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# Conservation, Land Rights and Livelihoods in the Tarangire Ecosystem of Tanzania:

*Increasing incentives for non-conservation compatible land use change through conservation policy*



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## Executive Summary

For millennia, pastoralists have shared landscapes with wildlife throughout Africa (Pilgram, Siiriäinen et al. 1990; Homewood and Rodgers 1991; Little, Dyson-Hudson et al. 1999). Throughout the 20<sup>th</sup> century, this co-existence has been in decline as conservation policy excluded people and livestock from protected areas, and demographic growth and expanding agriculture excluded wildlife use (Ellis and Swift 1988; Pagiola, Kellenberg et al. 1998; Homewood, Lambin et al. 2001; Serneels and Lambin 2001). Concurrently, many pastoral systems across the globe, including those of Maasai pastoralists in Tanzania, are believed to be in decline and under unprecedented pressure to diversify livestock based economies.

In East Africa, an estimated 70 percent of wildlife populations are dispersed outside protected areas on land which overlaps with pastoralism (Western and Gichohi 1993). The presence of unfenced and uncultivated rangelands adjacent to protected areas increases the total range of resources available to wildlife, and enhances long-term survival as predicted by island bio-geographic theory (Western and Ssemakula 1981). Community Based Natural Resource Management (CBNRM) is one approach that has been proposed as a way of enhancing protected areas by creating economic incentives for local communities to manage wildlife on their lands and enable wildlife to compete as a form of land use. The economic and ecological impacts of CBNRM in pastoral communities are still largely unknown (Caro 1998). CBNRM projects are being initiated across northern Tanzania encouraged by central government agencies and international conservation organisations, with a focus on establishing revenue generating, community based tourism projects on Village land that has been zoned for conservation.

The Tarangire- Manyara ecosystem of northern Tanzania is renowned for its large-scale seasonal migration of large grazing ungulates (Lamprey 1963; Lamprey 1964; Kahurananga 1979; Kahurananga 1981). The most diverse and complex grassland savanna ecosystem in the world extends through the Maasai Steppe in northern Tanzania (Coe, McWilliam et al. 1999; Olson, Dinerstein et al. 2000). Of particular importance are grazing and calving areas in the Simanjiro Plains, where thousands of wildebeest (*Connochaetes taurinus*), zebra (*Equus burchelli*) and elephant (*Loxodonta Africana*) congregate during the wet season. Conservation of the ecosystem's migratory wildlife populations largely depends on maintaining these habitats on communally owned lands (Borner 1985; Kahurananga 1997; TCP/OIKOS 1998).

The progressive conversion of pastoral rangelands to large-scale farming and permanent subsistence agriculture are contributing to the insularisation of Tarangire National Park (Borner 1985). Continued insularisation of Tarangire NP likely to result in increased wildlife declines in the ecosystem (TCP/OIKOS 1998) {Voeten, 1999}. Community based natural resource management interventions in the Tarangire-Manyara ecosystem aim to increase the combined economic returns from wildlife and pastoral livestock production in order to reduce incentives for non-wildlife compatible agricultural land use change. Research indicates that despite photographic and hunting tourism continuing to increase in economic value in the Tarangire ecosystem that a dichotomy exists: poverty levels in pastoral communities have increased, wildlife populations continue to decline, and rates of land use change by pastoralists to agriculture are increasing at substantial rates. Maasai communities perceive conservation as a threat to land tenure and land rights, and management practices of Tarangire National Park is contributing to insularization of the park.

## **Introduction**

The image of decline and marginalization of African pastoralists is almost universally acknowledged (Homewood and Rodgers 1991; Hogg 1992; Spear and Waller 1993; Galaty 1994; Fratkin and McCabe 1999; Heald 1999; Brockington 2000; Homewood, Lambin et al. 2001; Little, Smith et al. 2001; Thompson and Homewood 2002). As a result, pastoralists are diversifying their livelihood into strategies other than livestock based economies (Fratkin 1993; Fratkin, Roth et al. 1999; Little, Smith et al. 2001). Some of these livelihood strategies, for example agricultural conversion, are incompatible with the continued existence of large mammal populations in pastoral rangelands (Western and Gichohi 1993; Homewood, Lambin et al. 2001; Ottichilo, De Leeuw et al. 2001). In an attempt to link the discourse of development theory and biodiversity conservation in Africa, community based natural resource management (CBNRM) is one approach that has been proposed as a conceptual framework (Murphree 1993; Alexander and MacGregor 2000; Hulme and Murphree 2001) { Anderson, 1987 #94}. The objectives of CBNRM are two-fold: (1) to ensure that adequate land and local support is secured for biodiversity conservation, and (2) to contribute to poverty alleviation in local communities living in landscapes with wildlife (Murphree 1993; Wright 1993; Western 1994). To these ends, CBNRM aims to engender changes in the institutions, perceptions and behavioural practices amongst rural Africans vis-à-vis wildlife (Murphree 1993; Wright 1993; Western 1994; Murphree 1996). CBNRM is an evolving set of economic, social, and institutional tools which seek to limit unsustainable natural resource practices, while providing economic returns to communities that balance the costs of living with wildlife (Western 1994; Hackel 1999; Adams and Hulme 2001; Hulme and Murphree 2001).

There is widespread debate whether CBNRM will be able to deliver on these multiple fronts (Adams and McShane 1992; Kiley-Worthington 1997; Inamdar and Cobb 1998; Neumann 1998; Hackel 1999; Igoe 1999; Rodgers, Nabanyumya et al. 2002; Rutten 2002). The majority of CBNRM projects in East Africa are relatively recent, and studies have yet to demonstrate how livelihood benefits alter livelihood diversification. The success of CBNRM depends upon its acceptance by rural peoples, but few studies have examined what affects the adoption of local knowledge in the face of multiple diversification options. This study will explore the non-linear and non-rational aspects of pastoral livelihood diversification.

The Tarangire-Manyara ecosystem of northern Tanzania is a site of global biodiversity significance, and has the second highest abundance of migratory large mammal species in East Africa after the Serengeti-Mara ecosystem (Reid, Kruska et al. 1998). The Tarangire ecosystem links the Serengeti-Loliondo-Maasai Mara complex to the west with areas to the east such as the Amboseli-West Kilimanjaro landscape. In addition to the ecological importance of the area, Tarangire and Lake Manyara NP's are keystones of northern Tanzania's rapidly growing tourism industry, with visitors to Tarangire National Park, for example, growing exponentially from 7,290 in 1988 to 85,000 in 2004. Both parks earn in excess of \$3.2 million in gate revenues alone, notwithstanding the value of tourism hunting adjacent to the parks. Revenues from the two parks subsidize several lesser performing parks and generate substantial amounts of foreign exchange, so maintenance of the ecological and economic health of these two parks is an issue of strategic importance to the Government of the United Republic of Tanzania (Otto, Kamara et al. 1998). However, given the market value of the industry, tourism has yet to play a significant role in poverty reduction or supporting sustainable land use outcomes at a local level. Substantial potential exists, despite policy and other constraints, for harnessing the value of tourism at a local level through CBNRM mechanisms. A targeted analysis of CBNRM in the Tarangire context can provide some of these answers.

Although pastoral land use strategies have historically co-existed with wildlife in this landscape, pressures to diversify livestock based economies in recent years in the Tarangire ecosystem have increased conflicts between different land uses. The increase in unmanaged dry-lands agriculture, decrease in livestock holdings per capita, poaching and land tenure conflicts are principle threats to resources in the Tarangire ecosystem. CBNRM is one approach that has been proposed as a way of enhancing sustainable livelihoods by creating economic incentives for local communities to integrate livestock and wildlife land uses as a potentially more sustainable form of land use than dry land

agricultural conversion. CBNRM projects are being initiated across northern Tanzania, with a focus on establishing wildlife tourism partnerships with local communities. However, the economic and socio-political impacts of CBNRM in pastoral communities are still largely unknown. Maintaining a viable mosaic of wildlife habitats and economically viable pastoralist land uses in the Tarangire system are closely connected. The future resilience of Tarangire NP will depend in large part on the sustainability of CBNRM initiatives in village owned lands adjacent to the parks, and the provision of ecosystem services from the park to the communities.

The key to providing an understanding of the required incentives to sustainably integrate wildlife and pastoral land uses is a livelihoods-based cost-benefit analysis of agricultural, pastoral and wildlife tourism trade offs and the underlying political economy of each of these different land use strategies. This would be framed within a devolved rights-based management framework and an analysis of its institutional and capacity constraints.

My research is framed by the research question:

How can landholders be supported to manage their lands to maximize livelihoods and conservation values in Simanjiro District?

