



Integrating Pastoralist Livelihoods and Wildlife Conservation?

Options for Land Use and Conflict Resolution in
Loliondo Division, Ngorongoro District

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Executive Summary:

For years there has been conflict in Loliondo surrounding land and natural resource uses. The conflict is complex, with many stakeholders involved, and Loliondo's location, bordering the Serengeti National Park and serving as prime grazing area for pastoralists in the region, makes it one of the most highly coveted land areas in Tanzania.

This report provides an overview of the conflict in Loliondo, reviewing historical information, current land uses and tenure arrangements. The main land uses are photographic tourism, hunting tourism and livestock keeping, which all bring different economic benefits to the area. According to Village Land Act No. 5 of 1999, all land in Loliondo Division is classified as Village Land. However, there is spatial overlap of Village Lands and a Game Controlled Area (GCA), which since 1992 has been leased to the Ortello Business Corporation. Prior to 2009, GCAs had no bearing on land use or management; however, the 2009 Wildlife Conservation Act prohibits farming and livestock grazing in GCA. This new Act poses a huge problem to the communities that have been living and using the land in Loliondo for decades.

An economic summary of the different land uses provides a better understanding of the potential revenue that could be generated in Loliondo. This summary informs the final section of the report, which evaluates the land tenure and land use options and the various implications associated with each.

About this report

This report has been prepared by the Tanzania Natural Resource Forum, based on technical support and background research from Maliasili Initiatives. The purpose of the report is to provide a third-party, unbiased technical and contextual review of the Loliondo conflict and the land options for moving forward.

I. Introduction: Land Use and Land Conflict in Loliondo

During the past two decades, conflicts surrounding land and natural resource uses in Loliondo have been an issue of major local, national, and even international concern. The conflict surfaced again in July 2009 when the Government initiated an operation under the Field Force Unit, which was managed by Regional and District authorities, to evict residents of eight villages in Loliondo from a disputed area of land to the east of Serengeti National Park. The resulting eviction of an estimated 200 households, led to allegations of human rights abuses by the Government and economic losses to the communities, including livestock deaths and property loss.¹ All of this was conveyed nationally and internationally through a range of print and internet media.

While the events of July 2009 were the most severe outbreak of violent conflict over land use ever experienced in Loliondo, these events occurred in the context of land and resource use conflicts that have a much longer history. Since the immediate aftermath of the evictions there have been a range of efforts at dialogue and local discussions on how to resolve the conflict, but no permanent solution has yet been arrived at.

The report collects, presents, and analyses critical data and information on the history of the land use conflicts in Loliondo, the underlying causes of those conflicts, and the compatibility or incompatibility of different land use options. The report also describes and evaluates the land use and land tenure options for Loliondo in relation to local and national objectives of economic development, poverty reduction, and sustainable natural resource management.

¹ FEMACT. 2009. *FEMACT Loliondo Findings, 19th-21st August*. FEMACT: Dar es Salaam. Available at: http://www.oxfam.org.uk/resources/learning/landrights/downloads/femact_loliondo_findings.pdf

II. Loliondo: An Overview

Loliondo is geographically located adjacent to the Kenyan border, in the far northwestern part of Arusha Region in northern Tanzania. To the west of Loliondo lies Serengeti National Park, a World Heritage Site and cornerstone of Tanzania's wildlife tourism industry. To the south of Loliondo is the Ngorongoro Conservation Area, also a World Heritage Site. To the east is Lake Natron, a Ramsar site.

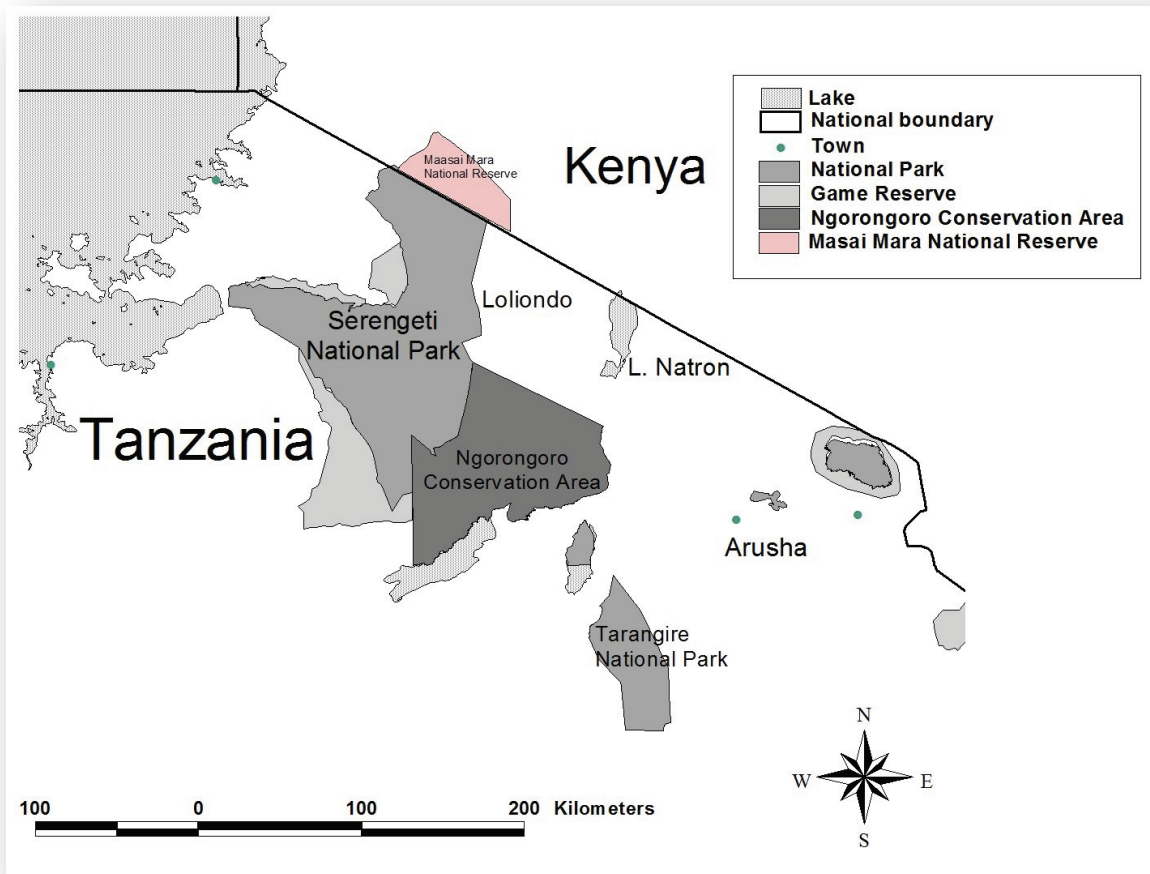


Figure 1: General geographic location of Loliondo Division.

