



Wildlife Conservation in Northern Tanzanian Rangelands

Alan Rodgers, Lota Melamari and Fred Nelson

December 2003

TNRF Occasional Paper No. 3

Sub-theme #1: Wildlife Conservation Outside Protected Areas

Paper presented to the Symposium: Conservation in Crisis: Experiences and Prospects for Saving Africa's Natural Resources; held at Mweka College of African Wildlife Management, Tanzania, December 10-12, 2003

Disclaimer: The opinions and views contained within the TNRF Occasional Papers Series do not necessarily represent those of the Tanzania Natural Resource Forum expressed or implied. They are solely those of their respective authors.

Abstract

Northern Tanzania's savannah rangelands contain some of the most spectacular and diverse wildlife populations found anywhere in Africa, and one of the most biologically and economically important natural resources in modern Tanzania. This dual importance is central to the way wildlife in the region is managed and used. The biological importance attracts the involvement of international and national conservation agencies with a mandate to maintain wildlife populations and their habitats in a natural state. The economic importance is apparent at local, regional, and national scales. Wildlife-based tourism provides one of Tanzania's largest and most rapidly expanding sources of national revenue. At the local level wildlife can provide substantial household income to rural communities, but wildlife can also create negative impacts through losses to crops, livestock, and human life.

The ability of wildlife in northern Tanzania to continue providing these values at the landscape level depends to a great deal on the actions and interests of rural communities. Although a large and extensive network of National Parks and other protected areas has been established in the region, these parks are insufficient to conserve wildlife and key habitats. Tarangire National Park, for example, contains less than 15% of the annual ranges of migratory species such as zebra, wildebeest, and elephant. Around Tarangire and throughout the region, wildlife is dependent on communal and private lands for effective conservation of migratory routes and dispersal areas. On these communal and private lands, wildlife management is not succeeding and the resource's values are being lost. Wildlife in northern Tanzania's savannahs and grasslands is subjected to unsustainable levels of off-take at present, particularly from bushmeat poaching and licensed resident hunting. Key corridors and dispersal areas, such as areas adjacent to Kilimanjaro, Tarangire, and Lake Manyara National Parks, are being lost to agriculture and settlements. At the root of these problems and the challenge of conservation in northern Tanzania's landscape is wildlife's inability to compete as a locally valued form of land use and livelihood option. Local communities must be able to derive benefits from wildlife resources occurring on village lands in order to have incentives for conservation. Considerable progress has been made in northern Tanzania in creating local wildlife-based benefits from tourism, but major institutional constraints must be addressed if viable community-based conservation is to be enabled as advocated by Tanzania's Wildlife Policy. The evolution of this central issue over the long and short terms will have a profound impact on wildlife populations, and the values they create, in northern Tanzania.

Introduction

Northern Tanzania is one of the world's most renowned wildlife areas. In addition to providing unique biological values and importance to the nation and the international community, northern Tanzania's wildlife is the essential element in a tourism industry which earns the country over \$700 million annually and has increased rapidly over the past decade. These resource values are closely tied to a protected area network in northern Tanzania that comprises some of the world's most famous National Parks- Serengeti, Lake Manyara, Tarangire, Kilimanjaro- in addition to the Ngorongoro Conservation Area. Serengeti, Mount Kilimanjaro, and Ngorongoro are all recognized internationally as UNESCO World Heritage sites. In addition, Lake Manyara is classified as a UNESCO Biosphere Reserve.

But these extensive State protected areas are insufficient to conserve the region's wildlife populations. Wildlife in northern Tanzania has maintained its diversity and abundance through great annual movements which extend far beyond the boundaries of National Parks and Game Reserves, into surrounding communal and private lands. Tarangire National Park, for example, contains only the dry season ranges for most of the large mammals in the Tarangire-Simanjoro ecosystem. The wet season calving grounds for zebra and wildebeest lie to the east in village lands on the Simanjoro plains. It is the endurance of these wildlife movements across the wider landscape that gives northern Tanzania its unique character as one vast and interconnected set of ecosystems and wildlife ranges. For example, one radio-collared wildebeest has been tracked moving all the way from Tarangire National Park to Lake Natron, a distance of over 150 kilometers (TCP, 1997). Elephants are believed to move between Lake Manyara and Tarangire to the Ngorongoro highlands and perhaps the Serengeti system beyond. Elephants from the Tarangire population also move even further from the park into areas to the south in Kondoa and Kiteto Districts. Maintaining these diverse trans-ecosystem movements and genetic interchange among animal populations is fundamentally dependent on finding ways to conserve wildlife outside of core State-managed protected areas.

At present the wildlife status in northern Tanzania's unprotected communal and private lands is deteriorating in terms of both abundance and diversity. Wildlife in the Tarangire ecosystem, for example, is undergoing a population crash with respect to species such as wildebeest, zebra, hartebeest and oryx. Unsustainable harvest of wildlife in the corridors between Lake Manyara and Tarangire and pressure from human activities has depleted the area's large mammals. The Tanzania portion of the Amboseli-Longido ecosystem has been heavily impacted by bushmeat exploitation and has lost much of its wildlife. Through the pressures of open access exploitation and land use changes that convert rangeland to cultivation, wildlife populations in northern Tanzania are increasingly fragmented and depleted.

