

Reconciling people's livelihoods and environmental conservation in the rural landscapes in Kenya: Opportunities and challenges in the Amboseli landscapes

Moses Makonjio Okello, Simon K. Ole Seno and Rita Wairimu Nthiga

Abstract

Two of the eight Millennium Development Goals (MDGs) adopted by the United Nations General Assembly in September 2000 are: eradication of extreme poverty and hunger; and ensuring environmental sustainability. The link between depressed livelihoods and unsustainable use of land and natural resources can be seen in Kenyan rangelands. Here, the local community is dependent on land and its resources for livelihoods, but the demand and competition is increasing, endangering both the resources they depend on and threatening environmental health. Amboseli is an Arid and Semi-Arid Land (ASAL) area that experiences ecological constraints, resource limitations, and low economic investment. Local communities in such landscapes are resource-dependent for their daily livelihoods, and have few socio-economic opportunities. Pastoralism, which is the main source of their wealth, continues to decline and exploitation by a few local elites and poor local leadership further depresses livelihoods. Other challenges to these poor rural landscapes are increasing human population which increases demands on natural resources and environment; persistent hunger; low universal primary education; poor gender equality and empowerment of women; environmental degradation; and lack of local and global partnership for development. This paper focuses on the two Millennium Development Goals mentioned above. Linkages, challenges and opportunities in enhancing rural livelihoods while promoting environmental sustainability in rural landscapes of the Amboseli Rural Landscape are discussed.

Keywords: Amboseli landscape; Environmental sustainability; Kenya; Local livelihoods; Millennium Development Goals.

1. Introduction

The Millennium Development Goals (MDGs) are the world's time-bound and quantified targets for addressing extreme poverty in all its many dimensions — income poverty, hunger, disease, lack of adequate infrastructure and shelter (UN Millennium Project, 2005). The MDGs also address the exclusion of stakeholders to shared resources and aspirations by promoting gender equality, access to education and health environmental conditions. In September 2000, the world adopted the UN Millennium Declaration, committing nations to stronger global efforts to reduce poverty, improve health, promote peace, respect human rights and maintain good environmental health. Eight Millennium Development Goals (MDGs) emerged

Moses Makonjio Okello is with the SFS Centre for Wildlife Management Studies, Nairobi, Kenya. Corresponding author e-mail: mokello@fieldstudies.org; Moses_okello@yahoo.com.

Simon K. Ole Seno is with the SFS Centre for Wildlife Management Studies, Nairobi, Kenya.

Wairimu Nthiga is with the Department of Hospitality, Moi University, Eldoret, Kenya.

from this Declaration, thereby constituting an unprecedented promise by world leaders to address, as a single package, peace, security, development, human rights and fundamental freedoms (United Nations, 2006).

Two of the MDGs¹ that this paper focuses on are the eradication of extreme poverty and hunger especially among the poor in rural landscapes, and ensuring environmental sustainability in order to reverse deterioration of environmental health and degradation of natural resources. These MDGs present a good mechanism for helping African and other third world countries extricate themselves from extreme and persistent poverty. While these are good proposals, their success will strongly depend on policies developed and initiatives taken in each country to address poverty and unsustainable use of environmental resources. Even within a country, there are great variations on distribution of wealth and control of natural resources which will further affect the success of these initiatives. It is very challenging to meet these goals in countries where

¹ Hereafter these two Millennium Development Goals will be referred to as MDGs.

there are uneven socio-economic and political investment, lack of equitable distribution of national resources, and where local and national capacity is limited in terms of institutions that can manage and be catalysts of socio-economic development and sustainable use of natural resources. The realities of life in rural landscapes in terms of meeting daily basic needs force people to make a living even when the resources get degraded and environment conditions deteriorate. The bottom line is that if people, especially in rural areas, are poor, lack economic options and are confined to dependence of specific resources for basic life needs, they will use whatever resources they need within the context of meeting short-term goals of survival rather than long-term sustainable use goals. If the MDGs are not translated in meaningful ways and conform to practical realities within each country and/or various regions of each country with a view to domesticating these guidelines, such global initiatives will have little success.

This paper seeks to use the Amboseli Area to demonstrate the dilemma of reconciling the aims of the MDGs with the realities of people's livelihood needs and dependence on environment for basic needs. In the rural landscape of Amboseli where the Maasai live in a pastoral lifestyle and with abundance of wildlife, these MDGs have special relevance. The local community here is very dependent on natural resources for their livelihood, but increases in population and demand for resources is leading to rapid degradation and deteriorating environmental conditions, thereby exacerbating poverty. The ecological and environmental capacity cannot sustain production and livelihoods when abused and when stretched beyond

their capacity to sustain life. For the Amboseli area, reconciling daily struggles to alleviate poverty by using natural resources while ensuring environmental conservation is critical, yet challenging in implementation and achievement.

2. The character and resource endowment of the Amboseli Landscape

Knowing the ecological and environmental capacity of land and the associated resources available is critical in understanding the interactions between people, their rural landscape and natural resources they depend on. The Maasai of the Amboseli area live in communally-owned group ranches established in the early 1960s to discourage loss of pastoral tribal lands (Galaty, 1992; Fratkin, 1994). There are six of these group ranches (Mbiriakani, Kuku, Kimana, Eselengei, Olororashi-Olugului, and Rombo) where local communities live and work. These group ranches lie in a dispersal area between Tsavo and Chyulu national parks, Amboseli National Park, Private and Community Wildlife Sanctuaries (Figure 1), and represent one of the major remaining wildlife conservation blocks in Kenya.