This research question is influenced by three issues that I believe are central to pastoral land use change in Tanzania: the legacy of Maasai land alienation by conservation policy, the effects of structural adjustment policies, and pastoral livelihood diversification strategies. Each of these issues presents specific clusters of questions in order to fully understand the socio-economic and political changes engendered by CBNRM in pastoral societies.

1. *What are patterns of Maasai Livelihood Diversification in Simanjiro District?*
2. *Are agricultural land use change decisions made as a result of increasing poverty or an attempt to secure land tenure? How does the existing policy environment impact household level livelihoods and decisions?*
3. *Are current community conservation efforts enhancing pastoral livelihoods? Do community conservation initiatives limit pastoral development by restricting land use options? What is the interplay between local level governance and politics that affect land use decisions?*
4. *Is community conservation viewed by rural communities as a short term development process that subsidizes future development? What are pastoral re-investment strategies of tourism revenues, and how do they shape perceptions of wildlife?*

## **Methods and Approach**

### *Situational Analysis:*

Within and adjacent to the Tarangire-Manyara ecosystem (also known as the Maasai Steppe) are areas that have been internationally recognized and designated for their biological value. Lake Manyara National Park was designated as a Biosphere Reserve in 1987, and bordering the Maasai Steppe is the Ngorongoro Crater, a caldera designated by UNESCO in 1979 to be a World Heritage Site. WWF designated the *Eastern African Acacia Savanna* habitat in the Maasai Steppe to be one of the world's 200 most biologically outstanding habitats, and has the most complex and diverse community of grass species in the world (Olson, Dinerstein et al. 2000).

The geographic scope of this research project is located within the Tarangire-Manyara ecosystem of Northern Tanzania (Figure 1). This ecosystem is known for one of the largest populations of migratory mammals on earth. The area includes two national parks (Tarangire and Lake Manyara), the Marang and Lossimngori National Forest Reserves and the watershed of the Northern Highland Forest in the Ngorongoro Conservation Area (NCA). For the purposes of this research, the western boundary of the Tarangire-Manyara ecosystem follows the edge of the Rift Valley, along the 35° 45' meridian; the northern boundary along the 36° 35' meridian, and the eastern boundary along the 37° 00' meridian.

Tarangire and Lake Manyara National Parks constitute the core resource 'anchors' in the ecosystem. Tarangire National Park (TNP) is 2,600 km<sup>2</sup> and Lake Manyara National Park (LMNP) covers 330 km<sup>2</sup>. Tarangire NP is known for its large numbers of elephants (*Loxodonta Africana*), populations of wildebeest (*Connochaetes taurinus*) and zebra (*Equus burchelli*), ancient baobab trees (*Adansonia digitata*) and rock pythons (*Python natalensis*). Lake Manyara NP has an intact groundwater forest, and the highest known density of elephants (1/km<sup>2</sup>) in Tanzania.

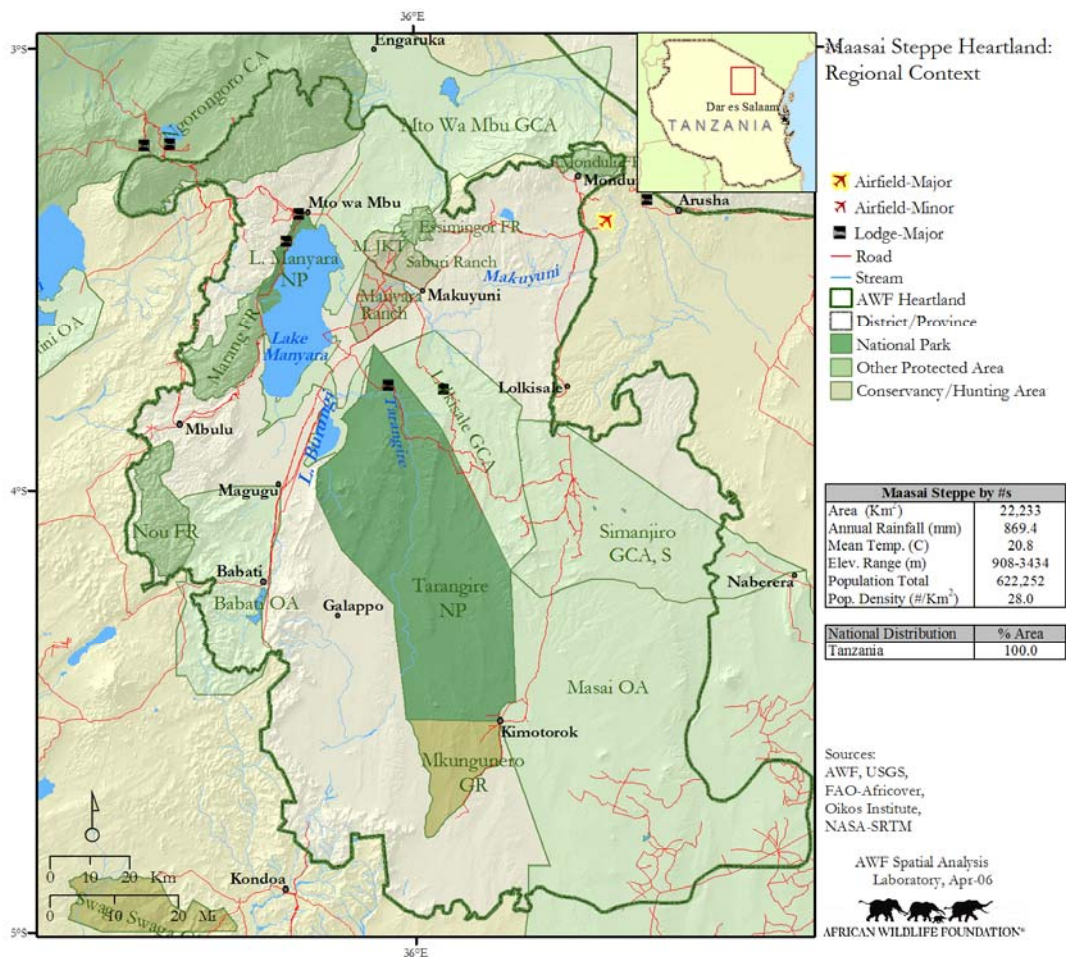
The economic value of Tarangire and Lake Manyara's National Parks wildlife is substantial and growing<sup>1</sup>. Between 1988 and 1998, Tarangire and Lake Manyara NP's generated an estimated \$13.1 million in direct revenues and logged more than 870,000 visitors. Direct tourism hunting revenues (not including multipliers) from the Tarangire-Manyara ecosystem were estimated at \$523,332 for 1996/97. Tarangire NP has operated at a profit since 1991 generating more revenue than its costs to

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<sup>1</sup> Tarangire National Park generates revenues of \$1.4 million annually while Lake Manyara National Park generates \$1.2 million annually. Visitors to TNP increased from 7,290 in 1987/88 to 58,061 in 1996/97 TANAPA (1999). TANAPA Quick Reference Statistics. Arusha, Tanzania, Tanzania National Parks: 1-23.

operate the park. Revenues from the two parks subsidize several lesser performing parks and generate substantial amounts of foreign exchange, so maintenance of the ecological and economic health of these two parks is an issue of strategic importance to the Government of the United Republic of Tanzania (Otto, Kamara et al. 1998).

**Figure 1: A map of the Maasai Steppe Ecosystem showing various grades of protected areas**



To the east of Tarangire National Park lie the Simanjiro plains in Simanjiro District. The plains are heavily utilized by zebra and wildebeest to migrate between wet and dry season pastures, and are shared by pastoralists (Borner 1985; Kahurananga 1997). To the north of Tarangire NP is the Kwakuchinja Corridor in Monduli District extending to the Ngorongoro Conservation Area (NCA), Lake Natron, and Serengeti NP. The Maasai Steppe contains a mosaic of different land uses, including rain-fed agriculture, pastoral rangelands, commercial agriculture, forest reserves, tourist hunting and photographic tourism. Commercial agricultural farms are concentrated in Simanjiro District growing primarily seed beans for export. Average rainfall in Babati and Monduli Districts averages 650 mm per annum, and in Tarangire NP averages 695 mm per annum. The altitude varies

between 950 meters to 2450 meters above sea level. Livestock husbandry is the predominant livelihood strategy in drier areas, but this zone can be considered transitional as agriculture and agro-pastoralism are prevalent in wetter areas.

Tanzania has three primary land categories: Village, General and Reserved land which are governed by separate management institutions as part of the state. All these forms of land tenure are represented in the Maasai Steppe study site, and overlap with Maasai customary land tenure. However, all land in Tanzania is owned by the state, and held in trust by the President of Tanzania in particular. Thus, land is not subject to absolute title, and 'titles' are given in the form of 99 year leases (Otto, Kamara et al. 1998).