This situation is largely a function of wildlife's inability to compete with livestock and agriculture as a form of land use and livelihood option for local communities. Wildlife in village rangelands is still centrally controlled and managed, and the resource's values are not widely accessible to local communities. Rural communities have few incentives to

prevent unsustainable uses of wildlife (e.g. poaching) and to favor wildlife-based land uses. This dilemma, and the need to reform this unsustainable situation, is clearly expressed in the Wildlife Policy of Tanzania, but implementation of the policy has not occurred. Reforming the current modes of wildlife management in northern Tanzania's unprotected communal lands is a central issue in the future of the resource and the values that it provides to the region, nation, and world.

Wildlife in Northern Tanzania: Values, Pressures, and Policy

Northern Tanzania's wildlife populations are of major economic and strategic value to the nation. Wildlife-based enterprises represent a rapidly growing source of commerce and produce a significant share of the country's wealth. National tourism earnings have grown by over 10% annually for more than a decade, from \$65 million in 1990 to \$725 million in 2001 (World Bank/MIGA, 2002). This growth has been driven by the savannah rangelands and parks of the northern tourism circuit, and relies on the area's wildlife populations as their primary attraction to foreign tourists. Revenues to Tarangire National Park, for example, increased nearly 40-fold from only \$39,999 in 1990/91 to \$1,537,092 in 2000/01 (Figure 1). Revenues have remained stable or increased slowly in recent years despite the hostile international climate for tourism created by declines in the global economy and terrorism situation.

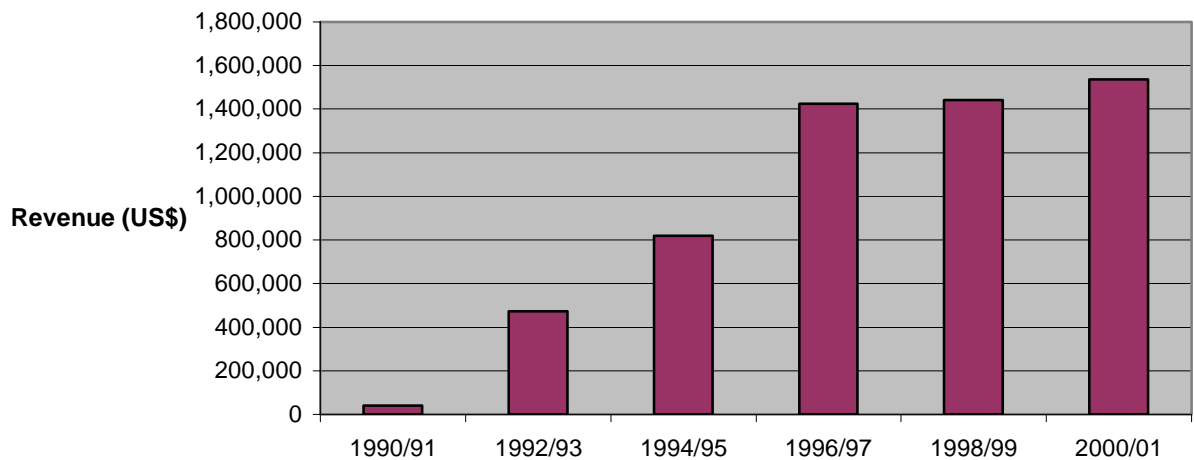


Figure 1: Growth in revenues from tourism at Tarangire National Park, 1990-2001.
Source: Tanzania National Parks/United States Agency for International Development.

As a result of this wildlife-based growth, tourism is currently among the most valuable economic activities in Tanzania, accounting for 40% of total exports in 1998/99 and 12% of GDP in 2001 (World Bank/MIGA, 2002).

Tourism is therefore an important actual and potential source of poverty reduction, particularly at the local level through community and cultural tourism (URT, 2002). Tanzania holds a powerful competitive advantage in comparison to other countries in

terms of wildlife-based enterprises; few other nations in the world possess a richness of wildlife resources such as that found in northern Tanzanian rangelands.

A fundamental reality underlying wildlife management in the region, and the conservation of wildlife's economic and intrinsic values, is that wildlife conservation cannot be assured through the establishment and management of protected areas alone. While protected areas such as National Parks provide protection to many important areas, such as the Serengeti, they are inadequate to safeguard wide-ranging wildlife populations. Tarangire National Park, for example, contains only 2,600 km² out of an ecosystem that covers over 20,000 km² (Figure 2). Wildlife populations depend extensively on dispersal areas to the north, east, and south of the National Park, most critically the wildebeest and zebra calving grounds on the Simanjiro plains and elephant dispersal areas to the northeast and south of the park. This situation of wildlife populations relying on communal rangelands occurs throughout the northern part of the country. The entire Tanzanian portion of the Amboseli ecosystem, around West Kilimanjaro and Longido, falls on village lands (Poole and Reuling, 1997). Even in the Serengeti ecosystem, with its vast complex of protected areas (Serengeti National Park; Maswa, Ikorongo, and Grumeti Game Reserves; Ngorongoro Conservation Area), the annual wildebeest migration passes through extensive community rangelands in Loliondo Division as well as in the eastern portions of Serengeti District.