The Amboseli landscape is mainly a rangeland of outstanding aesthetic appeal and beauty dominated mainly by the world's highest free standing mountain (Mount Kilimanjaro), accompanied by the scenic Chyulu Hills (Okello, 2005a). The area also has one of the most abundant free ranging wildlife (especially large mammals)

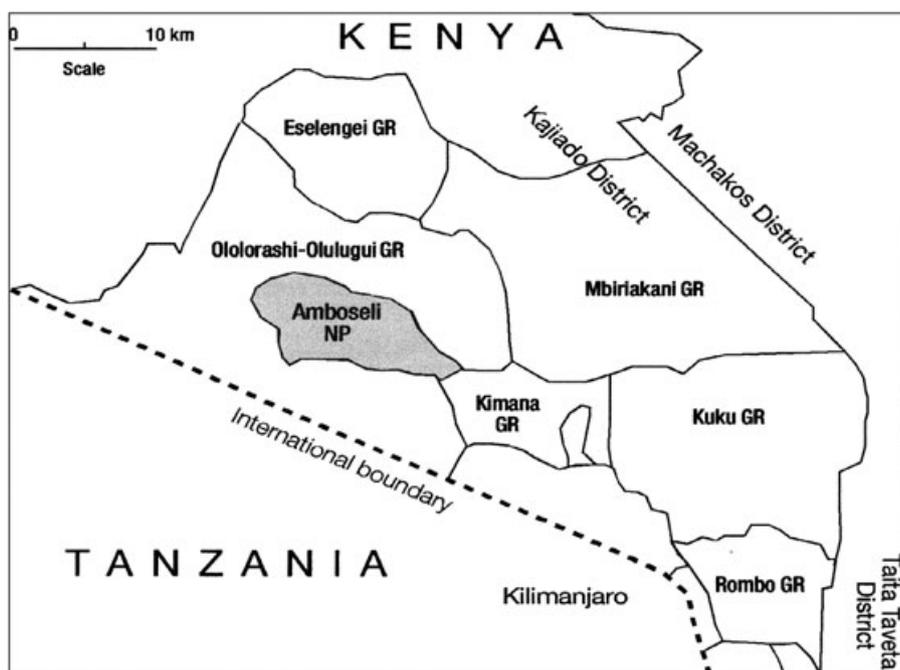


Figure 1. The six group ranches between Amboseli National Park and Tsavo/Chyulu Parks form critical wildlife dispersal areas and migration routes between protected areas. Chyulu/Tsavo West National Parks are to the east of Mbirikani and Kuku Group Ranches.

concentrations (Okello, 2005b), which together with spectacular landscapes, inspired the creation and appeal of the world famous Tsavo, Chyulu Hills and Amboseli national parks (Okello *et al.*, 2003). It is still common to see herds of zebra, wildebeest and gazelle grazing side-by-side with Maasai livestock harmoniously. Wildlife live and move freely among the parks, group ranches, community wildlife sanctuaries and other dispersal areas in the ecosystem covering an area greater than 6,000 km² (Western, 1982). Therefore space, pasture, plant resources and water are critical resources in this area — critical for the survival of people, their livestock and wildlife.

The Amboseli landscape is a lived-in working rural landscape that supports socio-economic and cultural livelihoods and the lifestyle of the Maasai. The Maasai are a renowned indigenous people whose adherence to their cultural practices have won them international fame (Galaty, 1992; Wishitemi and Okello, 2003) and made them a focus of cultural tourism in Kenya. Land and its resources are very critical for rural people's livelihoods, and are based on different land ownership regimes: privately owned lands, formal protected areas e.g., national parks, community-owned wildlife sanctuaries, and communal lands managed by the Maasai in different group ranches (Lamprey and Reid, 2004).

Land ownership and resource access are critical issues that determine use of natural resources and, therefore, their conservation. Communal lands are administered and managed by an elected leadership over a period of time, and are mandated to grant temporary ownership and user rights for members on diversity of plant, water and land resources. They also regulate human settlement and movement in communal lands, and ensure free access to pasture and water for all members in various grazing blocks and areas appropriately for different seasons, especially the critical dry season. Wildlife and other natural resources are often unharmed and allowed to share the land with people and their livestock. This has been the case for most pastoral communally-owned lands in Kenya for ages, but increasing human population and changing land uses is increasing competition and making harmonious co-existence challenging. Group ranches which have been communally-owned are now also in the process of sub-dividing land and reverting to individual ownership of land. This mosaic of land ownership regimes and competition for resources is a leading challenge to environmental conservation and eradication of poverty for the resource-dependent rural communities.

3. Challenges in harmonizing livelihoods and environmental/ resource conservation in the Amboseli Landscape

The rural landscapes of Amboseli have evolved over time through the interaction of cultural and biodiversity

components in a lived-in working landscape where human livelihoods have been integrated into environmental conservation under traditional land and resource use regimes (Wishitemi and Okello, 2003). This regime has succeeded for many years in meeting the pastoral livelihood needs while ensuring wildlife and other resource conservation in an integrated traditional resource use system. However, a number of changes are taking place that threaten the interaction between culture and the rural landscape and are driven by both internal and external forces.

Increased birth rates among the Maasai and immigration from other areas have increased pressure on plant, animal and land resources. This is leading to the serious decline of ground plant cover and, hence, degradation of the landscape. Shrubs and trees take longer to grow in these range lands because of low rainfall (less than 500 mm of rainfall annually). These plant resources are heavily used for establishing temporary Maasai shelters and *bomas*² that change about every five years. Shrubs and trees are also increasingly used for wood fuel and charcoal production, fencing of homesteads and farms, and cattle sheds (Kiringe and Okello, 2005). Since the land is communally owned, there is an insufficient and inconsistent incentive for encouraging responsible stewardship of resources (Hardin, 1968), leading to loss of plant cover and resulting soil erosion that either goes unnoticed or is simply ignored by the community. Degradation of land and over-utilization of its resources could lead to the collapse of ecological integrity of this rural landscape, reduce the land for primary productivity and increase desert-like conditions.

Wildlife, particularly large wild mammals, use both the protected areas and the Maasai group ranch land as resident areas and dispersal areas, especially in the wet season. This has been possible over the years because of historical tolerance of wildlife and sharing of range resources between wildlife and livestock. Where resources and space (land) have been abundant, such coexistence was harmonious and common due to the Maasai livestock production strategy that involved transhumance spatial movements making it possible for resource sharing by herbivores (Fratkin, 1994). But there is now increasing conflict between wildlife and humans because of competition for land and resources (particularly water and pasture) and costs from wildlife to the Maasai such as crop raiding and predation on livestock by large carnivores (Okello, 2005c; Campbell *et al.*, 2000). Such human-wildlife conflict increases also affect wildlife when people snare and kill them to reduce or control damages from such resources (KWS, 1994; Okello, 2005c). In a recent study (Okello *et al.*, 2005) found that over 89% of the local community in the Amboseli area now practice both pastoralism and agriculture, with only about 9% practicing

² A boma is a livestock enclosure, a stockade or kind of fort, or a district government office. The term is used in many parts of eastern, central and southern Africa and is incorporated into many African languages as well as colonial varieties of English, French and German.

pastoralism alone. Further, over 96% of local community members support agriculture expansion as an alternative land use.