#### *Socio-economic Description:*

The Maasai are the predominant ethnic group in Monduli and Simanjiro Districts (UNPF 1998). The Maasai are comprised of the Il Kisongo (Loitokitok) Section and herd a mixture of indigenous zebu cattle (*Bos indicus*), small stock, and equines (Homewood and Rodgers 1991; UNPF 1998). Over the past twenty years there has been significant in-migration of other ethnic groups into the region. Annual population growth in various areas of the Maasai Steppe is between 3.1 percent to 22.8 percent which has contributed to a modification in resource uses (TCP/OIKOS 1998). Other major ethnic groups in the project area are the Waarusha and Barbaig. A population of approximately 350,000 pastoralists inhabit the Maasai Steppe ecosystem. They own a livestock population of approximately one million indigenous *zebu* cattle.

Although Tarangire National Park serves as important dry season wildlife habitat, the park comprises only 2,850 km<sup>2</sup> out of roughly 20,000 km<sup>2</sup> in the overall ecosystem. For approximately six months a year, wildlife disperses into the Simanjiro plains on lands under the jurisdiction Maasai pastoral communities. Aerial survey data illustrates declines of over 50 percent of large mammal species in the Tarangire ecosystem over the past decade (TCP/OIKOS 1998; TWCM 2000).

#### *Data Description:*

Uncertainty exists as to whether the Maasai actually view sedenterisation and agricultural diversification as part of their long-term development strategy, or whether conservation initiatives which strive to keep the Maasai pastoral are 'enforced primitivism' (Neumann 1997; Neumann 1998). Based on research conducted in the Serengeti ecosystem of Tanzania, Norton-Griffiths (1995) argues



that development interventions that strive to maintain traditional lifestyles and limit diversification amongst pastoral communities may create a poverty spiral (Norton-Griffiths 1995) Will the utilization of free-market enterprise tools to achieve conservation goals actually shape Maasai livelihood diversification in ways compatible with conservation? Is it fair for conservationists to assume that if provided with more economic options to diversify through wildlife and livestock herding, that the Maasai will not want to join the mainstream of Tanzania's rapidly liberalizing free-market democracy? These were questions which I wanted to address given the strong growth of tourism in Tanzania.

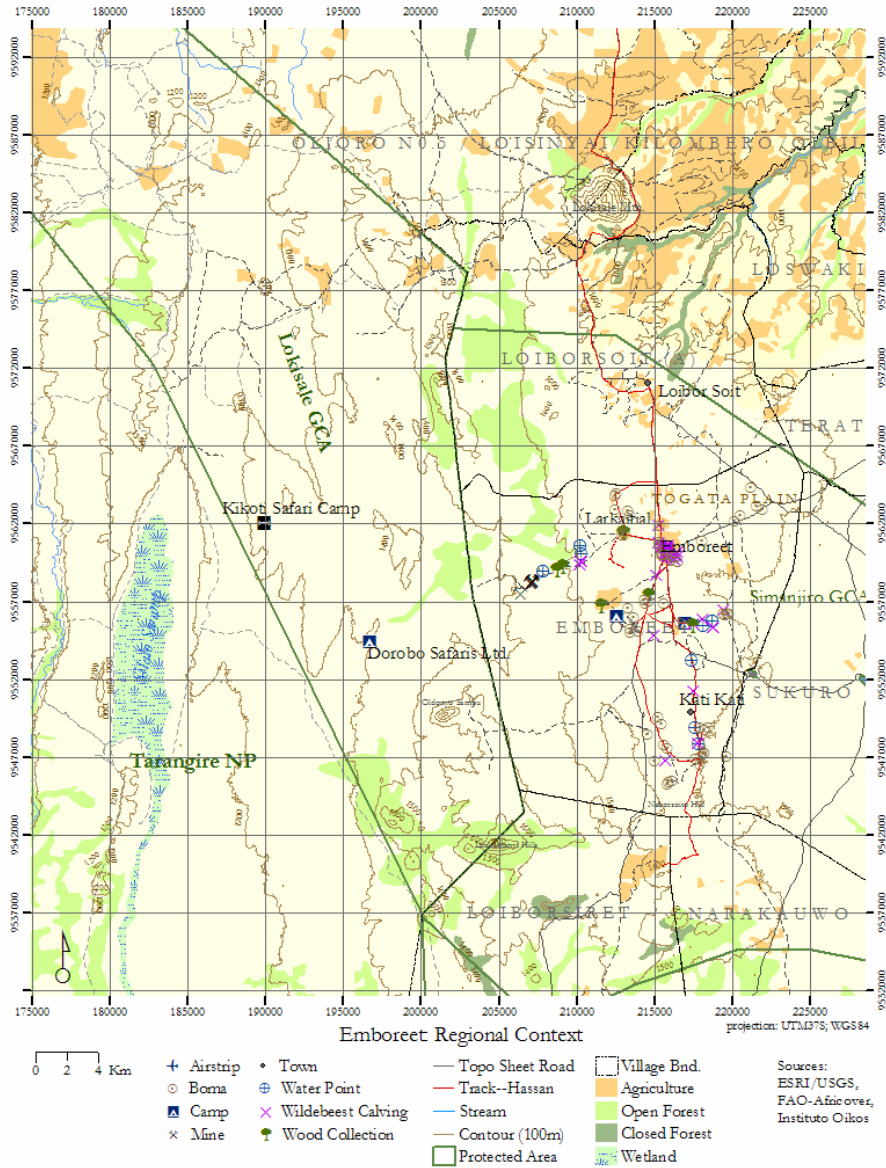
The site selected to conduct my research was Emboreet Village which is located in Emboreet Ward and Division in Simanjiro District. Emboreet Village lies adjacent to the eastern boundary of Tarangire NP. Emboreet Village *has* long-standing income from photographic and tourism hunting activities conducted on village lands<sup>2</sup>. This village also has zoned lands, alternatively integrating and segregating livestock, wildlife and agriculture. My analysis targets how CBNRM may help improve livelihoods through providing longer term incentives for open range management and the maintenance of pastoralist and wildlife compatible land uses.

My project investigates how CBNRM impacts upon Maasai livelihoods and resource values, by exploring contemporary patterns of pastoral rural transformation in Simanjiro District. Emboreet Village is directly adjacent to Tarangire NP. The site is of significant biological value in that Emboreet is the main ecological 'bottleneck' for the migration of large mammals to the villages of Sukuro and Terat in the Simanjiro Plains (INRF 2005). Emboreet is also the only site in Simanjiro with a community-wildlife tourism partnership example. It contains two photographic tourism enterprises and three tourism hunting blocks overlap the village generating a significant amount of revenue per year for the village. Data were collected in Tanzania from July 2003 to June 2006. my data collection by two Emboreet villagers, Ray Teekishe and Oltterere Lemutunde who continued to collect data in the village. The remainder of the time, I was in Arusha or Dar es Salaam. I resided in a basic fly camp in the sub-village of Esilalei.

**Figure 2: The Location of Emboreet in relation to Lolkisale GCA and Tarangire NP**

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<sup>2</sup> Dorobo Safaris and the Dorobo Fund for Tanzania channel wildlife tourism funds to Emboreet Village. Tanzania Photographic Tours and Safaris are also concessionaires and have built a lodge in Emboreet and channel support through the Africa Nature Conservation Trust.



I collected several data sets to support my analysis:

1. *Socio-economic surveys:* I administered a broad scale survey to 228 households (HH's) in Emboreet focusing on background information, livestock and crop production and wildlife perceptions. I followed this up with an in depth 15 month, repeat round survey of 38 hh's in 3 sub-villages in Emboreet (Laarkaitial, Esilalei and Lenaitunyo). Each HH was visited once every 2 months and livelihoods data collected. Both surveys were based on a completed stratified wealth ranking exercise for the entire village household list.
2. *Focal household food survey:* In order to ascertain how food security is linked to livelihood diversification, I conducted a focal household food survey. This survey analyzes changes in

- diet over time, and how diversification is affecting the pastoral way of life. This sub-component of the socio-economic survey investigates patterns of food consumption for different age and sex classes in each of the 38 focal households.
3. *Cattle herd performance*: In order to examine how livelihood diversification affects the pastoral way of life and to understand the pastoral economy, I monitored the performance of cattle herds. Cattle performance during was assessed in terms of fertility, mortality and milk production. This data was collected over 15 months. In order to collect socio-economic data on the commoditization of cattle herds, I constructed cattle life histories for 700 adult female cattle. This data focused on births and deaths for each individually identified cow and linked generations to calculate calving and mortality rates. Data was collected on deaths, sales, gifts, loans and exchanges for all cattle age-sex classes to allow for the estimation of exponential herd increase or decrease.
  4. *Recorded interviews*: Recorded and transcribed semi-structured interviews were collected of different groups such as villagers, village leaders, district officers, NGO staff, large scale farmers, tourism and hunting operators, and government employees.
  5. *Archival research*: A second strategy for land use change dynamics was through archival research of local records at Village, Ward and District levels. Archives were also explored at NGO's
  6. *Focal group meetings, key informants, participant observation, and triangulation*:
  7. *Wildlife revenue data*: I collected wildlife revenue streams to Emboreet from photographic and tourism operators over a 10 year period. This data was systematically collected from all tourism operators in Emboreet village quantifying every form of wildlife economic benefit going back over ten years.
  8. *GIS analysis*: I am collecting approximately 24 village based data sets that are useful for a GIS based analysis of land use change in the village.