Most of these dispersal areas were classified as Game Controlled Areas (GCAs) during the colonial period, but we refer to them as unprotected because GCAs provide no restrictions on human occupation or land uses, and minimal law enforcement investments for wildlife protection are made in these areas. According to the Ministerial Wildlife Sector Review Task Force, GCAs are "totally ineffective" at conserving wildlife populations (WSRTF, 1995). As a result this Task Force concluded that "there is no effective means now in place of conserving biological resources outside protected area networks" (WSRTF, 1995).

These GCAs also overlap entirely with village lands where local communities have recognized land tenure rights- for example nearly all of Monduli and Simanjiro Districts feature this overlap of GCAs and village lands. This overlap has created substantial land tenure insecurity in many of these community rangelands and is a growing source of conflict between local people and wildlife management authorities.

Wildlife populations in these ecologically critical but unprotected northern Tanzanian rangelands are currently undergoing widespread decline. Recent surveys in the Tarangire ecosystem indicate steeply declining wildlife populations, with particularly notable declines occurring in the zebra and wildebeest populations that dominate the ungulate community. Recorded zebra numbers in the ecosystem declined by approximately 60%, from around 35,000-40,000 animals in 1988-1990 to only 10,000-15,000 a decade later (TWCM, 2000). Wildebeest numbers plummeted during the same period, from 40,000-45,000 to only 9,100 in 1999 (TWCM, 2000). Hartebeest numbers dropped from approximately 4,000 in 1990 to 1,000 in 1999 (TWCM, 2000). Driving transect counts conducted in Tarangire National Park over the past ten years further indicate that zebra

and wildebeest populations may have declined by approximately 31% and 75% respectively, and that oryx and hartebeest have virtually disappeared from the park (Figure 3 and Table 1). In the Kwakuchinja corridor that links Lake Manyara to Tarangire National Park, eight large mammals have reportedly gone extinct during the past two decades (Kidegesho, 2000).

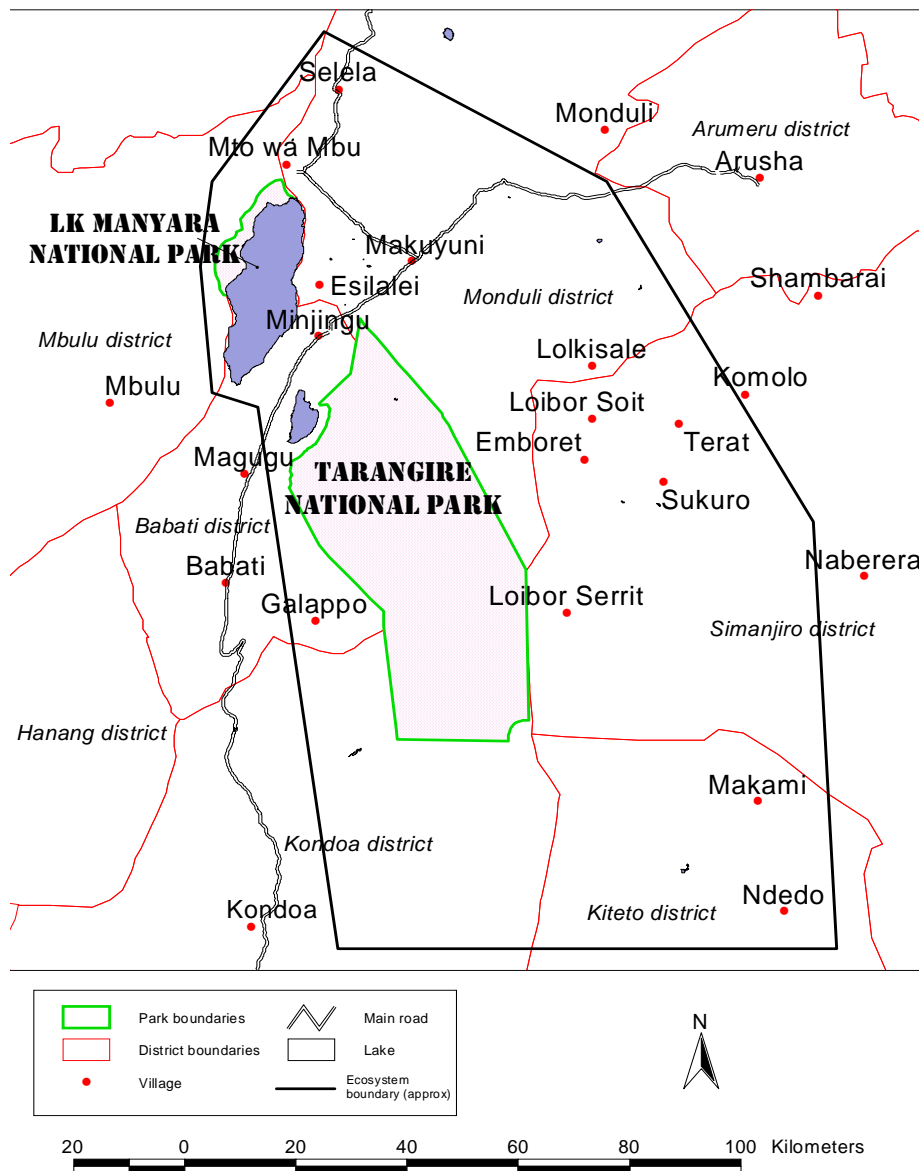


Figure 2: Approximate delineation of the Tarangire ecosystem surrounding Tarangire National Park. Critical wildebeest and zebra calving grounds are located to the east of the park on the Simanjiro plains around the villages of Emboret and Loiborsoit which are shown on the map. Source: Tarangire Elephant Project.