Loliondo Division is one of three divisions in Ngorongoro District, Arusha Region; the others are Sale Division and Ngorongoro Division. Ngorongoro Division is entirely contiguous with the borders of Ngorongoro Conservation Area (NCA), which is managed by the Ngorongoro Conservation Area Authority (NCAA). NCA/Ngorongoro Division covers an area of 8,281 km², or roughly 59% of the entire district, while Loliondo and Sale Divisions together cover 5,755 km² or roughly 41% of the district.

The overall human population of Ngorongoro District is 184,554, with recent growth rates of 4.5% per annum. More than 80% of the people in the district depend on pastoralism for their livelihood, which has been the main form of land use in the area for the past several

hundred years.² The predominant ethnic group is Maasai, and pastoralist land use practices are based on the system of transhumance, which is the seasonal movement of livestock between wet and dry season pastures. The Batemi, practicing agriculture and livestock keeping as a livelihood, also live in the area in the Sonjo hills between Loliondo and Lake Natron.

Loliondo is a part of the Greater Serengeti Ecosystem, which spans more than 25,000 km² and includes Serengeti National Park (SNP) in Tanzania and the Maasai Mara National Reserve in Kenya. The Serengeti ecosystem is home to the greatest abundance of terrestrial wildlife on earth, with nearly three million wildebeest, zebra, gazelles and antelope moving between the Serengeti plains, the savannahs of the Maasai Mara, and the woodlands of the western Serengeti every year.³ With the onset of the short rains, the wildebeest head south into Tanzania. During this migration they pass through Loliondo, outside the boundaries of SNP. Many wildebeest also disperse north out of the NCA into the Sale plains to graze and calve during the rainy season (Figure 2).

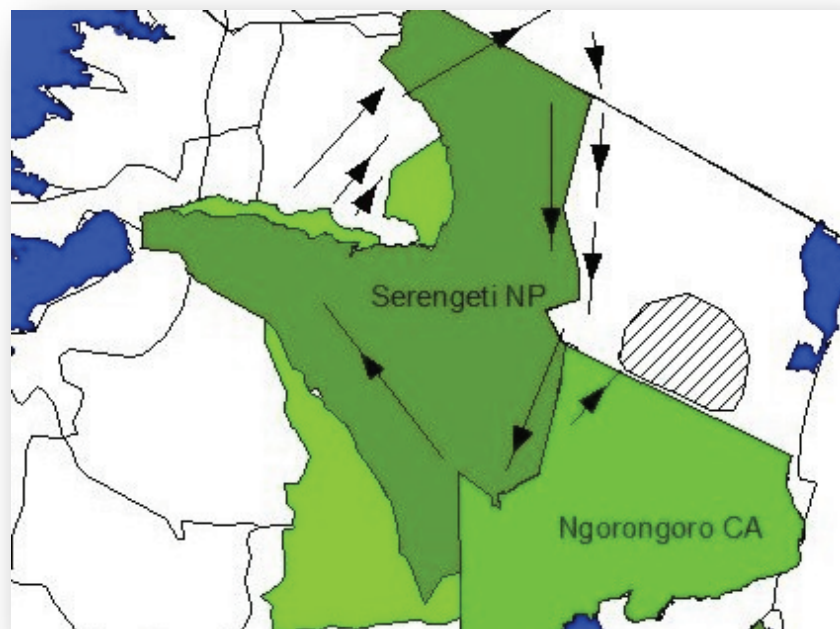


Figure 2: Migratory pathway of the annual wildebeest migration from the Maasai Mara to the Serengeti plains in relation to Loliondo; arrows represent wildebeest migratory route, and dashed lines represent wet season grazing area for wildebeest and other wildlife on the Sale plains.⁴

²Homewood, K.M. and W.A. Rodgers. 1991. *Maasailand Ecology: Pastoralist Development and Wildlife Conservation in Ngorongoro, Tanzania*. Cambridge: Cambridge University Press.

³Sinclair, A.R.E. 1995. Serengeti past and present. 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. 3-30.

⁴ Adapted from Sinclair, 'Serengeti past and present'.

III. Current Land Uses in Loliondo

Resident Communities: Land Use, Tenure, and Livelihoods

Ngorongoro District is home to 38 villages, of which nine are in Loliondo Division and 13 are in Sale Division. Of the nine villages in Loliondo Division, six cover the main land area of the division that borders SNP. This is the main area subject to the land use issues and conflicts discussed in this report. These villages are:

- Ololosokwan
- Soitsambu
- Oloipiri
- Olorien/Magaiduru
- Loosito/Maaloni
- Arash

Piyaya and Malambo villages, which are in Sale Division, are also included within the current conflict zone, and are relevant to this study. The locations of these villages, and the other villages in Loliondo and Sale Divisions are illustrated in Figure 3. The boundaries shown are based on the borders determined during the late 1980s and early 1990s when some villages were issued with title deeds by the Ministry of Lands. As such, all land in Loliondo and Sale Divisions is Village Land according to the definitions of Village Land in the Village Land Act of 1999 (see Box 1).

Box 1: Is Loliondo Village Land?

Most rural land in Tanzania, falling under the auspices of one or another village according to the Village Land Act No. 5 of 1999, is classified as Village Land. The definition of Village Land in that Act includes the following:

1. Land within the boundaries of villages registered according to the Local Government Act, 1982.
2. Land demarcated as village land under any administrative procedure or in accord with any statutory or customary law.
3. General land that villagers have been using for the twelve years preceding the enactment of the Village Land Act. This includes land customarily used for grazing cattle or passage of cattle.

Based on *all three* of the above definitions, any one of which is sufficient to define an area as Village Land, all of the area of Loliondo Division is Village Land.