## Results

### *Historical background:*

In 1985, conservationists proposed to designate a multiple use conservation zone which limited Maasai agricultural development options in Simanjiro District adjacent to Tarangire NP (Borner 1985; Homewood and Rodgers 1991; Igoe 1999). The Maasai in Simanjiro rigorously opposed this scheme as it was viewed as a serious threat of further land alienation. In Tanzania, it is argued that the loss of access to land and resources contributed to rural conflict and socio-economic decline in

communities dependent on park resources (Norton-Griffiths 1995; Neumann 1998; Brockington 1999; Homewood and Brockington 1999). The conflict in Simanjiro is representative of a wider socio-ecological context which is driving pastoral diversification and affects the potential uptake of community based conservation.

In the same year in 1985, Tanzanian National Parks Authority (TANAPA) institutionalized CBC and began benefit sharing as part of a park outreach program (Bergin 1995). African Wildlife Foundation helped to seed the SCIPS program with funding and to design it (P. Bergin, *pers. Comm.*). Several Maasai Villages have circumvented government control and engaged directly with eco-tourism enterprises and tourist hunting operations on communal land. Village Governments have structured agreements in which their communities benefit from wildlife revenues and social infrastructure investments. To date, these tourism operations on communal land have been operating under an unclear legislative framework. In 2003, the Government of Tanzania approved the Wildlife Management Area (WMA) regulations under Section 84 of the Wildlife Conservation Act of 1974. The development of WMA's will theoretically enable communities to establish multi-village communal 'conservancies' in which a variety of income generating natural resource based enterprises (including wildlife) will be permitted. Villagers will be permitted to keep the majority of profits whereas currently the majority of profits accrue to the central government (MNRT 1998). There were no pilot WMA's announced in Simanjiro due to strong local level resistance when WMA's were proposed by Simanjiro District Council. In fact, the delegation which travelled to Emboreet and Loiborsirret comprised of representatives of the Simanjiro District Council, TANAPA and African Wildlife Foundation staff were threatened with violence in Loiborsirret. The perception was that the term 'WMA' was a government construct to alienate village land to benefit wildlife conservation<sup>3</sup>

#### *The Ecology of Conflict:*

The roots of the conservation and pastoral conflict in Simanjiro are linked to several processes. A number of older respondents cited the process of Villagisation in Tanzania (Ujamaa) during which Maasai (and villagers throughout Tanzania) were relocated, sometimes against their will to new locations to establish villages. Pastoralists remember traumatic bomas being burnt and families and livestock being driven by law enforcement officers to different locations. The gazettement of Tarangire NP in 1970 evokes particularly painful memories for Simanjiro Maasai. The main reason is that exclusion from Silalo Swamp in the east of Tarangire NP. Silalo is a permanently watered

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<sup>3</sup> J. Mollel (SMJ Ag. District Game Officer) and P. Kiboma (SMJ District Lands Officer), interviews 26/5/06.

swamp with extensive grasslands and an important drought refuge for pastoralists. Respondents report that the eviction was by force using a light aircraft to herd cattle out of the park, and parks staff on the ground who burned shelters and drove people and livestock out of the park. Another process affecting Maasai perceptions of conservation is immigration of Maasai from Ngorongoro Conservation Area (NCA). The Ngorongoro Crater is a World Heritage Site and in 1974 Maasai were evicted from the crater floor. The crater with its permanent water and graze is referred to in terms of '*Peponi ya wafugaji*' (paradise for pastoralists) by crater evictees. The NCA is a multiple use area in which human habitation is permitted but farming is restricted to 1-2 acres per family. The use of tractors is prohibited and pastoralists can only farm by hand. At the same time, the human population has increased several fold in NCAA over the past few decades but livestock numbers have remained the same. Due to increasing poverty, a number of Ngorongoro Maasai have emigrated to Simanjiro to seek farms and improved livelihoods. These immigrants warn that any process termed as 'conservation' is designed to weaken and impoverish pastoralists. In each of these events, pastoralists feel that they have been unfairly manipulated by central government processes. Therefore, any proposal which touches upon land use touches a raw chord amongst Simanjiro Maasai who view anything related to conservation with suspicion and animosity.

#### *Conservation Benefits:*

There are several ways in which communities gain financial benefits from wildlife. These are benefit-sharing mechanisms from Tarangire NP, community based tourism projects, socio-development project funding support from District Councils and NGO's. The philosophy of TANAPA is that "Such positive experiences encourage locals to participate in land-use practices that reinforce the long-term viability of wildlife and preserve resources for their own long-term livelihood" (TANAPA 2002).

#### *Benefit sharing mechanisms:*

The main management objective of TANAPA's socio-economic development and community development relations is to "Enable communities to develop sustainable land use practices and to harness the sustainable use of natural resources for poverty eradication and socio-economic development and to enable communities to understand the preservation of critical wildlife corridors and dispersal areas will be in their best interests" (TANAPA 2002).

TANAPA currently runs its CC activities around 12 National Parks through the Community Conservation Service (CCS) as a programme of park outreach from National Parks to surrounding communities and local governments. The Swahili term for the programme is *Ujirani Mvema* (good neighbourliness). The mission statement of the CCS is as follows.

*“CCS is a field programme supported by a unit in TANAPA headquarters, which aims to identify and implement opportunities for sharing park benefits with adjacent communities. CCS activities and CCS staff follow normal TANAPA procedures for lines of responsibility and reporting. CCS seeks to protect the integrity of National Parks by reducing conflicts between wildlife and surrounding communities and by helping to solve problems of mutual concern.”*

The objectives of the CCS are to:

- Improve relations between individual parks and local communities.
- Ensure that the interest of National Parks with regard to natural resource conservation and community welfare are presented at all levels;
- Facilitate the sharing of benefits to target communities; and
- Assist communities to gain access to information, resources and services which promote sustainable development.

The CCS approach is used by TANAPA to address resources issues in areas beyond park boundaries over which it has no jurisdiction. Ultimately, the CCS warden in a park like Tarangire will serve as a liaison between park management and local communities. In coordinating general park management with the CCS office, community issues can begin to be addressed in park administration (Clark, Davenport et al. 1995). Tarangire NP was the first park to receive a full time CC Warden in July 1990.

A total of US\$ 93,800 was distributed around Tarangire NP between 1992 and 1997 through SCIPs. From 2000-2005, Tarangire NP's Community Conservation Service (CCS) contributed a total of 329,669,189 Tshs (\$329,669) to community development projects in the six districts adjacent to Tarangire NP. These projects were termed by TANAPA as Small Community Initiated Projects (SCIPS). Of this amount, 152,353,641 Tshs (\$152,353) was allocated to Simanjiro District, which represents 46 percent of the total SCIPS budget total during this period. The specific village of Emboreet benefited from 32,698,575 Tshs (\$32,699) in support, or an average of \$6,540 per year from Tarangire's CCS program.

**Table 1: TANAPA SCIPS investments in Emboreet Village 2001-2005**

Project	Financial Year	Sector	Village	Tshs	US\$
Construction of a Dormitory	2000/01	Education	Emboreet	12,260,695	12,261
Renovation of administration block	2003/04	Education	Emboreet	15,437,880	15,438
Renovation of Cattle Dip Emboret	2004/05	Livestock	Emboreet	5,000,000	5,000

(Source: Tarangire CCS Department Records, May 2006)

### Wildlife Benefits in Emboreet Village:

Over a 5 year period from 2001 to 2005, a significant amount of revenue from wildlife sources was accrued to Emboreet village. Table 2 illustrates a breakdown of wildlife revenue from different sources into Emboreet by year. The total captured from wildlife sources was \$249,699. This figure may be an underestimate as there was a paucity of data from hunting operators and information on tips paid to tourism employees. The average generated per year from wildlife activities in Emboreet was \$49,940.

