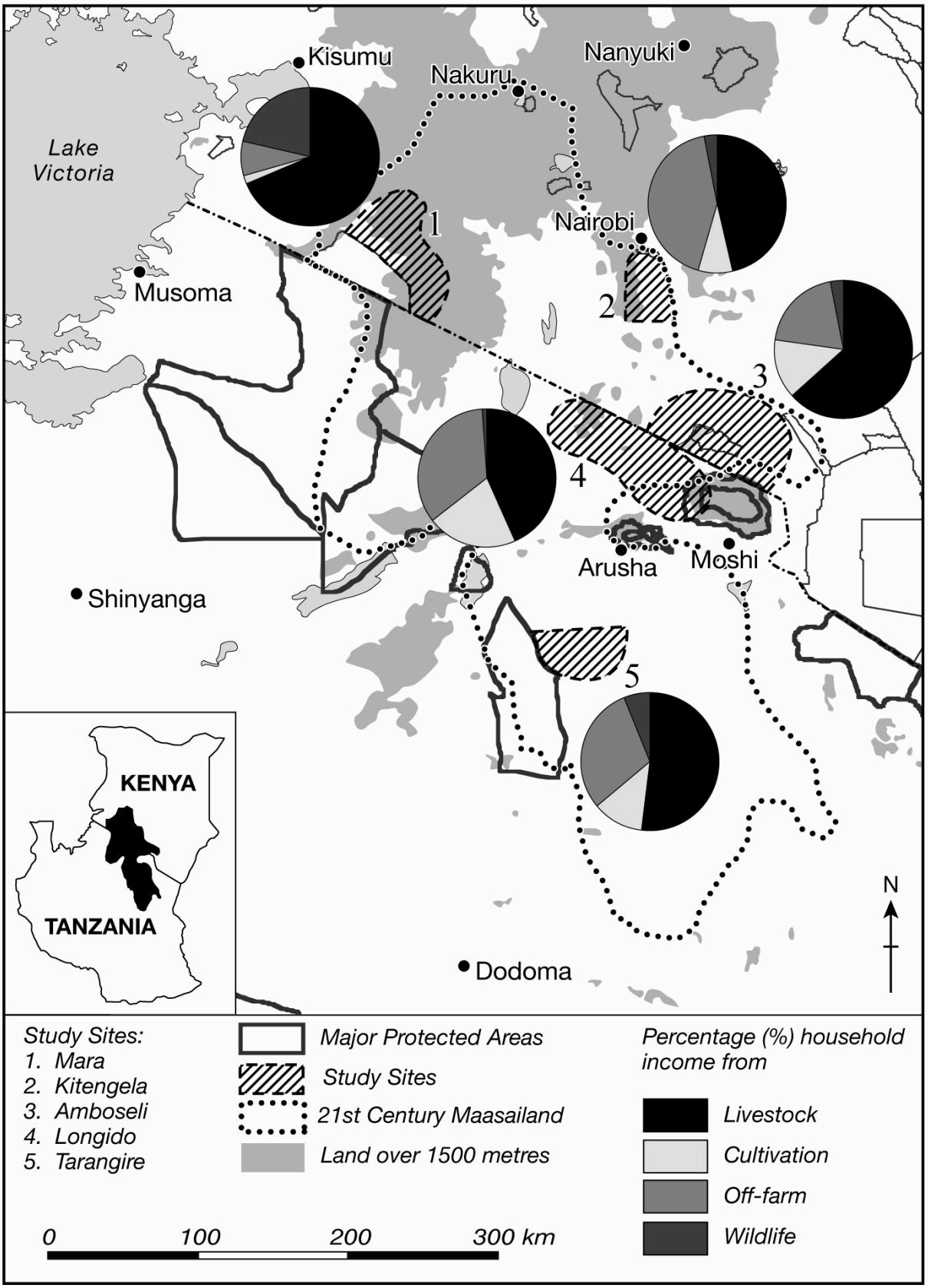
Kisumu
Nakuru
Nanyuki
Lake Victoria
Nairobi
Musoma
1
2
3
4
5
Arusha
Moshi
Shinyanga
Dodoma
KENYA
TANZANIA
N
Study Sites:
1. Mara
2. Kitengela
3. Amboseli
4. Longido
5. Tarangire
Major Protected Areas
Study Sites
21st Century Maasailand
Land over 1500 metres
Percentage (%) household income from
Livestock
Cultivation
Off-farm
Wildlife
0
100
200
300 km