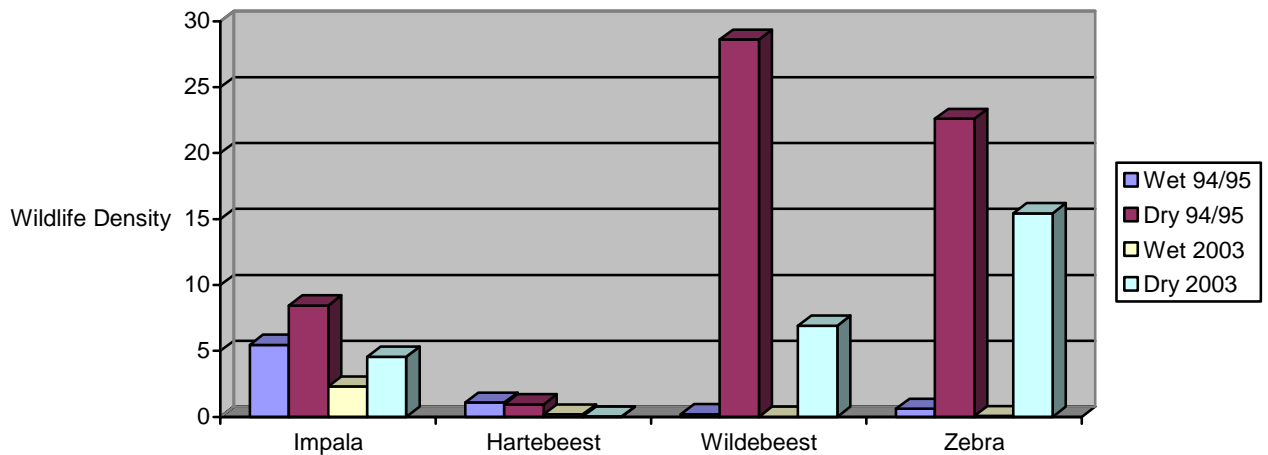


Figure 3: Changes in wildlife densities in Tarangire National Park as recorded on road counts in wet and dry seasons in 1994/95 and 2003. Wildlife densities were determined using an index of species seen per kilometre driven. Note the virtual absence of zebra and wildebeest from the National Park during the wet season counts, when both species have moved outside the park to the Simanjiro plains and surrounding areas. Source: Tarangire Elephant Project.

	Impala	Hartebeest	Wildebeest	Zebra
Wet 94/95	5.46	1.08	0.2	0.6
Dry 94/95	8.45	0.94	28.62	22.61
Wet 2003	2.29	0.17	0	0.06
Dry 2003	4.56	0.02	6.91	15.43

Table 1: Changes in wildlife densities in Tarangire National Park as recorded on road counts in wet and dry seasons in 1994/95 and 2003; data used in Figure 3.

In other unprotected northern Tanzanian rangelands, wildlife declines are less quantifiable but widely reported. West Kilimanjaro, an important dispersal area for Kenya’s Amboseli ecosystem, has suffered local declines or extinctions of species such as giraffe, buffalo, eland, oryx, and hartebeest (Nelson, 2000). The Yaeda Valley was so denuded of large mammals by the mid-1990’s that it was removed from use as a tourist hunting concession at that time.

The two root causes of wildlife declines in northern Tanzania are over-exploitation of wild animals, principally for consumption as bushmeat, and the conversion of rangeland habitats to other land uses, such as agriculture and human settlements. Bushmeat poaching is illegal but nevertheless currently widespread in northern Tanzania and clearly represents the main form of wildlife use in the region. Barnett (2000) records 75%, 94%,

and 67.9% of people in respective northern Tanzanian survey groups as illegally consuming bushmeat. Campbell and Hofer (1995) estimate an annual off-take of 200,000 wild animals from the Serengeti ecosystem alone.

Resident hunting is another source of substantial and unsustainable wildlife off-take in these rangelands. Resident hunting is poorly monitored and enforcement of the provisions of licenses issued to individuals- i.e. ensuring that the number of animals killed complies with the license granted- is difficult. The sustainability of animal quotas, particularly in light of the existing pressures from poaching, is suspect. Monduli District, for example, has annual resident hunting quotas of 50 eland and 60 buffalo, although there is no monitoring data to indicate how such figures compare with populations for those species. The resident hunting system's pricing structure also encourages abuses. A single buffalo license for a citizen costs only 6000 Tshs, but the meat from that animal can be sold at market prices for about 600,000 Tshs- 100 times the price of the license.

Land use change in northern Tanzania is not as widespread a problem as legal and illegal over-exploitation, but can be a source of critical and acute local pressure on wildlife populations. The proportion of cultivated lands in the Kwakuchinja corridor linking Tarangire and Lake Manyara National Park has doubled since 1987, from 8% to approximately 16% of the land area (Kidegesho, 2000). The Kitenden corridor providing the last remnant link between Mount Kilimanjaro and Amboseli National Park in Kenya is similarly threatened by conversion to agriculture. This corridor has shrunk from 21 km² in 1952 to 5 km² in 2001, resulting in a reduction of wildlife habitat and increasing human-wildlife conflicts (Noe, 2003). Cultivation in the Simanjiro plains to the east of Tarangire National Park has increased from 1% to 4% of the total land area, due to both large scale land alienations and smallholder conversions (TMCP, 2002).