**Table 2: Source and amount of wildlife related revenue into Emboreet Village from 2001 to 2005**

Source of Wildlife Revenue	2001	2002	2003	2004	2005	Year Sub totals	% of Total
<i>Exchange Rate (Tshs= 1US\$)</i>	690	950	1000	1050	1080		
Tourism bed-night fees	\$5,512	\$13,830	\$14,760	\$38,499	\$36,735	<b>\$109,336</b>	<b>44%</b>
Concession fees	\$2,000	\$3,982	\$3,857	\$3,857	\$3,857	<b>\$17,553</b>	<b>7%</b>
Photographic Employment	\$2,440	\$4,067	\$4,677	\$6,452	\$5,207	<b>\$22,842</b>	<b>9%</b>
Aid projects (photographic)	\$1,170	\$7,701	\$14,653	\$797	\$777	<b>\$25,098</b>	<b>10%</b>
Tourism hunting contributions	\$5,989	\$9,474	\$6,831	\$3,743	\$2,118	<b>\$28,155</b>	<b>11%</b>
TANAPA SCIPS	\$12,261	\$0	\$0	\$15,438	\$5,000	<b>\$32,699</b>	<b>13%</b>
Resident hunting/poaching	\$2,028	\$1,578	\$700	\$4,571	\$5,139	<b>\$14,016</b>	<b>6%</b>
<b>Total by Year</b>	<b>\$31,400</b>	<b>\$40,632</b>	<b>\$45,478</b>	<b>\$73,357</b>	<b>\$58,833</b>	<b>\$249,699</b>	<b>100%</b>

#### Sources:

- 1.) Bednight register and files at Tanzania Tours and Photographic Safaris Ltd.
- 2.) File provided by TBGS entitled "Community Development Done on Behalf of Tandala Hunting Safaris (1998) Ltd. and Tanzania Safaris and Hunting (2003) Ltd. between 1998-2004"
- 3.) File provided by Dorobo Safaris entitled "History of Tourism Programme Between Emboreet Village, Simanjiro and Dorobo Tours and Safaris".
- 4.) Personal communications with David Peterson, Barbara Redding-Jones (TBGS), Pratik Patel (IPTs), Emboreet villagers

The division of revenue can be generally divided into three categories: individual benefits, village account payments and community benefits. Individual benefits are described as employment benefits for individuals employed by the tourism sector from Emboreet Village. In addition, there is an active wildlife poaching network operating in Emboreet. The benefits of bushmeat and trophy sales go to individuals. Another form of individual benefits is from aid projects such as in the form

of education scholarships from tourism companies or health clinics facilitated by a tour company. Village account payments are monies transmitted directly to the village to manage. These are bed-night payments, concession fees, and contributions from hunting companies directly into the village account for social development projects. The third category is contributions such as from TANAPA SCIPS which provides the funding and engages a contractor directly to carry out the project. Funds do not pass through the village account.

In total, 70 percent of wildlife revenues contributed to Emboreet is generated from two photographic operations in the village. Kikoti Safari Camp is a mid scale luxury tented camp with 18 rooms. Dorobor Safaris operate seasonally. The bulk of the revenue (51 percent) was contributed directly to the village account in the form of bed-night fees for each night a tourist stays in the village, and annual concession fees paid by Dorobo Safaris Ltd. and Tanzania Photographic Tours and Safaris. The figure for employment is probably an underestimate as it does not include tips paid to staff which can be substantial. It also does not include casual labor that may be engaged on a short term basis by tourism operators. Aid projects consisted of education scholarships paid for by tourism companies, and village office construction support. There were also regular donations to the Simanjiro Animal Health Learning Center in Emboreet from Dorobo Tours.

Tourism hunting contributions over this 5 year period were 11 percent of the total generated. These funds were contributed by three companies: Luke Samaras Safaris, Tanzania Big Game Safaris (TBGS), and Tanzania Bundu Safaris. These payments were directed at social development projects (such as water tank repair) or were contributions in kind, for example of medicines to the Emboreet Hospital or wheelchairs. TBGS also invested during this 5 year period in contributions towards construction of the Emboreet Village office, and equipping it with furniture. TANAPA SCIPS contributed 13 percent of the total through infrastructure development projects in 2001, 2004 and 2005. However, the livestock dip in Emboreet was still not functional in 2006 so the efficacy of this project is questionable.

#### *Wildlife Poaching:*

An amount of 6 percent was gained by individuals from participation in resident hunting guiding, meat sales and/or commercial meat poaching. This data was obtained through key informants and research assistants who interviewed the individuals concerned. This activity is carried out illegally or quasi-illegally. Financial benefits are gained by at least 2 villagers who poach species such as impala using a powerful torch and a motorcycle horn and sell meat in Emboreet. At least 3 individuals,



guide resident hunters in Emboreet and earn guiding fees, and in some cases sell meat in Emboreet. These individuals also obtain resident hunting licenses and sell the meat of larger species like Eland and Buffalo in Arusha. A kilo of beef retails for 1,500 Tshs (\$1.22) whereas game meat is sold at 1,000 Tshs per Kg (\$0.81). Two individuals also engage in the commercial zebra skin market and sell raw zebra skins for 70,000 Tshs (\$56.91) per skin to brokers based in Arusha. The scale of this enterprise was approximately 44 zebra in 2004, and 7 skins in 2005. There is also a case of an Emboreet villager accused of giraffe poaching (both Giraffe and Zebra are nationally protected game, and zebra are only found on the tourism hunting quota). A final form of poaching is Emboreet villagers obtaining farm protection licenses from the District Natural Resources Department in Orkesumet before the hunting season begins. The tourism and resident hunting season officially runs from July 1 to December 31<sup>st</sup> each year. In collusion with motorized hunters, pre-season resident hunting safaris are ‘sold’ by Emboreet villagers in return for a guiding and ‘access’ fee. Village guides are also permitted to sell the meat in Arusha or the village, while resident hunters keep the trophies.

*Value of wildlife to Simanjiro District:*

The average amount of revenue contributed from aggregated wildlife tourism sources to Emboreet Village was \$ 49,940 per year. This amount is significantly higher than the total amount of revenue collected by Simanjiro District Council over the same time period per year from wildlife tourism activities. Table 3 illustrates the total amount of revenue generated by Simanjiro District Council from wildlife tourism activities as a proportion of the total district budget.

**Table 3: Revenue generated by through tourism and resident hunting by Simanjiro District Council between 2001 to 2005**

Year	2001	2002	2003	2004	2005	
Exchange Rate	690	950	1000	1050	1080	Sub-totals
<b>Income</b>						
<i>Total District Budget</i>	\$1,837,564	\$1,704,697	\$2,189,818	\$1,949,807	\$2,399,535	<b>\$7,681,886</b>
<i>Farm Tax collected</i>	\$50,424	\$40,371	\$40,119	\$29,136	\$58,819	<b>\$218,870</b>
<i>Resident Hunting</i>	\$1,690	\$3,206	\$4,327	\$822	\$2,217	<b>\$12,261</b>
<i>25% Tourism Hunting</i>	\$48,464	\$31,732	\$32,163	\$14,961	\$20,296	<b>\$147,616</b>
<b>Total Wildlife Revenues</b>	<b>\$50,153</b>	<b>\$34,938</b>	<b>\$36,489</b>	<b>\$15,783</b>	<b>\$22,513</b>	<b>\$159,877</b>
<b>Wildlife % of Total Budget</b>	<b>2.73%</b>	<b>2.05%</b>	<b>1.67%</b>	<b>0.81%</b>	<b>0.94%</b>	<b>2.08%</b>

Sources:(SDC 2003), P: 56 & “Muhtasari wa Mapato Halmashauri Ya Wilaya ya Simanjiro” (KUMB. N.A. HMW/SMJ/M/1/58 Dated 6<sup>th</sup> March, 2006.

Table 3 illustrates that revenue from issuing resident hunting licenses and 25 percent of trophy fees collected in the District only average just over 2 percent of the total annual district budget. This figure has been steadily decreasing since 2001 and averages a total contribution of \$31,899 per year. Tourism hunting quotas are issued centrally from the Wildlife Division (WD). Tourism hunting operators pay for their quota in advance to the WD. By law, 25 percent of trophy fees are then refunded to the District in which the animals were harvested. This is targeted as a benefit sharing scheme by the GoT to ensure that some of the funds from tourism hunting are channeled back to the communities located in or near tourism hunting blocks.