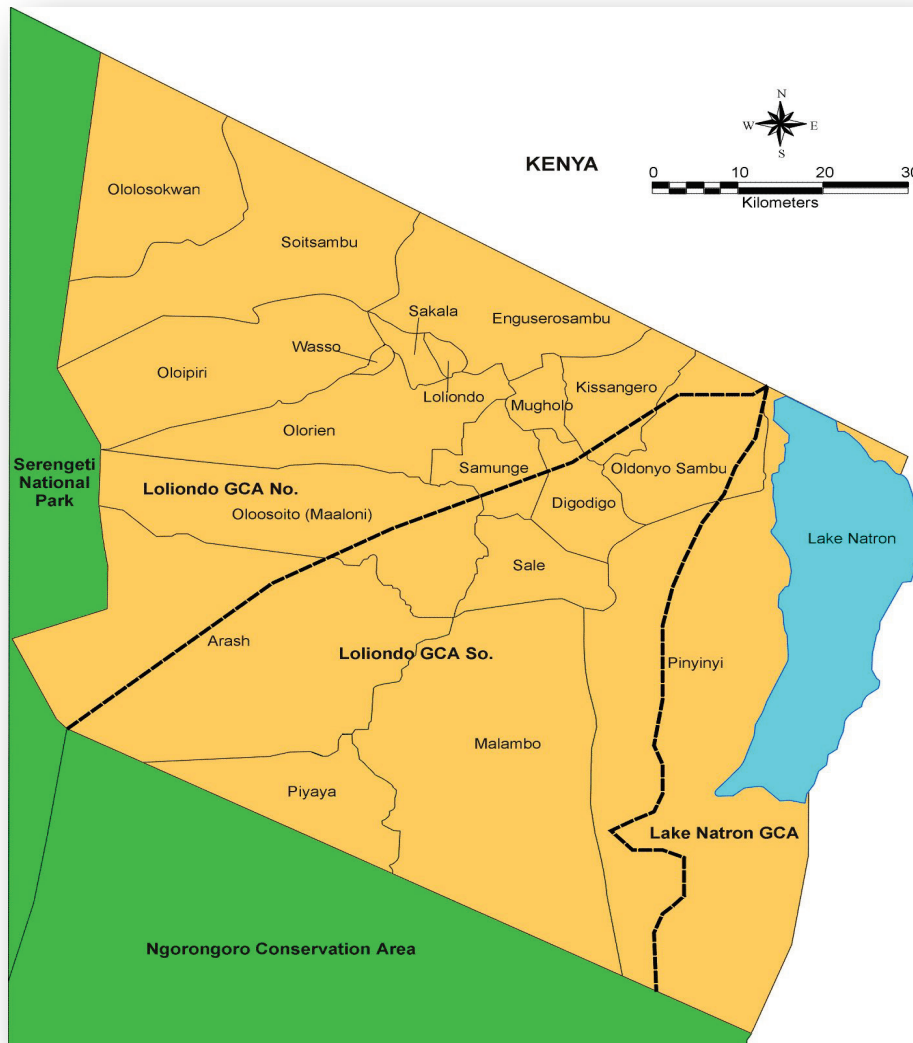


Figure 3: Approximate location of villages in Loliondo, based on title deeds issued in the late 1980s/early 1990s, in relation to boundary of Loliondo Game Controlled Area (north and south- dashed lines). All village boundaries are approximate and many have been changed during subsequent boundary demarcation and surveying exercises. Of great importance to note is the complete overlap of village lands and the Game Controlled Area, based on these historic boundaries.⁵

For the past several hundred years, the predominant land use in Loliondo has been pastoralism, based on *transhumance*, which refers to a pattern of seasonal movement between dry season and wet season pastures. Maasai groups of people moved south into the Loliondo area and Ngorongoro highlands at some point in the eighteenth and

⁵ Map reproduced from: O'Malley, M.E. 2000. *Cattle and Cultivation: Changing Land Use and Labor Patterns in Pastoral Maasai Livelihoods, Loliondo Division, Ngorongoro District, Tanzania*. Unpublished PhD Thesis, University of Colorado.

nineteenth centuries.⁶ Up until 1960, pastoralist communities lived across much of the central Serengeti, in what is now Serengeti National Park, as far west as Seronera. But in 1959, SNP was re-gazetted by the British colonial government, taking on its current boundaries and concurrently establishing the Ngorongoro Conservation Area as a multiple-use area for both natural resource conservation and the development of resident pastoralist communities. When SNP was re-gazetted in 1959, the National Parks Ordinance was revised making it illegal for any people to reside inside national parks, except for purposes of management, tourism, and research. This resulted in the relocation of 1,000 former Maasai residents from Serengeti, and their exclusion from traditional grazing areas and important water sites, such as around Moru Kopjes.⁷ Some of the Maasai removed from Serengeti resettled in Loliondo, others in the southern part of NCA, and traditional livestock movements during wet and dry seasons were adjusted to take account of the new boundary of the National Park.

Pastoralists in Loliondo, as throughout much of northern Tanzania, carry out regular movements based on an annual cycle of dry season and wet season grazing areas.⁸ Dry season grazing areas are set aside until the middle of the dry season arrives (this tends to be around July) and elders meet to decide when the community may begin to use those areas. This practice protects both dry season and wet season pastures from overgrazing by moving cattle to different areas and taking advantage of good grazing conditions following periods of rainfall or other seasonal changes. The ecological rationale of these seasonal movements is the same as the factors that cause wildlife to move between the Serengeti plains and the Maasai Mara every year: that different resources become available during periods of rainfall, with different quality grazing areas located in different parts of the landscape. This similarity is one of the main reasons pastoralists and wildlife have co-existed in the Serengeti ecosystem, including outside the National Park, for more than 200 years. Another reason why wildlife is so abundant is that the land management practiced by the pastoralists for livestock production (seasonal grazing rotations, seasonal burning of grass for disease control) is also beneficial to wildlife, and central to the current abundance of wildlife is the cultural anathema of killing or eating wild animals.

Although pastoralism is the main form of land use and key to livelihoods in Loliondo, agriculture has been present in the area since at least the 1950s.⁹ Trading for maize or growing it on small plots is key to pastoralist food security as it complements diets based mainly on milk and butter, and pastoralists in Loliondo have strategically farmed limited areas since that time. However, agricultural cultivation has been limited because farming competes with and destroys the grazing areas that more profitable livestock depend on, and as a result only a small (less than 5%) of Loliondo's land area is farmed.

In the 1980s a number of land use changes were proposed that have shaped debates over land tenure and management to this day. The Government put forth a major proposal to

⁶ Homewood and Rodgers, *Maasailand Ecology*

⁷ Neumann, R.P. 1998. *Imposing Wilderness: Struggles over Livelihood and Nature Preservation in Africa*. Berkeley: University of California Press.