These expanding threats to northern Tanzania's wildlife from changing land uses and over-exploitation arise in large part from the legal framework for managing wildlife that operates in the region and throughout Tanzania. The country's wildlife laws- principally the Wildlife Conservation Act of 1974- place authority for wildlife management exclusively in the hands of central government. Central authorities possess ownership of wildlife, control most revenues that result from the resource, and are responsible for its protection. However, as current levels of bushmeat consumption indicate, the State is not able to adequately safeguard wildlife, nor is it able to determine or even influence land uses in the extensive village lands that wildlife populations rely on. Local communities that do determine these land and resource uses in rural areas, by contrast, remain alienated from wildlife management decisions and from the means of realizing economic benefits from the resource (see Table 2).

The result is that communities cannot develop wildlife as a component of individual households or village economies and as a source of developmental income. With rural economies largely dependent on the local natural resource base, this restricts local land use options and increases the reliance on agriculture and livestock. Wildlife's potential role in rural poverty alleviation is thus underdeveloped and local economic options restricted.

In addition, local communities are discouraged from acting to conserve and manage wildlife populations on their lands. Local people are denied access to benefits but bear significant costs from wildlife. For example, in villages along the western border of Serengeti National Park wildlife causes large annual crop losses (Emerton and Mfunda, 1999). Thus local people often have little interest in wildlife conservation and in fact may favour its eradication under the current management framework.

Wildlife Use	Potential Benefits	Accessibility to Local Communities
Tourist hunting	Financial Income.	Safari hunting is entirely under central control and local people have little say in management or control over benefits even when these activities take place in village lands.
Bushmeat Utilization	Subsistence food supply. Financial income through sustainable game meat production.	Legal bushmeat utilization in Tanzania is entirely under central control and not an available rural use option.
Non-consumptive (photographic, camping, cultural) Tourism	Financial Income.	All tourism joint ventures of this nature were prohibited without the written permission of the Director of Wildlife by the Wildlife Conservation (Tourist Hunting) Regulations of 2000.

Table 2: Potential wildlife uses and benefits, and current accessibility to local landholders in northern Tanzania.

For over a decade Tanzania has been engaged in a process of reforming its wildlife sector in order to address these manifold challenges and the deteriorating condition of wildlife populations in many unprotected rural areas. This has emphasized the need to shift from a centralized wildlife management system to one that devolves authority and responsibility to local communities. At a 1994 workshop the then-Director of Wildlife made the following prescient statement:

Ownership of wildlife is another major issue that must change to encourage community-based conservation. At present the state owns all wildlife and villagers in community-based conservation project areas are issued with a quota by the Department to give them the opportunity to hunt legally. Although this is a considerable step

forward, the villagers do not own the wildlife and until they do, they will not feel responsible for it (Ndolanga, 1996).

This strategic shift towards a community-based conservation framework was enshrined in the Wildlife Policy of Tanzania, issued in 1998. This Policy aims to enable wildlife management at the village level by allowing “rural communities and private land holders to manage wildlife on their land for their own benefit” and “devolving management responsibility of the settled and areas outside unsettled PAs to rural people and the private sector” (MNRT, 1998b). This is intended to ensure that “wildlife conservation competes with other forms of land use” (MNRT, 1998b). The current Director of Wildlife reinforces this reformist intent by declaring that “wildlife conservation outside core-protected areas in the new millennium will be mandated to local communities” (Severre, 2000).

The National Forest Policy also emphasizes the importance of empowering local people to manage their lands and resources. The following general principle is equally applicable to wildlife as forests:

The ownership of land and natural resources, access and the right to use them are of fundamental importance, not only for more balanced and equitable development, but also to the level of care accorded to the environment. It is only when people can satisfy their needs, have control of the resource base as well as have secure land tenure that long-term objectives of environment protection can be satisfied (MNRT, 1998a).

Communities and Conservation in Policy and Practice

At the heart of the current wildlife crisis in much of northern Tanzania, however, is that the implementation of the Wildlife Policy and these community-oriented principles has been very uneven to date. Contemporary conflicts over tourism activities and wildlife benefits on village lands illustrate both the opportunities and challenges to implementing community-based conservation in northern Tanzania.

Tourism has grown rapidly in northern Tanzania during the past five to ten years, not only in National Parks, but also in surrounding village lands. The Wildlife Policy is supportive of these trends, stating the sector aims at “Locating future major tourist developments outside Pas [protected areas] in order to reduce negative impacts and enhance benefit sharing with local communities” (MNRT, 1998b). The President of Tanzania recently called for a “a heightened onslaught on poverty, using the weapon of tourism”(URT, 2002).