Pastoralism, when sufficient land was available, offered the best socio-economic and ecologically compatible land use practice for the Amboseli rural landscapes (Galaty, 1992; Fraktin, 1994). However, pastoralism is now a declining practice for many reasons, with cultivation expanding and gaining wider acceptance by the Maasai. The collapse of the beef industry in Kenya and lack of expertise in livestock husbandry has continually eroded pastoralism as a means of economic livelihood among the Maasai. Without government incentives or a properly established beef industry to encourage efficient marketing and pricing for the Maasai livestock, alternative economic means, even though incompatible with cultural and natural resource conservation, are gaining popularity. The shrinking land base caused by increasing human population and hence competition for space, pasture and water between people and wildlife has also led to the decline of pastoralism. Uncompensated wildlife depredation, persistent and long dry season and droughts, and increasing costs of maintaining large herds of livestock have also played a role in the decline of pastoralism (Homewood and Lewis, 1987). Education and Christianity is triggering socio-cultural changes that encourage converted members to turn to other “modern” ways of seeking livelihoods (such as salaried jobs, business and cultivation) rather than traditional pastoralism. The dynamics of this important livelihood, in response to land and resources, has important impacts on livelihoods and environmental conservation.

As land shrinks and competition for it and its resources increase, the impoverishment of the Maasai becomes more obvious, and their daily struggle for survival so vivid that impacts are now spreading to other critical habitats such as wetlands and riverine habitats (Mwale, 2000). The rivers and their scarce water resources are a great oasis of resources in this rangeland. It is now common to see frequently river diversion into farms that are providing more direct and significant household income than both pastoralism and wildlife conservation combined (Campbell *et al.*, 2000). Kimana area is now emerging as a major horticultural production centre for onions, tomatoes and vegetables for export and town markets such as Mombasa and Nairobi.

There are serious consequences for wildlife due to over-utilization of water resources for agriculture because it depletes this resource for people, livestock and wildlife, and causes social tension and conflicts among the Maasai who have different land use types. Conversion of wetlands to farmland also displaces wildlife by destroying its critical habitats, and compromises survival of viable wildlife populations in the ecosystem. This will eventually diminish the value of the protected areas and community wildlife conservancies that earmark tourism revenue. It will also diminish the diversification of income sources among the

Maasai and thereby entrench poverty and depress livelihoods. Large wildlife mammals, the basis for ecotourism in the area, are heavily dependent on water for survival, and their movements are closely related to water availability (Western, 1975). Lack of access to water will lead to reduced wildlife numbers and low dispersal of wildlife into community-owned sanctuaries, thereby affecting the lucrative tourism industry in the area. Lack of large wildlife numbers and diversity in protected areas will affect local livelihoods by reducing job opportunities and local supply of goods and services associated with the tourism industry.

Agriculture expansion not only destroys natural habitats and alters the character of rangeland landscape, but will fuel human–wildlife conflicts as wildlife destroys crops more frequently than harming livestock (Mwale, 2000; KWS 1994). Over 40% of group ranch members in the Amboseli system experience crop damage annually by wildlife compared to only about 21% who experience livestock losses (Okello *et al.*, 2005). Annual combined losses to both crops and livestock to wildlife become even greater and of great concern to local communities as over 64% of community members incur both crop and livestock losses annually (Okello, 2005a; KWS, 1994). These losses of crops and livestock to wildlife, as well as human deaths, insecurity and human injury have also reduced support for conservation — another more appropriate use of Amboseli rural landscapes other than pastoralism. However, traditional interaction over the years has created great tolerance for wildlife among the Maasai, where over 62% of community members still think that wildlife should roam freely on their land, and 92% still view wildlife conservation as important.

However, local Maasai livelihoods and access to basic survival needs overrides many other concerns. That is why a majority of the Maasai in the Amboseli landscape are supporting incompatible land uses such as agriculture expansion, and a further majority of over 86% are supporting and demanding group ranch subdivision into individually-owned land parcels. All group ranches have already completed or done partial subdivision (Okello, 2005c). In fact, a majority (91%) of group ranch members think that complete subdivision will take place everywhere, thereby permanently changing the character of Maasai landscapes. Even though a majority of the Maasai (77%) also think that subdivision will further negatively affect pastoralism — particularly communal access to grazing lands, pasture, and water — cultivation is still becoming more popular. Similarly, more group ranch members (over 75%) acknowledge that group ranch sub-division will negatively affect natural resources particularly wildlife conservation (Okello, 2005c). This demonstrates how short-term practical realities of making a living and providing basic needs of communities can override many appropriate long-term survival strategies that may be more sustainable for rural landscapes.

With about 60% of local communities being illiterate and/or with very low levels of education, encouraging sustainable long-term strategies for extracting and using rural landscapes through awareness and formal education may be less successful (Okello, 2005c). The negative impacts and consequences of land use shift to agriculture (especially in conversion of critical water sources in dry lands) that will alter their culture and conservation need to be explained clearly and consistently. Many Maasai are highly dependent on the landscape and its resources for livelihood. Access to natural resources (such as water, pasture, land and plant resources) is an emotive issue among the community because of its central role in their survival and quality of life (Okello *et al.*, 2003). Land and access to its resources is so central to Maasai survival because the majority are not educated enough to get employment and alternative livelihood elsewhere.

At present, wildlife presents a huge liability and nuisance to the Maasai in Amboseli rural landscapes (Honey, 1999). Many Maasai see the solution to wildlife-based costs as “conservation but away from my backyard”. The solutions many local communities are seeking to stop human–wildlife conflicts, in the absence of a greater role and direct benefit from conservation, seem to be increasingly more of “separation” rather than “integration” of culture and nature in the landscape. Fencing and or translocation of wildlife has the support of over 75% of the local communities. Most of them (78%) support creation of “fenced in” community-owned wildlife sanctuaries where they can benefit from, yet be separated from wildlife, so that they can also practice other land uses such as agriculture (Okello, 2005c).