**Table 4: Simanjiro District Tourism Hunting Revenue Expenditure 2003**

Repair of administration block (Orkesumet)	\$7,213
Ward office construction (Terrat, Ruvu Remit, Orkesumet, Naberera)	\$6,000
Administration block for Msitu Wa Tembo Secondary School	\$5,121
Water pump purchase- Sukuro	\$3,000
Generator purchase for District HQ- Orkesumet	\$2,828
Water tank construction for Orkesumet Secondary School	\$4,326
District Natural Resource Dept. anti-poaching patrols	\$3,802
<b>Total for Tourism Hunting for 2003</b>	<b>\$32,290</b>

*Source: (SDC 2003), P: 255-257.*

Table 4 illustrates an analysis of how tourism hunting revenues to Simanjiro District in 2003 were utilized. The bulk of investments were in infrastructure (village office and school buildings) as well as water related infrastructure investments. It is interesting to note that several of these investments are not in prime wildlife areas or located even close to hunting blocks, and it seems as though some of the tourism hunting revenue allocations may be driven by political considerations. For example, a ward office was constructed in Ruvu Remit and a school building in Msitu wa Tembo. Both of these villages are located on the eastern boundary of the District, with high numbers of non-pastoralist populations. Msitu wa Tembo is located close to the city of Moshi and is densely populated and primarily agricultural. Two investments were made in the district headquarters of Orkesumet. This suggests that tourism hunting revenue is considered a source of ‘soft’ funding to support political expediencies at the time across the district.

### **Land Use Change**

Given the amount of wildlife related revenue that is channeled to Emboreet each year, I was interested to learn more about patterns of land use change. This was of importance as a primary

premise of the channeling of wildlife revenues is to change people's behavior and perceptions towards wildlife conservation and incentivizes people to engage in wildlife compatible land uses. A broad scale questionnaire was administered to 228 heads of households (HH). Of n=228, 211 household heads (93 percent) reported they were farmers and 17 (7 percent) reported that they do not farm. Table 5 illustrates the reported acreage farmed by HH in 2002, 2003 and 2004.

**Table 5: Reported acres farmed by household in Emboreet between 2002-2004**

	<i>Acres 2002</i>	<i>Acres 2003</i>	<i>Acres 2004</i>	<i>Future Acres</i>
<i>Mean</i>	8.66	9.36	12.57	128.33
<i>Standard Error</i>	1.025255279	0.925573458	1.543731488	21.07698492
<i>Median</i>	4	4	5	50
<i>Mode</i>	10	3	3	50
<i>Standard Deviation</i>	14.82194363	13.38086026	22.31746723	298.0735793
<i>Sample Variance</i>	219.6900131	179.0474213	498.0693435	88847.85867
<i>Kurtosis</i>	41.47677944	17.8833828	52.66200053	45.40719322
<i>Skewness</i>	5.303967877	3.547479635	5.976074179	5.817421517
<i>Range</i>	150	110	240	2998
<i>Minimum</i>	0	0	0	2
<i>Maximum</i>	150	110	240	3000
<i>Sum</i>	1809.75	1957	2627.5	25665
<i>Count</i>	209	209	209	200

This table suggests that the average amount of land under cultivation per household in Emboreet was 8.66 acres in 2002, 9.36 acres in 2003 and 12.57 acres in 2004. This represents an 8 percent increase in reported acreage from the 2002 to 2003 growing season, and a 34 percent increase in reported cultivated acreage per HH from 2003 to 2004. Each respondent was asked how many acres they aspire to farm. This data was captured in the final column 'Future Acres'. The average each HH reportedly would like to farm is 128.33 acres. Whether these households have the means to farm this amount, and the land is available are other issues. But if each HH in Emboreet were hypothetically able to farm to the amount they desire, this would mean an increase of 921 percent in per HH in the amount of acreage under cultivation. The 228 respondents farmed 246 plots in total. Of these 246 plots, respondents indicated a plan to increase in size 226 plots (or 92 percent of currently farmed plots are planned to be expanded).

According to reported acreages farmed across the 228 households surveyed in 2004, it is possible therefore to estimate the total acreage farmed in Emboreet. There were 442 households counted in Emboreet. This results in a reported estimate of 2,223 hectares (5,557 acres) farmed in Emboreet in 2004. Data from satellite imagery analysis suggests that 2,634 hectares of agriculture. Table 7

suggests that Emboreet is actually one of the lesser farmed villages in the Simanjiro Plains compared with Terat and Loiborsoit (A).

**Table 7: Amount of acreage under cultivation in eight Simanjiro Villages in 2004**

<b>Village Name</b>	<b>Converted (m<sup>2</sup>)</b>	<b>Converted (ha)</b>	<b>Village size</b>	<b>% of Village</b>
Loswaki	69,060,000	6,906	12,635	54.66
Loiborsoit (A)	57,220,000	5,722	33,134	17.27
Terat	33,132,500	3,313	21,277	15.57
Narakauwo	50,560,000	5,056	68,955	7.33
Emboreet	26,342,500	2,634	38,072	6.92
Loiborsirret	28,325,000	2,833	63,832	4.44
Sukuro	25,357,500	2,536	69,582	3.64
Kimotorok	927,500	93	98,096	0.09
<b>Total</b>	<b>290,925,000</b>	<b>29,093</b>	<b>405,583</b>	<b>7.17</b>

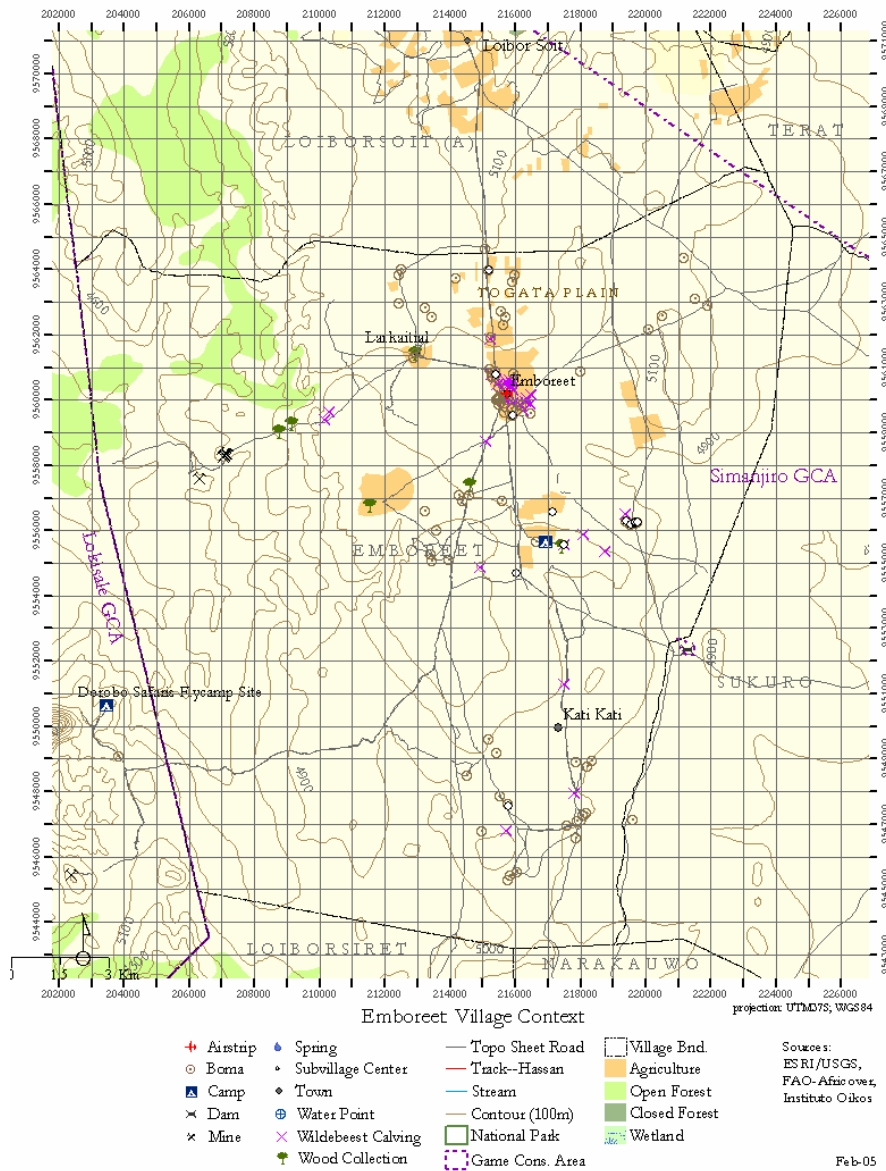
*Source: Rob Davison, AWF GIS Consultant, Landsat interpretation*

*Wildlife Perceptions:*

It is interesting to note that the bulk of new farms in Emboreet are being developed in the Simanjiro Plains. For one it is more practical and cheaper as a major cost to farmers is employing labor to clear trees and tree stumps in new areas of farming. Emboreet Maasai are also aware that the plains are the key target for conservation agencies. As a result, the plains are targeted for increasing amounts of agricultural sub-division. Figure 3 shows the concentration of farms in the Simanjiro Plains area within Emboreet Village. I asked HHH's if they farmed land near the park boundary if they felt that made park expansion more or less likely and 74 percent responded that farms would block the park.