Villages in many rangeland areas, particularly in Monduli, Simanjiro, and Ngorongoro Districts, have been able to access significant wildlife-based benefits from the expansion of these activities. Ololosokwan village in Loliondo, for example, has seen its tourism ventures increase in annual income over the past five years from virtually nothing as of

1997 to over \$55,000 in 2002 (Figure 4). Longido village in Monduli District has seen its tourist numbers grow from only 25 in 1995 to nearly 600 in 2000, when the village earned over US\$11,000 from these activities (Matungwe, 2001). Several other villages in Simanjiro and Monduli Districts are earning between \$10,000 and \$30,000 annually from these tourism enterprises carried out on village lands.

Such developments have a considerable impact on local livelihoods and the ability of rural communities to combat poverty. Ololosokwan village government's annual budget, for example, increased from an average of \$1,303 per year during the period 1995-1997 to \$57,024 in 2000-2002 as a result of its growth in tourism earnings (Nelson and Ole Makko, 2003). The majority of this revenue was spent on community services such as a village office, dispensary, primary and nursery schools, secondary and university students' school fees, and individual villager health expenses (Nelson and Ole Makko, 2003).

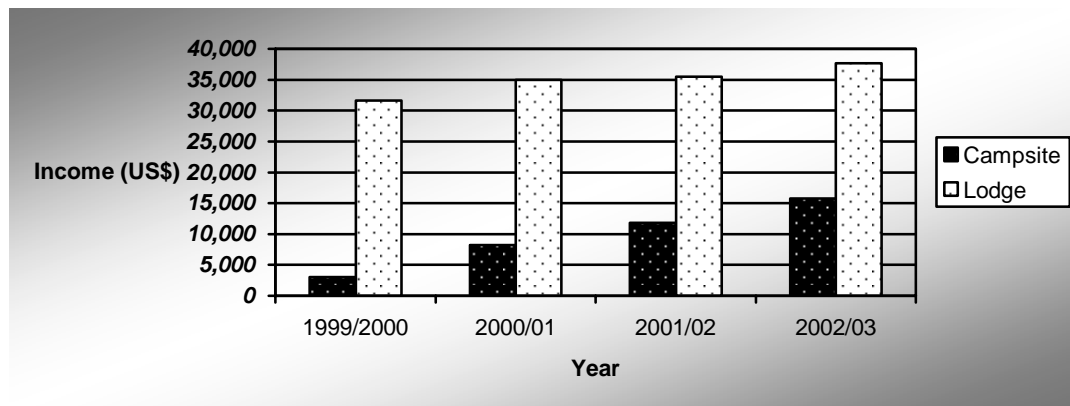


Figure 4: Growth in income to Ololosokwan village from tourism. The black columns represent only one of four companies using the village campsite, and the white columns represent income from the lodge concession. Source: Nelson and Ole Makko, 2003

Villages earning wildlife-based income of this order possess legitimate incentives to invest in conservation. For example, Lolkisale village adjacent to Tarangire National Park has three tourism lodges on its lands which earn it income from bed night and annual fees. As a result of the value wildlife-based tourism provides, the village has designated approximately 35,000 acres of land adjacent to the park to form the Lolkisale Conservation Area, to be used for wildlife-based tourism only, and an additional 99,000 acres have been zoned by the village for use as an integrated livestock grazing and wildlife area (Lolkisale Biodiversity Conservation Support Project, 2003). Consequently, while much of the Tarangire ecosystem is under increasing threat from agricultural conversion and depleted wildlife populations, Lolkisale is an important exception where conservation incentives created by wildlife-based tourism at the village level are reversing some of these land use changes.

Despite the potential that such developments hold for addressing the wildlife conservation challenges in northern Tanzanian rangelands, these tourism ventures and increasing community benefit capture have not been supported by national policy. For example, the Wildlife Conservation (Tourist Hunting) Regulations were released by the Ministry of Natural Resources and Tourism in 2000. This subsidiary legislation prohibits “game viewing, photographic safari, walking safari or any wildlife based tourist safari within a hunting block or within any wildlife protected area” except for National Parks and Ngorongoro Conservation Area without the written permission of the Director of Wildlife (MNRT, 2000). Thus the tourism activities earning locals income from wildlife have essentially been prohibited by the Ministry in unprotected wildlife areas lying on village lands such as Ololosokwan and Lolkisale. This effort to restrict local options in terms of tourism land uses has expanded into a wider contest between local communities and central authorities over land tenure rights in areas with overlapping Game Controlled Areas and village lands. Local people in northern Tanzania currently view wildlife management as a significant land tenure threat, which discourages their involvement in conservation (e.g. ESRF, 2002).

A critical potential mechanism for resolving some of these conflicts through community-based conservation is the Wildlife Management Area (WMA) as introduced by the Wildlife Policy (MNRT, 1998b). WMAs are conceived as a new form of conservation area owned and managed by local people through representative community-based organizations referred to as Authorized Associations. The basic rationale is that WMAs will allow locals to capture the benefits of wildlife in demarcated areas, and thus incentives for improved wildlife management in those areas will be established (MNRT, 1998b).

In January, 2003, Wildlife Management Area Regulations were formally introduced in order to provide the legal basis for the formation of WMAs. These provide for a trial period involving sixteen ‘pilot projects’, which include six areas in northern Tanzania.