These changes to the landscape character and changes in land uses are due to lack of economic investments (McNeely, 1993; Norton-Griffiths and Southey, 1995) in dry lands, as well as local, national and international socio-economic changes (Campbell *et al.*, 2000). Despite the great costs of allowing wildlife on their communal lands, the Maasai continue to shoulder wildlife-related damages without compensation (banned in 1977) from the government. Meanwhile, the government and tourism investors continue to draw large amounts of foreign income from parks in Maasai backyards (Honey, 1999). These national parks were Maasai traditional grazing lands that were taken away from them without compensation or consultation. As international tourists enter and leave their backyard, all the Maasai can do is sell carvings, sing traditional songs and dance for meagre benefits. This presents a lost opportunity to make wildlife-based tourism a significant source of socio-economic livelihood of the Maasai in the Amboseli rural landscapes (Okello, 2005a) as a counteraction to the expanding agriculture which is not only ecologically incompatible in the area, but is increasing competition and conflicts over critical resources in the Amboseli rural landscapes.

Maasai pastoralists in Kenya are rapidly diversifying. The Maasai may now derive their main livelihoods (and

sometimes considerable income) from farming, wildlife tourism, and/or the leasing of land for large-scale cereal cultivation. The spread of large-scale commercial cultivation competes with wildlife for grazing land, and wildlife populations around protected areas are rapidly declining as a result. Therefore returns from different land uses, and the social structures affecting their distribution, influence the land-use choices being made by the Maasai in rural landscapes surrounding protected areas in Kenya (Thomson and Homewood, 2002). Returns to different interest groups from livestock, cultivation, and wildlife enterprises, seen in the light of current social, economic, and political trajectories, can help to clarify likely future land-use trends in most pastoral rural landscapes. In particular, community conservation initiatives that seek to make wildlife conservation economically worthwhile to individual land owners or communities inevitably must have a strong economic dimension. However, the choices made by Maasai landowners are not just a function of envisaged economic returns from a given economic initiative, but are also strongly influenced by who is leading the initiative, who is able to control the different flows of returns from these different types of enterprise, and who are the inner circle of prime movers and opinion leaders. The role of these elites among poor rural Maasai landscapes greatly shape access and benefits accruing from (particularly shared communal) rural landscapes (Thomson and Homewood, 2002).

Theoretical (Ostrom *et al.*, 1999) and empirical (IIED, 1994) literature has suggested that wildlife conservation is unlikely to succeed in sub-Saharan Africa unless it is able to enlist the support of reserve-adjacent dwellers. Together with increasing concern over access rights and a growing awareness that structural adjustment means less power to enforce, this view has led to a wide range of initiatives attempting to develop community participation in conservation. Practitioner evaluations of these schemes have suggested that costs to communities (in terms of resources foregone and hazards sustained to lives and livelihoods) must be outweighed by benefits (in terms of revenue, dividends, employment, development projects) and that communities should be actively involved in setting priorities and in managing conservation.

It may be difficult to establish meaningful community participation where the conservation goal has been conceived, introduced, and implemented by outsiders, or to ensure equitable distribution of revenue such that the poorer and more vulnerable will not be further disadvantaged by exclusion from either resources or revenue (Gillingham and Lee, 1999). Conservation goals and programs may be at odds with deep-rooted local needs and aspirations (Brockington, 2002). When a conservation initiative like Kimana Community Wildlife Sanctuary brings in so much money (over Ksh8 Million per year) and most is taken by group ranch officials and local community elites, and nothing trickles down to a majority of the poor, it makes such initiatives fail in meeting greater community good.

The conditions necessary for environmental and resource conservation success depend on clear land ownership, high economic and social returns and benefits, and wider spread of benefits to the community members (Okello *et al.*, 2003). Common property management of common pool resources is more likely to work where user groups are tied by a long history of reciprocal interaction and interdependence (Ostrom *et al.*, 1999). In particular, land tenure has emerged as the crucial dimension in the economic, social, and/or environmental sustainability of land use (Galaty, 1992; Niamir-Fuller, 1999; Rutten, 1992; Rutten and Borgerhoff-Mulder, 1999). Even though the Maasai communities around Amboseli constitute a relatively cohesive cultural and ethnic group with established institutions for collaborative regulation of resource access, there is strong competition of leadership based on clans. Group ranch leadership can be very volatile, especially because incoming leadership see it as an opportunity to benefit themselves and associates more than for community management of land and resources for the larger good. As long as this view persists, there will be mismanagement of communal rural landscape resources, and lack of communal care and stewardship of land and environment. This compromises strategies to uplift local livelihoods and environmental conservation in the area.

The role of leadership and elites in controlling livelihoods and environmental benefits can be clearly seen where there is a more lucrative enterprise. This is made even more complex where there is a mixture of land tenure regimes (communal mixed with private ownership) in a rural landscape, as is the case in Amboseli area. For example, wildlife tourism in Amboseli, as well as the Mara, is an extremely high-yielding enterprise with a clearly defined and relatively small number of landowners eligible for a share of returns. Given the high returns from tourism available in both these Maasai areas, a view of economic flows alone suggests that community conservation could succeed. However, conversion to alternative land uses and wildlife population decline continue in both these ecosystems (Thomson & Homewood, 2002). Understanding the reasons for this decline requires an understanding of the distribution of returns from different land-use options, as well as the behaviour and activities of leadership and elites in these communities.

Amongst local and national elites, tourism concessions are favoured over shrinking opportunities for cultivation. Returns from farming now accrue to local elites only on their private land, while returns from wildlife still accrue from larger areas of the group ranch, with the wider membership excluded from tourism benefits.

It is necessary to understand the interplay of the different roles and control mechanisms of main stakeholders (local community, elites and entrepreneurs/investors) in access, distribution and benefits of resources and environmental goods and services to local communities for their livelihoods. New changes in tenure mean there is a rapid

re-negotiation of business relations and of land-use outcomes. This provides an opportunity for community-based, non-governmental, and government agencies to influence unfolding patterns which are presently increasing wealth disparities between elite and ordinary group ranch members, and undermining the natural resource base which supports tourism. The social networks that are emerging as a result of these relatively new ventures have a dynamic of their own. The rapid evolution and proliferation of mutually exclusive or potentially complementary tradeoffs has shaken up the established patterns of control. They have opened new opportunities for the Maasai to improve their share of revenue, and for new social institutions of cooperation and accountability to develop.