⁸ Homewood and Rodgers, *Maasailand Ecology*

⁹ O'Malley, E. 2000, *Cattle and Cultivation*.

introduce large-scale wheat farming into Loliondo at that time, and a land use plan was drafted, which proposed converting much of Loliondo Division bordering SNP to wheat farms. This was at a time when many pastoralist lands throughout northern Tanzania were being distributed by the state to farmers and investors, undermining local land use practices and livelihoods. One of the most notable of these was the NAFCO wheat scheme in Hanang District, which took over what had been Barabaig grazing area and displaced thousands of people.¹⁰

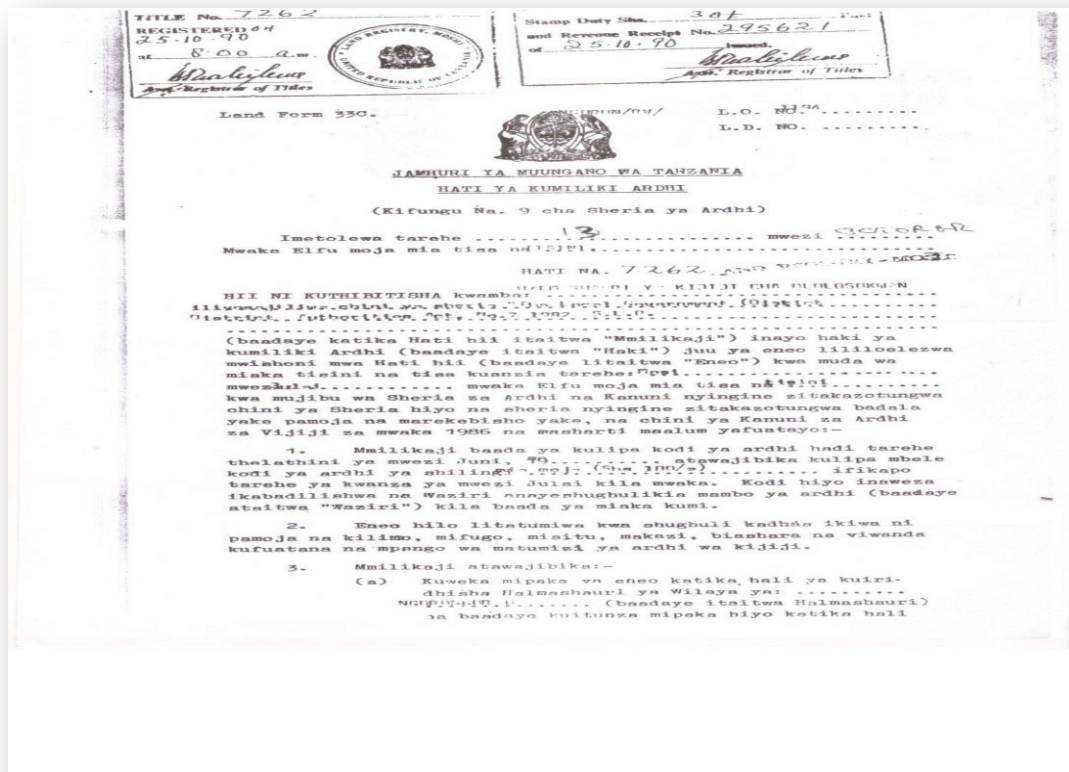


Figure 4: Copy of the Official Title Deed for Oloolosokwon, granted by the Ministry of Lands in 1990.

The wheat farming proposal for Loliondo alarmed resident communities and the wider emerging pastoralist land rights movement emerging at that time in northern Tanzania. The proposal also alarmed the Tanzania National Parks (TANAPA) because of the negative impacts large-scale farming would have on the wildlife of SNP and the greater Serengeti ecosystem. TANAPA joined hands with village leaders and local development organizations to support a process of facilitating the Ministry of Lands to survey the villages in Loliondo and issue them with title deeds in order to protect them from proposals to alienate their

¹⁰ Lane, C. (1996) *Pastures Lost: Barabaig Economy, Resource Tenure, and the Alienation of their Land in Tanzania*, Initiatives Publishers, Nairobi, Kenya.

lands and convert their areas to other land uses.¹¹ This effort resulted in the villages receiving title deeds from the Ministry of Lands in 1990.

Box 2: History of Land Use Conflict and Land Titling in Loliondo

Today, the conflict over land use in Loliondo involves a conflict over not only land but of the interpretation or re-telling of history. It seems to be largely forgotten that villages in Loliondo went through a similar period of conflict during the late 1980s, when land fragmentation and expanding agriculture threatened both wildlife migration routes and pastoralist land uses in Loliondo. The response was joint efforts by villages, development organizations, district authorities, and national agencies including Tanzania National Parks and the Ministry of Lands, to issue the villages in Loliondo with title deeds.

Much of this history is remembered by residents of Loliondo, but poorly documented. One study¹² examining the history of land tenure conflict in Loliondo recounts some of the key aspects of this history including the following passages:

In the 1980s, during Tanzanian economic liberalization, the State encouraged commercialization and intensification of land use and resources, also in the Loliondo Division... By the end of the 1980s, land loss was evident on the Loliondo Division village lands. Due to the AGRIPOL policy of 1983, the Arusha Regional authorities were encouraging people and investors elsewhere to start agricultural production in the Loliondo Division. Village lands became a target area for immigrants and outside investors. In 1975–79 a major road was built to the Division by the Americans. This road connection also attracted people into the Division.

Due to this rapid change in economic conditions, State-led land alienation and risen land competition was evident in both Divisions. The Loliondo land use plan confirms the fact of the increased demand on land. It states that by December 1985 there were about 100 requests for land allocation of agricultural land in the Loliondo Division. In January 1989, the number had risen to 264 land claims, covering about 140% of the total area of the Loliondo Division. This land demand and competitive land use picture in the Loliondo Division has had a direct effect on the insecurity of Maasai land rights in the Loliondo and Sale Divisions. Gradually, fears of lost pastoral property and property rights produced pleas from the Maasai people.¹³

By the end of the 1980s, due to this conflicting situation, the village council of the Loliondo village requested the National Land Use Planning Commission (NLUPC) to prepare comprehensive village land use plans for the entire Loliondo Division. Consequently, the Minister of Lands also directed all Regional Commissioners in Tanzania to give priority to the survey and demarcation of village boundaries, and the issuing of title deeds to villages, and to ensure that land use plans were prepared for the villages.¹⁴

¹¹ A key organization supporting these efforts was the Arusha Diocesan Development Office (ADDO) of the Evangelical Lutheran Church of Tanzania, which also facilitated villages in Simanjiro District, which was then also under threat from a range of land use proposals, to obtain title deeds.

¹² Ojalamm, S. (2006) 'Contested lands: Land disputes in semi-arid parts of northern Tanzania', PhD Thesis, University of Helsinki, Finland

Available at: <http://ethesis.helsinki.fi/julkaisut/mat/maant/vk/ojalamm/conteste.pdf>

¹³ Ojalamm, p 91.