Although the development of WMA Regulations is a valuable step in the process of implementing the Wildlife Policy, the WMA framework provided at present may not be able to effectively support community-based wildlife management. There are three fundamental reasons why the Regulations do not provide an effective mechanism for realizing this aim. First, the procedural requirements of the Regulations for communities to form WMA’s are daunting and complex (Kallonga et al., 2003). Some requirements, such as formation of Community-Based Organizations and development of participatory land use plans subjected to Environmental Impact Assessments, may take up to several years to complete. More problematic are additional procedural hurdles, particularly the requisite transfer of reserved land in Game Controlled Areas to village lands, for which the way forward is not addressed by the Regulations.

Second, even if communities are able to clear all the pre-requisites and form WMA’s, the degree of authority they receive for wildlife management in these areas is limited. All investments in WMA’s must be centrally approved by the Director of Wildlife, and little influence on hunting block allocation is granted to local people (Kallonga et al., 2003).

The regulations do not define the proportion of revenues from WMAs that local people will capture as opposed to how much will be retained by central government (MNRT, 2002). The ambiguity of benefit sharing in the Regulations is highly problematic as it undermines the potential for WMA's to compete with other forms of land use and for communities to evaluate the sensibility of forming a WMA in the first place (MNRT, 2002; Ujamaa Community Resource Trust et al., 2003).

Lastly, in some areas the process of identifying pilot areas was not carried out in a participatory fashion and communities have been rendered confused by the WMA process. This is particularly problematic in areas adjacent to National Parks where there is a history of distrust between wildlife management institutions and local communities (Nshala et al., 1998; Nelson and Ole Makko, 2003).

Unless these problems are addressed in future reforms, the WMA experiment is unlikely to prove successful and the Wildlife Policy's essential objectives will not be met. Sound legal institutions are required to implement the community-based management strategies that the nation's policies call for and the current wildlife crisis in northern Tanzania demands.

Conclusion

Wildlife conservation in northern Tanzania's unprotected rangelands is entering a critical period, with the status quo defined as follows:

1. Wildlife populations in northern Tanzania are fundamentally dependent on unprotected village rangelands for effective long term conservation.
2. Wildlife in these areas is widely decreasing due to over-exploitation and habitat loss, destroying the value of one of the nation's most important resources.
3. Tanzania's Wildlife Policy recognizes these problems and the unsustainable nature of the current centralized management framework, advocating the devolution of wildlife user rights and managerial responsibility to local communities.
4. This Policy has not been effectively implemented to date, with new restrictions on local wildlife-based opportunities from tourism being introduced and WMA Regulations released which provide a relatively weak framework for community wildlife management on village lands.

Perpetuation of this status quo will clearly result in the further depletion of wildlife populations in northern Tanzania. Because of the mobile, migratory nature of wildlife populations and ecological connectivity between protected areas and communal rangelands, this will not only result in the depletion of wildlife in village lands but the biological impoverishment of the region's renowned National Parks. This process is clearly at an advanced stage with respect to Tarangire National Park and the Tarangire ecosystem, and that park's values are currently being lost.

These landscape level conservation challenges relating to the distribution of wildlife outside protected areas are a common issue throughout east and southern Africa. In

Kenya, for example, approximately 75% of wildlife is found outside of protected areas on private and communal lands (Western, 1989). This has led to re-conceptualization of the strategies needed to conserve wildlife at this landscape level according to species' ecological requirements, rather than simply according to the management units represented by protected areas themselves. Such efforts require that protected areas be seen as merely one component within a larger conservation framework that includes private and communal landholders, and cannot be accomplished by exclusive central responsibility and authority for wildlife management.

The means of addressing the deteriorating situation in northern Tanzanian rangelands are provided by the principles of the Wildlife Policy which state that rural communities should be empowered to manage and benefit from wildlife on their lands. This issue of empowerment and realizing benefits from wildlife at the local level from enterprises such as tourism and hunting is the key to wildlife's future in the region. However, these principles must be developed and implemented through participatory and transparent processes that treat these communities as primary stakeholders in the future of wildlife in unprotected areas. Such processes have not been nurtured in northern Tanzania thus far, but rather conflicts have been allowed to increase and confusion grow among stakeholders. We recommend that the government, private sector, NGO's, researchers, and in particular rural communities come together in a process of joint leadership and dialogue to address this situation before Tanzania loses one of its most valuable resources in the wildlife of the northern rangelands.