The Maasai have also exploited cultural aspects of their livelihood differently to uplift their livelihoods. The influence of tourism on the Maasai, their culture and interactions with rural landscape is also an emerging issue. Still, most people who benefit from the Maasai culture are big tourist lodges, tour drivers and other tourism investors. The Maasai have continued to get the shorter end of benefits (by dancing and selling carvings) than having a controlling share of tourism and cultural benefits. They are portrayed and expected to remain “original” for the tourists, posing for photographs and telling the “old stories” of how they used to live in the landscape as opposed to current dynamics of their culture (Bruner, 1994). Lack of properly planned ways of exploiting their culture (as a component of tourism) has led to exploitation and promotion of inaccurate stereotypes of their way of life. But as much as there have been some direct benefits for investors and Maasai elites, there have been direct serious setbacks for Maasai livelihoods. Exposure of Maasai Morans (Warriors) have led to many abandoning formal education or gainful pastoralism and joining dancing troupes in cultural Manyatta’s (Maasai communities) for tourists in search of easy money. Many have been exposed to alcohol and other social vices, making them misfits in society and unable to contribute to the general livelihoods of their dependants (Hutchcock and Brandenburg, 1990).

4. Community wildlife-based ecotourism as a livelihood option

Tourism can indeed be used as a mechanism for both conserving wildlife resources (as tourism in Kenya is mainly wildlife-based (Okello *et al.*, 2005), and reducing rural poverty. Among the Maasai of Amboseli, there are several key attractions that can enhance and make this option a reality. The area has important wildlife species roaming in the group ranches that serve as dispersal area for Amboseli and Tsavo West (Western, 1982; Okello *et al.*, 2003). It is also endowed with a great variety of physical features as well as interesting Maasai culture (Okello *et al.*, 2003). Diversification of tourism opportunities and

activities (such as night game drives, hiking, or bicycle, camel or balloon safaris, Maasai cultural home stays) in the rural landscape would enable it to increase income and uplift livelihoods among rural poor communities. If these attractions can be combined with activities that directly bring tourists into contact with nature, the local community and entire African experience, they will provide a significant and interesting tourism product that can become a basis for sustainable lucrative community-based tourism enterprises in the area.

Many Maasai now see and appreciate the huge amount of money tourist investors and government reaps from their former rural landscapes (such as Maasai Mara, Nairobi, Amboseli, Nakuru, Tsavo, Chyulu etc). They are realizing that wildlife-based ecotourism, if developed and owned by the community, can be a huge source of income coming directly to them rather than getting hand outs from public protected areas. The Maasai in the area are now not only agitating for more revenue sharing (through true partnership) with prime tourism revenue earnings from protected areas, but are also in the process of designating their own land (communal or pooled by individual land owners where sub-division has already occurred) to form (private and community-owned) wildlife sanctuaries. Since the establishment of Kimana Community Wildlife Sanctuary (KCWS) in 1996, many group ranches in the Amboseli ecosystem have followed this example. Many are forming wildlife sanctuaries, conservancies or concession areas. It is hoped that this will not only provide significant and direct income from rural landscapes to impoverished communities, but will legitimize wildlife conservation as a rural landscape land use option as well as a source of empowering rural communities economically.

Setting aside land by the community for wildlife conservation achieves key dual objectives: expanding the range for wildlife outside protected areas and creating more tolerance for wildlife use of rural landscapes outside protected areas; and bringing direct benefits to the community by their managing and owning these enterprises (Okello *et al.*, 2003). The requirements of such a wildlife-based community enterprise should be guided by its aims and target market, i.e., whether consumptive utilization is the goal (Du Toit, 2002) or wildlife-based ecotourism (Okello *et al.*, 2003). It is also argued that these sanctuaries should diversify their services and rationale of existence (through multiple uses) so that when tourism fluctuates or even stops, they continue to get local support and relevance.

But for these initiatives (of setting aside community or private wildlife sanctuaries) targeting wildlife-based tourism to succeed, different information that must be acquired through research is needed. Such information includes evaluation of key attractions such as spectacular mammal and bird fauna (Okello, 2005b) in their natural landscapes (density and diversity), enchanting and scenic landscapes, a captivating human culture and other attractions (historical and spiritual) (Okello *et al.* 2005). In

addition, people's relationship with the rural landscape must be studied to understand how they will react or survive when part of the landscape is taken away for conservation as this may increase the already dwindling land resources. There is need for assessing tourism potential to guarantee income from such investments, and a cost-benefit analysis (Okello, 2005a) to enable the initiative to economically empower rural communities and help reduce poverty (Okello *et al.*, 2003). This demonstrates the need for comprehensive research to provide information for such initiatives aimed at conservation of rural landscapes as well as providing livelihoods.

Some critical factors that will make community-based tourism succeed or fail are management; marketing; product uniqueness and funding. The Maasai have low levels of education and, even though this is rapidly changing, managing a tourism enterprise needs vast experience in anticipating tourist demands and behaviour, and constantly making the tourism product attractive. A local Maasai manager may be better suited as he will understand the culture and biological endowments better and combine this with training. However, where no local manager is available, hiring an external manager can often be a source of conflict of interest or create misunderstanding where public relations with the community are poor. This is critical for the success of community-based tourism ventures. Many community-based tourism ventures will fail simply because of inexperienced or poor management.

The management of community-based tourism ventures must also be able to make links with other stakeholders in the tourism industry (tour companies, tour operators, and marketing agencies, professional bodies) to help highlight and expose the unique products both locally and internationally. Even just the initial capital to establish a world class tourism facility that will be acceptable to tourists can be expensive. Therefore, financial ability or funding is necessary. It is here that partnership with an investor is crucial, although it must be managed to provide benefits for both partners and make legal and fair agreements of sharing rights, responsibilities and benefits. Initial investment in tourism in the Maasai area was mostly considered exploitative by the local communities, and this attitude has to be changed if such ventures are going to succeed.