¹⁴ Ojalamm, pp 91-92.

At this time, due to the existing land loss, the local Maasai from the Loliondo Division, together with some educated Maasai elite and the Maasai MP, realized the need for securing Maasai customary land rights in the Loliondo Division (the legal deemed right of occupancy). In 1989, the Loliondo Village Council asked the SRCS [Serengeti Regional Conservation Strategy] in the Ngorongoro District to demarcate all village boundaries and to prepare land use plans for the Loliondo Division. Two years later in 1990, the Ngorongoro District Council proceeded with the land registration process and formed a survey team with the SRCS. The team, which included the Regional surveyor, the District council members, representatives of the Tanzanian and international NGO fields (ADDO, IUCN, and KIPOC) and some educated local people, demarcated the village boundaries of the Loliondo Division. In October 1990, the demarcation and registration of collectively held village lands in the Loliondo Division with the co-operation of the local people and the State was finalized. Altogether 2,300 square kilometres of lands were both surveyed and mapped, and the land registration exercise guaranteed legal statutory property rights (the certificates of land titles) to the Maasai people in their village lands for 99 years. The villages which received their titles were Loliondo, Sakala, Olorien/Magaidur, Oloipir, Soitsambu, Ololosokwan, Engaserosambu/Ngarwa, Loosito-Maaloni and Arash/Lamunyan.¹⁵

By the early 1990s a number of villages in Loliondo had acquired title deeds (Box 2), but they nevertheless continued to face threats from encroachment into grazing areas from small-scale agriculture and land sales by village governments.¹⁶ In 1998, five villages working with Ngorongoro District Council and a local NGO that was established to promote sustainable natural resource management in Loliondo and other pastoralist areas, developed village by-laws and land use plans for better governing villages' lands and resources. These village by-laws, which zone the village lands into different areas, particularly focusing on communal lands for different types of seasonal grazing, and marks other communal resource uses such as forests and tourism sites, were approved by Ngorongoro District Council in 2000 for the following villages: Olorien, Maaloni, Oloipiri, Soitsambu and Ololosokwan.

The by-laws and the land use zones described therein have helped resolve conflicts between farming and pastoralist grazing areas, as well as to develop tourism activities at the village level and other developments. Figure 5 provides an example of such land use plans, showing the land use zones established in Ololosokwan village through the district and village approved by-laws. These land use zones are based on traditional pastoralist land use practices in the area, which as noted above, designate different areas for wet season and dry season grazing. The by-laws and land use plans developed at that time were produced through a grassroots participatory process involving all community members, and building on traditional knowledge and resource management practices. District Land Officers and other district staff helped to facilitate these by-laws and land use plans.

¹⁵Ojalamm, p 92

¹⁶A major shortcoming of the land tenure framework governing village lands prior to enactment of the Land Act No. 4 and Village Land Act No. 5 in 1999 was that before that, the issuance of title deeds to village governments meant that the village governments effectively owned the land without any clear procedures for accountability to the Village Assembly being put in place. Thus village leaders could allocate land without any checks on this authority by the wider community.

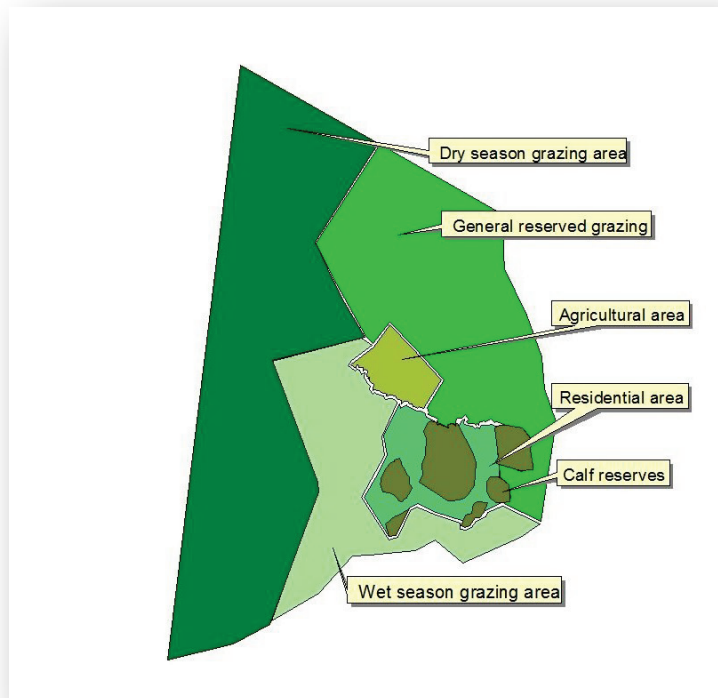


Figure 5: Land use zones for Ololosokwan village in Loliondo Division, as described in village by-laws and village land use plan in 2000 and approved by Village Assembly, Village Council, and District. Note that the dry season grazing area on the western half of the village lies immediately adjacent to SNP.

These pastoralist land use practices, supported by Tanzanian land law and local government law (which provides for village by-laws), have also been an important part of the co-existence of local communities and wildlife in this part of the Serengeti ecosystem (Box 3). This has helped protect the wildebeest migration as it passes through these Village Lands every year, and village land use plans have protected this habitat by designating these areas as dry season grazing reserves.

Box 3: Interactions between Pastoralism and Wildlife

A critical issue for the resolution of land use conflicts in ways that protect local, national, as well as international interests, is to understand the nature of the co-existence between wildlife and pastoralist land uses in Loliondo.

A key to understanding livestock-wildlife interactions in East African savannahs is the reality that different types of animals eat different types of forage. Species such as giraffe, genenuk, kudu, and domestic goats are 'browsers', eating leaves from trees and bushes, whereas species such as wildebeest, zebra, buffalo, gazelle, and cattle, are 'grazers'. Some wild ungulates such as eland and impala are 'mixed feeders', eating both grass and browsed

forage. Research carried out in the Serengeti in the 1970s described how different species of wild ungulates, such as wildebeest and zebra, can co-exist without directly competing for grazing because their feeding preferences are different—zebra eat higher, more coarse grass while wildebeest prefer shorter swards of grass.¹⁷ This enables wildebeest to graze areas that zebra have already passed through and grazed over. Gazelle are very selective grazers, with small mouths capable of selecting individual blades of grass and efficient digestive systems, and can also extract forage from areas that have already been grazed by larger, less selective grazers such as zebra, wildebeest, or cattle.