The increase in farming per year in Emboreet and increased desire to farm more land coupled with the decline in wildlife populations and significant wildlife revenues going into Emboreet each year encouraged me to examine villagers perceptions towards wildlife conservation. I asked my sample of n=228 if household heads received any *household* benefits from wildlife tourism. The majority of villagers responded that they did not receive any household level benefits (93 percent). In order to get an idea of participation, I asked if HHH's were consulted when the tourism programs were established and n=182 (80 percent said yes). In contrast, when asked if the village receives any benefits from tourism, 71 percent of respondents replied yes. I asked whether individuals would invest revenue from tourism into farming if they received revenue directly and 91 percent of respondents replied yes.

Figure 3: Spatial localization of farming in Emboreet Village



When asked whether individual HH's receive any benefits from Tarangire NP, 95 percent of respondents replied No compared with 48 percent of respondents when asked if the park benefits the village. A significant concern of villagers was that the boundary of TNP had moved towards the village and 72 percent of respondents said they believed the park had moved beyond its gazetted boundaries into village land. Of particular interest given the amount of wildlife benefits channeled to the village of Emboreet, was whether individual villagers perceive wildlife as contributing a financial loss or gain on the whole to them each year. A majority of respondents (87 percent) responded that

wildlife represents more of a loss than gain to them, mainly through crop damage and livestock losses to predators and wildlife vectored diseases.

## **Discussion**

### *Background of Conservation in Tanzania*

Tanzania has invested heavily in the establishment of new protected areas since independence. The protected areas network in Tanzania encompasses a total surface area of 164,102 km<sup>2</sup> (40.55 million acres). In total, the protected areas network includes thirteen national parks, the Ngorongoro Conservation Area, thirty game reserves, game controlled areas, wildlife management areas and forest reserves covering approximately 28 percent of Tanzania's land surface which are under a form of government protection where cultivation and settlement is prohibited- including 14 percent in national parks and game reserves (Neumann 1998).

Tourism to Tanzania is largely wildlife-based, with a coastal tourism component (mainly Zanzibar). Tourism revenue represented 16.6 percent of GDP and 25 percent of export earnings in Tanzania in 2002, second only to coffee. As a result of continued growth in the tourism sector, the number of tourists visiting Tanzania increased to 582,807 in 2004, compared with 576,000 in 2003 and 575,000 in 2001. Likewise, income from tourism activities increased to \$746.1 million in 2004 from \$731 million in 2003. In 2004, Tanzania earned \$ 9.9 million in direct revenue from its 145 hunting blocks nationally. Earnings realized from tourist hunting were \$ 8.8 million in 2003<sup>4</sup>.

Wildlife inside the parks is fully protected under the National Parks Ordinance. Outside the parks, wildlife management is covered by the Wildlife Act (1974), which has limited provision for community-based conservation. The conservation of the Tarangire ecosystem must be considered within the context of a human-dominated landscape. Although Tarangire NP contains critical dry season water sources for wildlife, the park comprises only 2,600 km<sup>2</sup> out of roughly 22,000 km<sup>2</sup> in the overall ecosystem. During the wet season wildlife disperses widely into village lands under the jurisdiction of the local communities and the Tanzania Wildlife Division (who oversee Game Controlled Areas on village lands). Although wildlife has co-existed with livestock in the area for centuries in a compatible manner, a considerable increase and spread of cultivation in recent years in the Tarangire system has complicated this co-existence and increased conflicts between different land

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<sup>4</sup> <http://www.tanzania.go.tz/economicsurveyf.html>

uses. The increase in agricultural lands is believed to be the principle threat to the conservation of Tarangire's wildlife populations and the ecosystem in general. Commercial poaching and unregulated hunting also are contributing to the decline of wildlife in the ecosystem (Sachedina 2003).

*Park Policy versus Conservation:*

A target of the Wildlife Policy of 1998 is to involve local communities in participatory benefit sharing through wildlife management areas (WMA's) to increase conservation incentives. WMA's are areas set aside by villages in which wildlife utilization activities may be conducted in a policy environment which favours increased direct revenue flows to villages. Communities that have established a WMA could conceivably have access to a higher level of benefits than is currently the case. WMA's are protected areas and can comprise of a single village or multiple neighbouring villages.

The WMA regulations were established in early 2003, and could significantly enhance the legal standing of villages to gain benefits from wildlife and set aside land for community owned biodiversity enterprises. This implies entrusting the management of such areas to local communities to ensure the conservation of biological, physical, and cultural resources and continued availability of corridors, migration routes, and buffer zones to animals. The aim of this policy is that local communities will be able to gain direct sustainable benefits from wildlife conservation on their land.

WMA's reflect a shift in conservation philosophy by the GoT and present an alternative method to implement conservation agendas by providing communities with a concrete incentive to protect the wildlife in their land. Historically, wildlife policy in Tanzania has marginalized local communities by depriving them of the benefits that could be accrued from wildlife. The establishment of WMA's serves as a mechanism of decentralization and privatization of resources and addressing some of these imbalances. It is estimated that 3.5 million people in 44 districts of Tanzania depend on areas which are to become pilot WMA's for part of their income (Severre, 2000). WMA's face several criticisms based upon this approach:

- The process is long and complex. It is questioned whether communities will have the capacity to establish WMA's.
- The Director of Wildlife still has final authority so there are fears of WMA's being another form of state control in the wildlife sector.
- Whether economic returns between multiple villages will be adequate enough to make a household level impact.

TANAPA's strategy of sharing benefits with adjacent communities to protect the integrity of national parks and to reduce conflicts is constructed on a similar philosophy acknowledging that people need to be brought into the equation. I argue, however that that Tarangire NP's management practices are contributing to the demise of the parks wildlife resources. I argue this on several levels: one of which is how TANAPA engages with communities through the SCIPS program. Investments at a village level throughout the six districts bordering TNP are ad hoc and not planned strategically. Often, projects are allocated to villages due to political pressures from local Members of Parliament (S. Mwangota, TNP CCS Warden). The implementation of SCIPS projects does not effectively link these investments back to conservation. There is a perception by villagers that TANAPA does not trust villagers which is why TANAPA engages its own contractors for village level projects. Some projects (for example the dip in Emboreet) are not completed and contribute to a perception that TANAPA is not really interested in village development and is providing token hand outs. A previous TANAPA CCS Warden stated in an interview that the CCS department "Does nothing-they just travel around. I know as I did that work for 7 years.."<sup>5</sup>

A major source of fear in Emboreet is that TNP's boundaries will increase and alienate village land. Several TANAPA documents and guide books state the importance of the Simanjiro Plains and threat of agriculture. The reality is that the TNP boundary has not changed, and increasing it would be a major political issue. However, in 2003 TANAPA began to engage in a boundary clearing exercise. Prior to this exercise, Maasai believed the boundary to be a management road within the park. After the exercise, the actual boundary was cleared by grader. Maasai perceived this as a movement into village land of the park. TANAPA failed to carefully explain this new development at a village to mitigate negative community perceptions. TANAPA and District Game Officers try to use the might of central government to limit farming by basically feeding the fears of villagers that the park may expand if farming continues. Therefore, by not clearly communicating boundary issues with communities, communicating a desire to limit farming for the benefit of conservation, TANAPA is contributing to a situation that is undermining conservation in the Simanjiro Plains.

TANAPA does not have a mandate for law enforcement outside of the park, but has a local level arrangement with the Wildlife Division. The extension of the 'fences and fines' management approach into village land further convinces villagers that TANAPA cares more about wildlife than human rights. Pastoralists caught with cattle in the park have reported being physically assaulted

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<sup>5</sup> "Hawafanyi kitu chochote: wanazunguka tu. Ninajua kwa sababu nilifanya hiyo kazi kwa muda wa miaka saba".



during arrest and cattle mutilated by rangers. These events seem to be fewer and far between but reports of these incidents travel fast throughout Simanjiro and validates and affirms people's fear that the park is an instrument of control and repression. Community-conservation relations are not enhanced by law enforcement tactics of the District Department of Natural Resources who are reputedly corrupt, and heavy handed with community members caught poaching or making charcoal. In May, 2006 the District Game Officer was killed in a shoot-out with poachers. He had received '10 warnings' from the acting District Commissioner for reports of severe beatings and even manslaughter during his patrols.

Tourism hunting companies have also reportedly used violence in apprehending pastoralists in hunting blocks. These incidents have been used at a local level to illustrate that human rights are compromised in favor of conservation. They have also been used as a political tool to argue against tourism hunting in village lands. Tourism hunting blocks are allocated by central government and villagers feel this undermines their resource rights and communal land tenure. Tourism hunting is a lucrative industry with 21 day safaris being sold to individual hunters for \$120,000 gross. However, hunting contributions in kind and in cash only averaged \$5,631 per year to Emboreet over a 5 year period. This contribution is perceived as a small hand-out by the community and does not compensate for the land tenure disputes with hunting companies. Human rights abuse incidents fuel a fire that is primarily based on village land tenure and community resource right issues.