Community-based tourism must be sustainable and provide competitive attractions.

The Maasai in Amboseli are surrounded by well managed and marketed national parks. For them to compete effectively they must be creative in developing and marketing unique aspects that parks do not provide. That is why it is critical to diversify tourist activities beyond traditional game viewing from vehicle roof tops. Diversifying tourist activities and bringing them directly into contact with the rural Maasai community, nature and a more authentic and realistic African experience will be a unique product. Nurturing such a product and expanding it

may lead to sustainable enterprise. But sustainability should be pursued beyond the traditional international tourist market. Creating regional and local clientele may be critical in cushioning the community-based tourism enterprise from international fluctuations and influences (Okello *et al.*, 2005) and ensuring a steady flow of tourism revenue even in low tourism seasons. Therefore, the management and strategies of local tourism needs to be creative, versatile, flexible and visionary in order to succeed because although such rural wildlife-rich landscapes are extremely suitable, tourism is a highly competitive enterprise.

There are also issues of benefits sharing and if they significantly contribute to community well being. It is important to make community-based tourism ventures profitable and sustainable, but it is even more important to ensure that the benefits are trickling down to rural households and empowering them economically. With the challenges facing traditional pastoralism, the Maasai are turning more to agriculture and ecotourism to survive. Finding ways to benefit from natural resources while conserving them is a better option than practicing agriculture in these rangelands where the ecology is not suitable for cultivation. The distribution of tourism revenue to local shareholders should be transparent and significant to gain local confidence and support. This is critical where such a venture is owned by the entire community (in communal ownership). Exploitation by a few elites of the majority of the members may lead to failure.

Tourism ventures owned by an individual or a group of land owners are likely to succeed more than communal ones which eventually get bogged down with transparency and accountability issues. It is also easy for an individual or group of land owners to make decisions quickly about partnership and products (such as campsites, ecotourism lodges and associated activities) than communally owned enterprises which are governed by different rules and have to seek consent and consensus from the entire community. With group ranch subdivision underway, it is likely that individuals or groups of land owners will increasingly invest (singly or with partners) in the tourism enterprises in the area. However, some challenges such as wider distribution of benefits and the relationships with those who are not members of such enterprises but who may be indirectly supporting such ventures may arise. This may include access routes to the enterprises. Or, it may include wildlife damages to other land owners; where this may be the main attraction for private tourism ventures, responsibility must be taken for safety within and around such wildlife-tourism ventures, as well as compensation for damages.

When looking at rural landscapes, one can no longer attempt to curb rural community landscape for a single land use option such as for wildlife conservation. Such an approach leads to disinheriting poor rural communities of critical resources they need for livelihood and promotes negative interactions with the landscape. It is now necessary

to integrate conservation into rural development activities (Newmark and Hough, 2000; Sibanda and Omwenga, 1996). Access to water and pasture resources by the Maasai is critical during times of drought and scarcity, and this argument can be used to legitimize the conservation area as a multiple-resource use area important for the local community. It will also keep rural landscapes used for multiple purposes relevant to the community when tourism fluctuates or ceases to be its most important benefit. Negative tourist reactions to the presence of livestock in the conservation area can be minimized by explaining clearly the importance of incorporating the traditional lifestyles (such as pastoralism) of local communities into conservation models (Adam and Hulme, 2001; Alpert, 1996) rather than excluding them as was done in the past in the Park Model (Beresford and Phillips, 2000).

The ultimate success for any lived-in landscape is when its resources, including wildlife, are useful for survival and meet basic human needs, as well as become a significant source of revenue to local communities. This would transform such wildlife resources in rural landscapes from being a liability and a victim of negative interactions with humans to a cherished component such as the Amboseli area, enjoying both protection and expanded dispersal ranges in the expansive communal group ranches that act as wildlife dispersal and migration areas for both Amboseli and Chyulu/Tsavo West Parks. Wildlife community conservancies (Adams and Hulme, 2001) can be such a medium which presents a different model of community conservation and rural development (Alpert, 1996). Further, it is important that long-term rather than short-term objectives are considered. Land and resource utilization (such as plants and water) should be monitored to limit the negative impacts on wildlife habitats and to allow wildlife migration routes and dispersal between various habitats and resource sites within the landscape. Large mammals such as elephants, wildebeest, zebra and giraffe move freely in the Amboseli landscape and need the space for their population viability.

5. Conclusion: Reconciling conservation and livelihoods

Reconciling livelihoods and environmental conservation for the greater good of rural landscapes is important in attaining the dual aspirations of the MDGs on poverty and environmental conservation. With threats like group ranch subdivision, agriculture expansion, corruption and lack of transparency within group ranch leadership, lack of skills and good stewardship that leads to the “tragedy of the commons” (Hardin, 1968), wildlife and environmental conservation in the Amboseli landscape may be difficult to achieve. While there still exists great potential to improve livelihoods using rural landscapes, resources, and endowments, the constraints need to be urgently addressed in order to domesticate the MDGs on eradication of poverty

while enhancing environmental conservation. Where there are singular land use options such as wildlife conservation, there is need to ensure that livelihoods are met, that local people are involved in, consulted on, and compensated for both in actual and opportunity costs, and benefit from the resources and associated industries (Ferraro and Kiss, 2000; McNeely, 1993), and that local communities are integrated in rural landscape development (Newmark and Hough, 2000; Sibanda and Omwenga, 1996) for improved livelihoods. An integrated landscape level approach to integrated development and resource conservation models in managing the Amboseli ecosystem is recommended. This should be complemented by a comprehensive land use plan where land owners would be prevented from employing certain land use systems that are incompatible with both wildlife conservation and livestock production.

Hunger is a very common manifestation of poverty in rural areas. It is more than just a lack of available food, it is a problem of deficiencies in food entitlement and deprivations in related essential services (health care, education, safe drinking water, adequate sanitation). Food entitlement differs from food availability in that it indicates what a person can command with income and thus consume, rather than what is available in the market. Consequently, addressing hunger means ensuring that people have command over the resources (especially income) needed to acquire food. The reason for the Maasai embracing agriculture is to ensure food security. This area is one of the perennial recipients of food aid, and the government wants the people themselves to use their resources to guarantee food security. But most of the agriculture taking place is driven by non-Maasai who exploit limited water sources for commercial horticultural production (Okello, 2005c). When resources are exploited for commercial purposes by renters rather than land owners, the profits always leave that rural setting, there is less care for land and its resources, and the local community benefits are minimal compared to what they would be if they cultivated themselves. This does not help in enhancing local livelihoods or ensuring environmental sustainability.