In general, cattle, which make up the majority of livestock biomass in pastoralist areas, compete most directly with zebra and buffalo, which like cattle are large-bodied, relatively unselective grazers. By contrast, the presence of animals like zebra or cattle, which can feed on high and coarse grasses, can increase the availability of forage for more selective grazers such as gazelles. Many species of wildlife effectively co-exist with livestock grazing because livestock and wild animals often have different feeding preferences.¹⁸

In northern Tanzania there is an abundance of scientific evidence attesting to the long-term co-existence of wildlife and pastoralism.¹⁹ In Loliondo, research surveyed both herbivore and large carnivore populations in Loliondo, comparing species densities and abundance to areas he simultaneously surveyed inside NCA and SNP.²⁰ This study found no difference in wildlife diversity between the three areas, with animal biomass higher outside SNP, and concludes that there is “no evidence that the presence of the Maasai and their livestock was particularly detrimental to any single species” and “no evidence that livestock biomass replaces wild species biomass outside the park.” His findings echo earlier Serengeti ecosystem surveys which found “no marked changes in density on either side of the protected area boundaries” dividing community-managed pastoralist lands in Loliondo from the state-managed SNP.²¹

The study also found a high density of large predators such as lions and spotted hyenas in Loliondo’s pastoralist lands, with lion densities there at about 1:2.7 km², a density comparable or exceeding that found in many government protected areas. It concluded, “lion populations were equally healthy in the study areas inside and outside the park and persisting at densities comparable to the healthiest populations in recent history.”

¹⁷ Bell, R.H.V. 1971. A grazing system in the Serengeti. *Scientific American* 224: 86-93.

¹⁸ Sitters, J., I.M.A. Heitkonig, M. Holmgren, and G.S.O. Ojwang. 2009. Herded cattle and wild grazers partition water but share forage resources during dry years in East African savannas. *Biological Conservation* 142: 738-750.

¹⁹ Homewood and Rodgers, *Maasailand Ecology*.

²⁰ Maddox, T. M. 2003. *The Ecology of Cheetahs and Other Large Carnivores in a Pastoralist-Dominated Buffer Zone*. PhD Thesis, University College, London and Institute of Zoology, London.

²¹ Campbell, K. and M. Borner. 1995. Population trends and distribution of Serengeti herbivores: implications for management. 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. 117-145.

Wildlife and Tourism Land Uses

Loliondo Game Controlled Area (GCA)

Loliondo GCA covers effectively all of Loliondo and Sale Divisions. The establishment of this GCA dates to the colonial period, when GCAs were created as areas where the utilization (i.e. hunting) of wildlife was regulated under the law. The Loliondo GCA has, since before independence, overlapped entirely with community and private lands in Loliondo, including, for instance, all the Government offices and facilities in Wasso and Loliondo, which are also within the GCA.

During the colonial period and under the Wildlife Conservation Act of 1974, which remained in force until 2010, GCAs only regulated the utilization of wildlife and did not govern or regulate any land use activities related to human economic activities or settlements. A major change occurred with the Wildlife Conservation Act of 2009, which came into force in June 2010, and that prohibits both agriculture and livestock grazing in GCAs.²² The Act also requires the Minister for Natural Resources and Tourism to “ensure that no land falling under the village land is included in the game controlled areas,”²³ and to do this within one year of the Act coming into force.²⁴

Box 4: The Overlap between Game Controlled Areas and Village Lands

Both Loliondo and Sale Divisions are characterized by the spatial overlap of GCAs and Village Lands. This overlap occurs because GCAs were not, prior to the 2009 change in law brought about by the Wildlife Conservation Act of that year, ever concerned with regulating land uses or human economic activities. Thus, for example, nearly all of Longido, Monduli, and Simanjiro Districts also feature the nearly complete overlap of GCAs with Village Lands, many of which have been issued with Certificates of Village Land by the Ministry of Lands despite falling within GCAs.

The overlap of GCAs with Village Lands is thus not unique to Loliondo or Ngorongoro District, and is quite normal because of the fact that GCAs historically had never had any bearing on land use or land management. This has changed radically with the passage in January 2009 of the Wildlife Conservation Act, which prohibits farming and livestock grazing in GCAs, effectively giving GCAs the same legal meaning as Game Reserves.

Tourist Hunting

Tourist hunting (also referred to as ‘safari hunting’ sport hunting, or recreational hunting) has been carried out in Loliondo, as in much of rural Tanzania, since the colonial era. All

²² *Wildlife Conservation Act No. 5 of 2009*, Section 20(1) and 21(1).

²³ *Wildlife Conservation Act of 2009*, Section 16(5).

²⁴ The Wildlife Conservation Act of 2009 came into force in July, 2010.

tourist hunting was banned from 1973 to 1978 nationwide and when it was re-opened in 1978 it was managed by the parastatal Tanzania Wildlife Corporation (TAWICO). In 1988, with the coming of the liberalization and structural adjustment period, TAWICO was partially privatized and administration of hunting blocks (concession areas for tourist hunting) was returned to the Wildlife Division (WD) in the Ministry of Natural Resources and Tourism (MNRT).

A major change in the conduct of tourist hunting in Loliondo occurred in 1992, when the Loliondo GCA hunting block was leased out to the Ortello Business Corporation (OBC), which is owned by a Brigadier from Dubai in the United Arab Emirates. The issuance of Loliondo as a hunting block at the time to OBC set off a national controversy and was dubbed 'Loliondogate' in the national press and also received international attention including an editorial in the *New York Times*.²⁵ The reason for the controversy was that the villages were not consulted despite having recently been issued title deeds, the terms of the lease were not clear, and this occurred at a time when there was a great deal of national concern about land-grabbing, often in relation to foreign investors following the liberalization reforms of the late 1980s.²⁶

Although OBC was given exclusive hunting rights to the entirety of Loliondo GCA, from the eastern border of SNP all the way to the Rift Valley above Lake Natron, the company has concentrated operations solely in Loliondo Division, in the prime area of wildlife habitat east of SNP (Figure 5). This area is now also at the heart of land use conflicts in Loliondo, and the events that began in July 2009.

²⁵Alexander, C. 1993. 'The Brigadier's shooting party', *The New York Times*, 13 November 1993, <http://www.nytimes.com/1993/11/13/opinion/the-brigadier-s-shooting-party.html>; Honey, M. 2008. *Ecotourism and Sustainable Development: Who Owns Paradise?* 2nd Edition. Washington, D.C.: Island Press.