References

- Barnett, R. 2000. *Food for Thought: The Utilization of Wild Meat in Eastern and Southern Africa*. Nairobi: TRAFFIC East/Southern Africa.
- Campbell, K. and H. Hofer. 1995. People and wildlife: spatial dynamics and zones of interaction. In A.R.E. Sinclair and P. Arcese (eds.), *Serengeti II: Dynamics, Management, and Conservation of an Ecosystem*. Chicago and London: University of Chicago Press, pp. 534-570.
- Economic and Social Research Foundation (ESRF). 2002. Site report for Loiborsoit A Village, Simanjiro District, Manyara Region. The 2002/03 Participatory Poverty Assessment. United Republic of Tanzania, President's Office- Planning and Privatization, Dar es Salaam.
- Emerton, L. and I. Mfunda. 1999. *Making Wildlife Economically Viable for Communities Living Around the Western Serengeti, Tanzania*. Evaluating Eden Series Discussion Paper No. 1. London: International Institute for Environment and Development.
- Kallonga, E., F. Nelson, and F. Stolla. 2003. *WMA's and Beyond: Options and Opportunities for Community-based Natural Resource Management in Tanzania*. Report on a workshop held in Arusha, Tanzania, May 6-7.
- Kidegesho, J.R. 2000. Participatory land use planning for Kwakuchinja wildlife corridor. *Kakakuona* October-December: 8-14.
- Lolkisale Biodiversity Conservation Support Project. 2003. A Medium Sized Project Brief Submitted to the Global Environment Facility. Available online at: [http://www.gef.org/Documents/Medium_Sized_Project_Proposals/MSP_Proposals/Tanzania - _Lalkisale_Biodiversity.pdf](http://www.gef.org/Documents/Medium_Sized_Project_Proposals/MSP_Proposals/Tanzania_-_Lalkisale_Biodiversity.pdf)
- Matungwa. A.B. 2001. An Introductory Paper on Project's Support to Cultural/Ecotourism Programme at Longido-Monduli District. UNDP GEF EA Cross Borders Biodiversity Project- Tanzania Component.
- Ministry of Natural Resources and Tourism (MNRT). 1998a. *National Forest Policy*. Dar es Salaam: Government Printer.
- Ministry of Natural Resources and Tourism (MNRT). 1998b. *The Wildlife Policy of Tanzania*. Dar es Salaam: Government Printer.
- Ministry of Natural Resources and Tourism (MNRT). 2000. *Wildlife Conservation (Tourist Hunting) Regulations*. Dar es Salaam: Government Printer.
- Ministry of Natural Resources and Tourism (MNRT). 2002. *Wildlife Conservation (Wildlife Management Areas) Regulations*. Dar es Salaam: Government Printer.

- Ndolanga, M.A. 1996. The need for a community-based conservation policy in Tanzania: The Department of Wildlife's perspective. In N. Leader-Williams, J.A. Kayera, and G.L. Overton (eds.), *Community-based Conservation in Tanzania*. Occasional Paper of the IUCN Species Survival Commission No. 15. Gland and Cambridge: IUCN, pp. 13-16.
- Nelson, F. 2000. West side story. *Swara* **23**(2): 39-42.
- Nelson, F. and S. Ole Makko. 2003. Communities, conservation, and conflict in the Tanzanian Serengeti. Paper presented to the Third Annual Community Based Conservation Network Seminar held October 14-17, 2003 in Savannah, Georgia.
- Noe, C. 2003. Wildlife corridors on the verge of disappearance. *Kakakuona* **29**: 7-10.
- Nshala, R., V. Shauri, T. Lissu, B. Kwaare and S. Metcalfe. 1998. *Socio-legal Analysis of Community Based Conservation in Tanzania: Policy, Legal, Institutional and Programmatic Issues, Considerations and Options*. Report for EPIQ/Tanzania. Dar es Salaam: EPIQ Tanzania.
- Poole, J. and M. Ruelling. 1997. *A Survey of Elephants and Other Wildlife of the West Kilimanjaro Basin, Tanzania*. Unpublished report.
- Severre, E.L.M. 2000. Conservation of wildlife outside core wildlife protected areas in the new millennium. Paper presented to the conference on "African Wildlife Management in the New Millennium," 13-15 December, 2000, College of African Wildlife Management, Mweka, Tanzania.
- Tanzania Wildlife Conservation Monitoring (TWCM). 2000. *Aerial Census in the Tarangire Ecosystem, October 1999*. TWCM/FZS Wildlife Survey Report, Arusha.
- Tarangire Conservation Project (TCP). 1997. *Analysis of Migratory Movements of Large Mammals and Their Interaction with Human Activities in the Tarangire Area in Tanzania as a Contribution to a Conservation and Sustainable Development Strategy*. Final Report: Explanatory Section.
- Tarangire-Manyara Conservation Project (TMCP). 2002. *Mapping of the Distribution and Numbers of Large Mammals in the Tarangire-Manyara Area*. Final Report prepared for WWF/TPO. Instituto Oikos/TANAPA/University of Insubria.
- Ujamaa Community Resource Trust, Hakikazi Catalyst, Legal & Human Rights Centre, and Sand County Foundation Tanzania, for Wildlife Working Group. 2003. *A Workshop for Increasing Local Participation in Wildlife Law and Policy*. A Civil Society Initiative.

- United Republic of Tanzania (URT). 2002. *Prudent Exploitation of Tourism Potential for Wealth Creation and Poverty Reduction*. Keynote Address by the President of the United Republic of Tanzania, His Excellency Benjamin William Mkapa, at the Tanzania Tourism Investment Forum. Dar es Salaam: Government Printer.
- Western, D. 1989. Conservation without parks: Wildlife in the rural landscape. In D. Western and M. Pearl (eds.), *Conservation for the Twenty-first Century*. New York: Oxford University Press, pp. 158-165
- Wildlife Sector Review Task Force (WSRTF). 1995. *A Review of the Wildlife Sector in Tanzania. Volume 1: The Current Situation*. Dar es Salaam: Ministry of Tourism, Natural Resources and Environment.
- The World Bank Group/Multilateral Investment Guarantee Agency (MIGA). 2002. *Tourism in Tanzania: Investment for Growth and Diversification*. Washington D.C.: MIGA and United Republic of Tanzania in cooperation with The Promote Africa Program.