A food-secure household is generally described today as one that can reliably obtain food of adequate quality and quantity to support a healthy and active life for all members of the household. Food security is influenced by many factors, including poverty, consistent access to food, nutrition, food production, the availability of resources, and coping strategies. Most of the Amboseli rangelands do not support cultivation, and other alternative land uses that can thrive in this ecosystem need to be explored, promoted and supported to meet local socio-economic needs. Within this framework, there is a need to find a way of offsetting crops lost due to wildlife. Establishment of an endowment for this purpose is needed, not necessarily to spur agriculture expansion, but to provide a cushion for crop raiding in approved zones where this is done in the context of other stakeholders and water resource users.

The Maasai in Amboseli area have one of the fastest growing human populations. This, combined with consistent human immigration, has stressed both land and its resources. Population increase will compromise any significant attempt at alleviating poverty, increasing food security and ensuring sustainable environmental use. There are now clear signs that compressed livestock in rangeland that is shrinking in size because of human population and increasing human activities and structures are leading to rangeland degradation. This will reduce land productivity and eventually constrain efforts at alleviating poverty while conserving the environment. The correct stocking of livestock (few and high quality), prevention of over-utilization of plant resources (Kiringe and Okello, 2005) and controlling negative human activities (such as depleting wetlands and riverine habitats) will prevent imminent ecological collapse and promote both poverty alleviation and sustainable use of environmental resources.

The most important strategy in addressing food security is improving agricultural production in areas where this is appropriate (ecologically in terms of rainfall and soil capacity). Infrastructure is one of the key inputs to more rapid agricultural development in Africa. Torero and Chowdhury (2005) showed that sub-Saharan Africa has continued to lag significantly behind other regions in infrastructure investments, including paved roads, telephone lines, and electricity production. Less than half of the population in sub-Saharan Africa has access to safe drinking water, and the availability of clean water may affect child mortality rates as well as the attainment of universal primary education for girls (Leipzig *et al.*, 2003). The significant lack of infrastructure has normally been attributed to geography (diseases, internal distance, and sparsely populated areas are a big obstacle) and to the poor initial condition of infrastructure in Africa. In Kenya, there has been historical neglect in socio-political and economic development of dry lands, making most pastoral areas in Kenya lag behind in many aspects of life. Beginning a program of socio-economic investment will reverse these aspects and diverse opportunities in these areas for the benefit of local communities and stability of micro-economic activities.

Another problem is access to resources required to improve livelihoods and increase socio-economic options for rural communities. Renkow *et al.*, (2004) assessed the fixed transaction costs (those not dependent on commercialized volume) that hinder subsistence farmers' access to product markets in Kenya. They found that high transaction costs are equivalent to a value-added tax of approximately 15%, illustrating the potential for raising production with effective infrastructure investments. Water is one of the heavily used and abused resources in the Amboseli area, which apparently is also closely linked to people's quality of life and economic activities. Wise use of this resource is vital for the future of this ecosystem.

Critical resources for people's livelihood are declining globally, and the cause of this is mismanagement and unsustainable use. Ecosystem services and natural resources contribute much to the local, national as well as the global economy. In the late 1990s, agriculture accounted for nearly a quarter of the GDP of low-income countries. Industrial wood products contributed US\$ 400 billion to the global economy in the early 1990s, and fisheries accounted for US\$55 billion in exports in 2000 (United Nations, 2006). However, these resources are declining everywhere. It is a concern that most of the 21st century will witness the collapse of communities dependent on these natural resources. As these resources diminish, there will be an increase in human conflicts and suffering. The value of land and its resources is increasing while at the same time these resources are diminishing in quality and quantity at a time when humans' dependence on them is increasing. This will intensify competition, conflicts and environmental degradation in rural landscapes if realistic and practical strategies to prevent this are not put in place taking into consideration the unique aspects of each rural landscape.

If clear mechanisms, mainly grassroots, are created to support and mitigate negative outcomes, it can be possible to meet local community livelihood needs and conserve environment and resources. These mechanisms must reconcile the special character, resources, challenges and potential of each individual rural landscape. The initiatives at this reconciliation must be specific, realistic and applicable to the situation of that landscape, as well as urgent and participatory to achieve rapid results in addressing local poverty and environmental conservation. Scarce natural resources and ecosystem stresses often force unwanted trade-offs on poor communities. A community can get more food by converting a vital wetland or forest to farmland, but in doing so it may lose irreplaceable environmental goods and services such as timber, biodiversity, clean water, flood regulation and drought control (United Nations, 2006). It is important to acknowledge these realities, establish the linkages, and address root causes for both poverty and environmental degradation in rural landscapes so as to improve the quality of life of many rural poor in the rural landscapes.