²⁶For example, even as the Loliondo hunting block was being leased to OBC, the Presidential Commission of Inquiry on Land Matters ('Shivji Commission') was beginning its work. The Commission would later highlight the Loliondo OBC deal as one of many dubious land deals that had been consummated in the late 1980s and early 1990s in different parts of the country, countervailing local rights to land and local livelihood interests. See: United Republic of Tanzania (URT). 1994. *Report of the Presidential Commission of Inquiry into Land Matters, Volumes I and II*. Dar es Salaam: Ministry of Lands, Housing and Urban Development in cooperation with the Scandanavian Institute of African Studies, Stockholm.

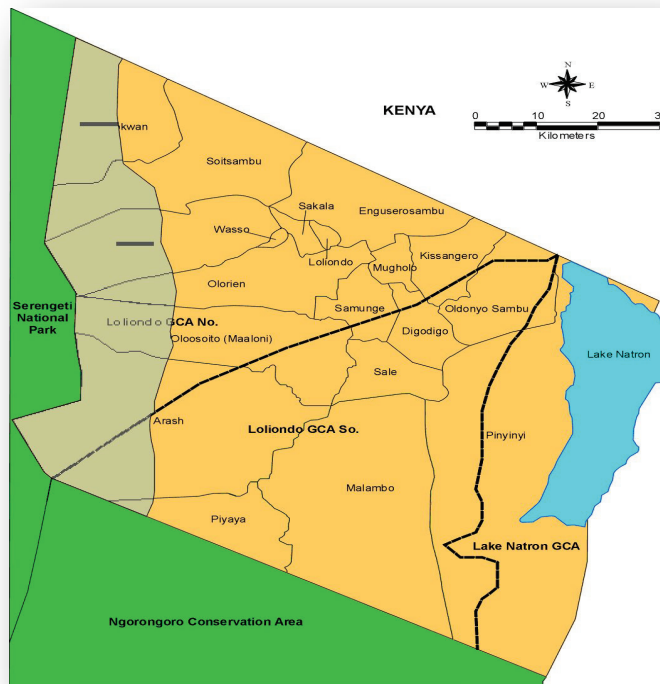


Figure 6: Map of Loliondo showing main general area used for hunting by OBC (highlighted in brown) since 1992; this is not the limitation of the hunting block but is the main area used for hunting most of the time, according to local residents and other observers.

The existence of the OBC hunting block on Village Lands has, since 1992 and over time, been subject to conflicts between the company and the Government, as well as with the resident villages. However, these conflicts have varied in intensity and good relations and co-existence have prevailed at some times. The essential, underlying conflict that the initial leasing of the concession created was that of granting a foreign company rights to carry out certain activities on what were then, and are today, Village Lands of central importance to pastoralist livelihoods and land use practices, without any significant recourse to local consultations or approval. As a result, OBC has at various times come into conflict with local livestock grazing and land management practices, leading to confrontations between community members and the company. OBC has built a permanent lodge on the land of Soitsambu village without any formal agreement or lease from the village, and has also built an airstrip nearby under similar circumstances. These conflicts are all long-standing and well documented, and were brought to the attention of policy-makers again and again during the past two decades, but no permanent resolution has been put into action.²⁷

²⁷Since 1992, the 'Loliondogate' issue has never really faded from public view, although today, following the 2009 crisis, many people in Tanzania seem to have forgotten the conflict's origins. In 2002, for example, the following media coverage was focused on Loliondo nationally and internationally: In February, 2002, a cover story in the *The East African* charged that the greater Serengeti's migratory wildlife was imperilled as a result of sport hunting in Loliondo by OBC (Mbaria, 2002). In March, 2002, an editorial in Tanzania's *Business Times* opined that the Loliondo OBC deal amounted to selling out the nation's national heritage and endangering the country's growing tourism industry in the process (Anon., 2002). An Associated Press article reported allegations concerning OBC's hunting practices, including hunting across the border within Serengeti National Park, setting fires, and building waterholes to attract game (Thomlinson, 2002). See: Mbaria, J. 2002. Game carnage in Tanzania alarms Kenya. *The East African*; Anon., 2002. Choosing between a mess of pottage and

However, OBC has provided considerable revenue to the Government as well as support for anti-poaching, and also support for development projects (such as school and hospital facilities) at district and village level. A representative of OBC, Mr. Isaac Mollel, was quoted in a recent article about the Loliondo conflict published in *The East African*, as stating that OBC makes total payments to the central government of US\$560,000, to Ngorongoro District Council of US\$109,000, and to the villages US\$150,000 on an annual basis, for total annual revenue of \$819,000.²⁸ However, it should be noted that the contractual terms of the OBC lease have never been shared with the public, as is the case for all tourist hunting block leases, so the exact terms are not known. Allegations of corruption and patrimony have been made about the OBC lease since it was initiated in 1992, and these continue to be made in light of recent conflicts.²⁹ It is possible that this creates part of the incentive for some Government decision-makers to maintain OBC's presence in Loliondo.

Photographic or 'Non-consumptive' Tourism

Loliondo, like all of the Greater Serengeti Ecosystem, is a prime area for photographic or non-consumptive tourism. Photographic tourism activities were initiated in Loliondo in the early 1990s, with one leading ecotourism operator entering into a contractual agreement with three villages³⁰ for the establishment of tourism within village lands. These ventures were established shortly after the villages obtained title deeds, which clarified the location of village boundaries and enabled the villages to enter into lease agreements with tourism companies.³¹ Importantly, the establishment of community tourism ventures was also strongly supported by the Wildlife Division at the time as a way to involve local people in benefiting from the wildlife on their lands. The then-Director of Wildlife wrote to two of the tour operators who were proposing to initiate these tourism activities, and offered support for the initiative:

*"The venture you are about to engage in is in keeping with departmental policy objectives, i.e. **enhancing the value of wildlife to the immediate local community through fees paid to the village councils.** In due course the beneficiaries will appreciate the value of wildlife to them and therefore be responsive to and responsible for its conservation...please be informed that your intended operation has the support of the Department of Wildlife (emphasis added)."*³²

natural heritage. *Business Times*, March 8; Thomlinson, C. 2002. Big game hunting threatening Africa. <http://espn.go.com/outdoors/hunting/news/2002/0320/1354979.html>.

²⁸ Ihucha, A. 2010. United front to fight renewal of Emirates hunting contract. *The East African*, August 16-22, p. 3.

²⁹ For example, Renton, A., 2009. 'Tourism is a curse to us.' *The Observer*, 9 September 2009.