Wildlife revenue earned by Emboreet each year is significant and averages \$49,940 cumulatively. It is ironic though that wildlife perceptions are so negative. People view wildlife as a cost rather than benefit. A major complication seems to be the mismanagement of funds at a village level by leaders. An audit carried out by the District Cooperatives Department in 2004 that stated the following (Msangi 2004):

- That village leaders were not transparent nor democratic in management of village funds;
- That government protocols of managing village funds through committees, village government meetings, and village General Assemblies were ignored;
- That management of village funds was unsatisfactory and showed evidence of significant fraud.
- There was poor record keeping and travel and allowances were well over budget.

In effect, wildlife revenue could have a significant behavioural and perception impact in Emboreet and the wider Simanjiro Plains. However, a legacy of land alienation and inappropriate communications and engagement between state conservation agencies and communities has

fermented suspicion and fear that pastoralists will be further marginalised in the name of conservation. As a result, despite wildlife contributing the largest source of revenue to Emboreet Village, it translates into an increasing rate of land use change, participation of villagers in commercial poaching, and desire to farm by pastoralists. Defensive farming is a phenomenon that villagers feel will obstruct land alienation through conservation and illustrate land tenure. The basic premise being that a plough marks 'open' rangeland as having an individual owner.

## **Conclusion and Policy Implications**

Incorporating local communities into conservation is an alternative to the more traditional fortress conservation approach to conserving biodiversity (Holmes 2003, Western and Wright 1994, Hulme & Murphree 1999). Unless it can be demonstrated that viable economic returns can be generated by pastoral rangeland without cultivating, it is believed by conservationists that the corridors and wildlife dispersal areas of Tarangire-Manyara will be steadily converted over to crops. Community based conservation has the highest potential for success when it offers alternative uses of natural resources as sources of tangible incomes to local communities. Increased and diversified economic returns from rangeland can offer incentives for conservation and act as a vehicle to leverage rural institutional development. It has been illustrated that wildlife resources are one of the highest direct revenue generating sectors in the Tarangire-Manyara ecosystem. However, revenue from wildlife based activities accruing to villages is minimal in Tanzania due to several reasons:

- **Land Tenure:** Tanzania has a history of socialism, nationalism and villagisation. In addition, often the only asset rural villagers have is their land. A free-hold system does not as yet exist in Tanzania (though Tanzania embraces a market economy and through the Investment Promotion Act, a freehold system may become a reality in the medium term future). Individuals, communities and commercial entities are thus issued with 'rights of occupancy' for up to 99 years. Currently all land in Tanzania is held in trust by the President of the United Republic of Tanzania. All wildlife in the country is also legally owned by the state. Therefore, wildlife management on village lands in Tanzania has tended to lean towards being top-down and state-centric.

Game Controlled Areas (GCA's) are a primary management mechanism for wildlife outside of protected areas. GCA's are divided into hunting blocks which are awarded competitively to tourism hunting firms. A single hunting block can overlay several villages, irrespective of village administrative boundaries. Therefore village lands effectively have wildlife user rights allocated to the private sector with villages having minimal involvement in the decision

making process, management of hunting and revenue allocation. Due to the unclear status of a free-hold system developing, village areas in GCA's are being rapidly sub-divided by villagers to reinforce their land tenure. It is important that the land tenure status of contested GCA areas such as the Lolkisale GCA which is contested between regions, districts, and by Emboreet village be openly addressed by local and central government agencies so that villages are clear about whether their claims to this GCA are legitimate.

- **Wildlife Revenue Distribution:** An estimated 95 percent of hunting revenues throughout Tanzania are channeled to the central government. The Treasury then remits 25 percent of hunting revenues to local District Councils which are in theory meant to re-invest these funds into village development project in the blocks. In practice between 3-5 percent of hunting revenues actually make it back to the villages. In practice, the Wildlife Division needs to be more transparent in the allocation of tourism hunting blocks, and explore more direct tourism hunting revenue sharing agreements at a village level. Photographic tourism companies which have tried to establish lodges in hunting blocks adjacent to national parks overlapping on village lands have come into conflict with hunting operators and the institution overseeing hunting, the Tanzania Wildlife Division. Photographic tourism deals generally contribute more revenues to villages than hunting, but the development of photographic tourism in hunting areas has been legally challenged. Land and wildlife policies need to be harmonized to legally allow villages to engage in wildlife enterprise on village land without conflicting with the Wildlife Division.
- **Policy Issues:** The Local Government (District Authorities) Act (1982) defines a village to mean a prescribed number of households which have settled and made their homes within any area of Mainland Tanzania and that boundaries of that area are can be particularly defined village registered under the Act. Wildlife related policies such as the Wildlife Act of Tanzania (1974- under revision) and Wildlife Policy of Tanzania (1998) tend to underscore the role of the state in wildlife management. Tanzania's increasingly liberalized and democratized political ecological landscape has resulted in the development of policies favouring participatory processes such as the Village Land Act. However, villages have limited authority to manage wildlife on village lands in spite of the Village Land Act. It is extremely important the new Wildlife Act (under revision) is harmonized with the Village and Land Acts of Tanzania.

- **Enterprise diversification:** In theory, community based tourism should aim to help create jobs, income streams from lease and management fees, income from enterprise ownership, and non-cash livelihood benefits such as clear communal rights to land and wildlife use and affirmation of cultural values. The majority of village-private sector based deals are tourism based. Tourism is a major revenue generator but the events of September 11<sup>th</sup>, 2001 illustrated how sensitive the global travel industry is to disturbance.

One of the main challenges now is to harness the power of the private sector in making fair and lasting partnerships (which may include equity sharing, leases, management contracts and/or employment and supply/outsourcing contracts) with poor communities. This is particularly true in terms of attracting the lucrative international tourism market, which depends on specialized marketing and distribution channels that poor people usually cannot afford to access alone. There is a need for increased oversight ensuring that community-private sector deals are transparent and actually do benefit villages.

- **Village level institutional development:** A major constraint in community based tourism is weak governance processes in community institutions for benefit sharing. Successful conservation efforts in village areas of the Maasai Steppe will require focus on the development of effective community based organizations, advocacy groups, and synergies that foster conservation alliances. A fundamental issue in the success of community based conservation programs and their governance is the delivery of economic benefits, however small, at a household level. Currently, benefit sharing schemes target communal benefits channelled through a village bank account. A lack of household level benefits is contributing to poverty and negative perceptions towards conservation.
- **Policy constraints and advocacy:** The lack of policy harmonization in Tanzania has affected the development of community based conservation in Tanzania. It is important for conservation agencies to support an active national civil society base to catalyze advocacy efforts to streamline policy
- **Landscape level collaboration:** Parks often do not exist in isolation and Tarangire NP will not be sustainable without the collaboration of pastoral communities, local landowners, NGO's, and government agencies. Involving and working productively with all stakeholders in the landscape is important to foster even if stakeholders represent conflicting land uses

such as commercial agriculture, or hunting. From a wider perspective, the parks in the Maasai Steppe will continue to be the core economic catalysts in the landscape, and community based conservation provides the opportunity to foster contiguity in the Maasai Steppe.

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Appendix I: National Parks and Game Reserves Gazetted in Tanzania since 1992

**Game Reserves and National Parks:**

No.	Name	Status	Size (Sq.Km)	Year of Gazettement
1.	Udzugwa NP	National Park	1,900	1992
2.	Grumeti Game Reserve	Game Reserve	2,000	1993
3.	Ikorongo Game Reserve	Game Reserve	3,000	1993
4.	Pande Forest Game Reserve	Game Reserve	12	1994
5.	Kijereshi Game Reserve	Game Reserve	300	1994
6.	Muhesi Game Reserve	Game Reserve	2,000	1994
7.	Msanjesi Game Reserve	Game Reserve	210	1995
8.	Lukwika/Lumesule Game Reserve	Game Reserve	444	1995
9.	Rukwa Game Reserve	Game Reserve	4,000	1995
10.	Usangu Game Reserve	Game Reserve	4,000	1995
11.	Mkungunero Game Reserve	Game Reserve	700	1996
12.	Swagaswaga Game Reserve	Game Reserve	871	1996
13.	Lukwati Game Reserve	Game Reserve	3,146	1997
14.	Mpanga- Kipengele Game Reserve	Game Reserve	1,574.25	2002
15.	Liparamba Game Reserve	Game Reserve	570.99	2000
16.	Kimisi Game Reserve	Game Reserve	1,026.23	2002
17.	Saadani NP	To be upgraded from GR to NP	1,100	2003
18.	Kitulo NP	National Park	402	2003
<b>TOTAL SURFACE AREA</b>			27,256 km. sq.	