References

- Adams, W.M., Hulme, D., 2001. If community conservation is the answer in Africa, what is the question? *Oryx*, 35(3): 193–200.
- Alpert, P., 1996. Integrated conservation and development projects. Examples from Africa. *Bioscience*, 46(11): 845–855.
- Beresford, M., and Phillips, A., 2000. Protected landscapes: A conservation model for the 21st century. *The George Wright Forum*, 17: 15–26.
- Brockington, D., 2002. Fortress conservation: The reservation of the Mkomazi Game Reserve Tanzania, African Issues Series, James Currey, London.
- Bruner, E.M., 1994. Maasai on the lawn: Tourist realism in the East Africa. *Cultural Anthropology*, 9(2): 435–470.
- Campbell, D.J., Gichohi, H., Mwangi, A., Chege, L., 2000. Land use conflict in Kajiado District, Kenya. *Land Use Policy*, 17: 337–348.
- Du Toit, J.T., 2002. Wildlife harvesting guidelines for community-based wildlife management: A southern African perspective. *Biodiversity and Conservation*, 11: 1403–1416.
- Ferraro, P.J., Kiss, A., 2000. Direct payments to conserve biodiversity. *Science*, 298: 1718–1719.
- Fratkin, E., 1994. Pastoral land tenure In Kenya: Maasai, Samburu, Boran, and Rendille experiences 1950–1990. *Nomadic Peoples*, 34: 55–68.
- Galaty, J.G., 1992. This land is yours: Social and economic factors in the privatisation, subdivision and sale of Maasai ranches. *Nomadic Peoples*, 30: 26–40.
- Gillingham, S., Lee, P.C., 1999. The impact of wildlife related benefits on the conservation attitudes of local people around the Selous Game Reserve, Tanzania. *Environmental Conservation*, 26(3): 218–228.
- Hardin, G., 1968. The tragedy of the commons. *Science*, 116(2): 1243–1248.
- Hutchcock, R.K., Brandenburgh, R.L., 1990. Tourism, conservation and culture in the Kalahari Desert, Botswana. *Cultural Survival Quarterly*, 14(2): 20–30.
- Homewood, K., Lewis, J., 1987. Impact of drought on pastoral livestock in Baringo 1983–1985. *Journal of Applied Ecology*, 24: 615–631.
- Honey, M., 1999. *Ecotourism and Sustainable Development: Who Owns Paradise?* Wasland Press, Washington D.C., pp. 405.
- IIED 1994. *Whose Eden? An Overview of Community Approaches to Wildlife Management*, IIED, London, pp. 124.
- Kiringe, J.W., Okello, M.M., 2005. Use and availability of tree and shrub resources on Maasai communal rangelands near Amboseli, Kenya. *African Journal of Range and Forage Science*, 22(1): 37–46.
- Kenya Wildlife Service, KWS, 1994. Wildlife-human conflicts in Kenya. Report of a five-person review group, KWS Official Document. Nairobi, Kenya, pp. 55.
- Lamprey, R.H., Reid, R.S., 2004. Expansion of human settlement in Kenya's Maasai Mara: What future for pastoralism and wildlife? *Journal of Biogeography*, 31: 997–1032.
- Leipzig, D., Fay, M., Wodon, Q., Yepes, T., 2003. Achieving the Millennium Development Goals: The role of infrastructure. Policy Research Working Paper 3163. World Bank, Washington, DC.
- McNeely, J., 1993. Economic incentives for conserving biodiversity: Lessons for Africa. *Ambio*, 22(2): 144–150.
- Mwale, S., 2000. Changing relationships. *Swara*, 22(4): 11–17.
- Newmark, W.D., Hough, J.L., 2000. Conserving wildlife in Africa: Integrated conservation and development projects and beyond. *Bioscience*, 50(7): 585–592.
- Niamir-Fuller, M. (ed.) (1999). *Managing Mobility in African Rangelands. The Legitimization of Transhumance*, IT Press, London.
- Norton-Griffiths, M., Southey, C., 1995. The opportunity costs of biodiversity conservation in Kenya. *Ecological Economics*, 12: 125–139.
- Okello, M.M., 2005a. A survey of tourist expectations and economic potential for a proposed wildlife sanctuary in a Maasai group ranch near Amboseli, Kenya. *Journal of Sustainable Tourism*, 13(6): 566–589.
- Okello, M.M., 2005b. An assessment of the large mammal component of the proposed wildlife sanctuary site in Maasai Kuku Group Ranch near Amboseli, Kenya. *South African Journal of Wildlife Research*, 35(1): 63–76.
- Okello, M.M., 2005c. Land use changes and human-wildlife conflicts in the Amboseli area, Kenya. *Human Dimensions of Wildlife*, 10(1): 19–28.
- Okello, M.M., Seno, S.K., Wishitemi, B.L., 2003. Maasai community wildlife sanctuaries in Tsavo-Amboseli ecosystem, Kenya: Management partnerships and their conditions for success. *Parks*, 13(1): 7–15.
- Okello, M.M., Wishitemi B.E.L., Lagat, B., 2005. Tourism potential and achievement of protected areas in Kenya: Criteria and prioritization. *Tourism Analysis*, 10(2): 151–164.

- Ostrom, E., Burger, J., Field, C., Norgaard, R.B., Policansky, D., 1999. Revisiting the commons: Local lessons, global challenges. *Science*, 284: 278–282.
- Renkow, M., Hallstrom, D.G., Karanja, D.D., 2004. Rural infrastructure, transactions costs, and market participation in Kenya. *Journal of Development Economics*, 74(2): 349–367.
- Ruttan, L., and Borgerhoff-Mulder, M., 1999. Are East African pastoralists truly conservationists? *Current Anthropology*, 40(5): 621–652.
- Rutten, M., 1992. Selling wealth to buy poverty. The process of individualization of land ownership among the Maasai pastoralists of Kajiado District, Kenya, 1890–1990, Nijmegen Studies in Development and Cultural Change 10, Verlag Breitenbach Saarbrücken.
- Sibanda, B.M.C., Omwenga, A.K., 1996. Some reflections on conservation, sustainable development and equitable sharing of benefits from wildlife in Africa: The case of Kenya and Zimbabwe. *South African Journal of Wildlife Research* 26(4): 175–181.
- Thomson, M., Homewood, K., 2002. Entrepreneurs, elites and exclusion in Maasailand: Trends in wildlife conservation and pastoralism development. *Human Ecology*, 3(1): 107–138.
- Torero, M., Chowdhury, S., 2005. Increasing access to infrastructure for Africa's poor. 2020 Africa Conference Brief 16. International Food Policy Research Institute, Washington, DC:
- United Nations, 2006. *The Millennium Development Goals Report 2006*, UN Headquarters, New York, USA.
- United Nations Millennium Project (2005). Investing in development. A practical plan to achieve the Millennium Development Goals. Report to the UN Secretary-General, New York.
- Western, D., 1975. Water availability and its influence on the structure and dynamics of a savannah large mammal community. *East African Wildlife Journal*, 13: 265–286.
- Western, D., 1982. Amboseli National Park: Enlisting landowners to conserve migratory wildlife. *Ambio*, 11(5): 302–308.
- Wishitemi, B.E.L., Okello, M.M., 2003. Application of the protected landscape model in Southern Kenya, *Parks*, 13(2): 12–21. Category V. IUCN, Gland, Switzerland.