<http://www.guardian.co.uk/world/2009/sep/06/masai-tribesman-tanzania-tourism>

³⁰ Oloipiri, Magaiduru/Oloirien, and Maaloni/Loosito

³¹ See: Dorobo Tours and Safaris and Oliver's Camp Ltd. 1996. Potential models for community-based conservation among pastoral communities adjacent to protected areas in northern Tanzania. In: *Community-based Conservation in Tanzania* (eds. N. Leader-Williams, J. Kayera, and G. Overton), pp. 100-105. Occasional Paper of the IUCN Species Survival Commission No. 15. IUCN, Gland and Cambridge, Switzerland and UK.

³² Letter from C. Mlay, Director of Wildlife, for the Principle Secretary, Ministry of Lands, Natural Resources & Tourism, Reference No. PA/GWC/177.

Shortly after the establishment of tourism in Loliondo through these village contracts, OBC lease was granted and confrontations occurred between OBC and the tourism companies, forcing the latter to leave the area for a number of years. However, tourism was re-initiated around 1996 and has grown steadily but slowly since then. There have been recurrent conflicts between OBC, with its lease from the Wildlife Division, and the tourism companies, with their agreements with the villages, generally discouraging more intensive tourism investment in Loliondo.³³

Ololosokwan village has been the local leader in tourism development among the Loliondo villages. In 1999, Ololosokwan entered into a 15-year joint venture agreement (with option to renew) with Conservation Corporation Africa (CCA).³⁴ In this agreement, Ololosokwan is paid a base fee of \$25,000, increasing 5% per year through the duration of the contract, in addition to \$3.15 per tourist bed night. In addition to the CCA joint venture, Ololosokwan has over the years earned income from various other campsites and temporary camps situated on the village lands that have paid fees to the Village Council. By 2007, Ololosokwan was earning upwards of \$100,000 annually from tourism and was able to invest revenues in a range of development activities, from a hospital to a nursery school, as well as paying secondary school fees and university scholarships for many students from the village.³⁵

Other villages, mainly those that border Serengeti National Park in the western portion of Loliondo, were also able to generate village revenues from tourism concessions situated on Village Land. By 2007 these fees totaled more than \$300,000 that year spread across seven villages, plus an additional \$60,000 paid in fees to Ngorongoro District Council (Figure 6).

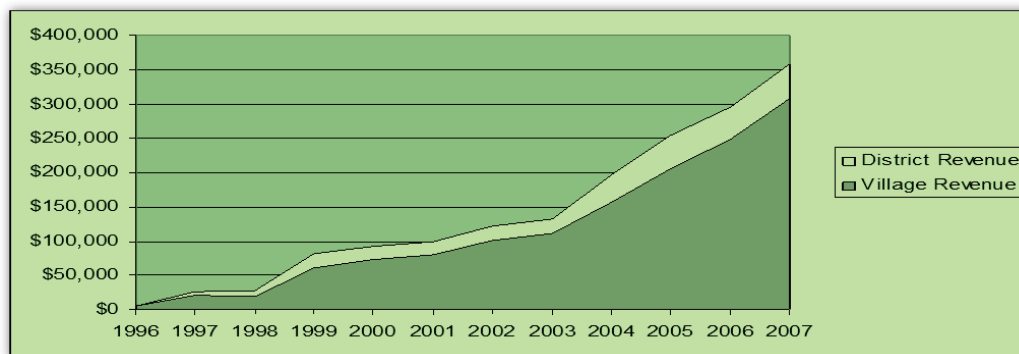


Figure 7: Income from non-consumptive tourism to seven villages in Loliondo Division, and to Ngorongoro District Council, from 1996-2007. Figures are in US\$.³⁶

³³ See for example: Masara, Y.B. 2000. *The Conflict of Legislations and Collision of Jurisdictions: An impediment to the realization of community based conservation in Tanzania?* Unpublished consultancy prepared for the African Wildlife Foundation, Arusha, Tanzania

³⁴ Conservation Corporation Africa (CCA) was renamed to &Beyond in 2008.

³⁵ See: Nelson, F. and S. Ole Makko. 2005. Communities, conservation, and conflict in the Tanzanian Serengeti. In: *Natural Resources as Community Assets: Lessons from Two Continents* (eds. B. Child and M.W. Lyman), pp. 121-145. Sand County Foundation and The Aspen Institute, Madison, WI, and Washington, D.C., USA.

³⁶ TNRF (Tanzania Natural Resource Forum). (2008) *Wildlife for all Tanzanians: Stopping the Loss, Nurturing the Resource and Widening the Benefits. An Information Pack and Policy Recommendations*. TNRF, Arusha, Tanzania.

IV. Land Use in Loliondo since 2009: From Crisis to Negotiation

The crux of the land use conflict facing Loliondo today arose from events in July 2009. The Government's Field Force Unit carried out an operation to evict Loliondo residents from the area used for hunting by OBC, which as illustrated earlier is also the dry season grazing reserve in villages such as Ololosokwan. The operation was carried throughout the OBC block, from Ololosokwan in the north to Arash in the south. It is estimated that about 200 Maasai 'bomas' or homesteads were burned, resulting in the loss of property including cattle and other livestock.³⁷ It is alleged that up to 20,000 residents of Loliondo were impacted and up to 50,000 head of livestock were displaced from grazing and water sources.³⁸ There was a range of other reported human rights abuses, which arose in the context of the eviction operation.³⁹

One critical contextual fact in relation to the operation is that it occurred in July, in the early to middle stages of the dry season in northern Tanzania, during a year (2009) that experienced one of the worst droughts in recent history. The drought was in part a cause of the operation, because the drought caused unusually intense pressures on land and resources, but was also exacerbated by the negative impact of the evictions on the residents of the area, as it was already a time of considerable stress.

The main rationale given for the eviction was that the 'hunting block' leased to OBC as a foreign investor was being subjected to degradation by overgrazing by pastoralists' livestock and other forms of local resource use. Shortly after the evictions occurred the Ngorongoro District Commissioner as explained to a fact-finding trip of civil society organizations from Dar es Salaam that:

*"The maasai communities are being evicted from the area in conflict due to the environmental importance of the respective area. He pointed out that, the area in dispute is a vital forest for the sustainability of the Ngorongoro Conservation Area and the Serengeti National Park as well as the entire ecosystem."*⁴⁰

It is undoubtedly correct that the area was subjected to exceptionally high grazing pressure, resulting in much reduced levels of grass and other vegetation, at the time the evictions occurred in 2009. This is typical of what occurs during a bad drought. This also may have had temporary impacts on wildlife use of the area, due to high concentrations of cattle and low availability of forage, which would have negatively impacted on the interests of OBC in terms of being able to hunt recreationally in the area that year as they were accustomed to doing.

³⁷FEMACT, *Loliondo Findings*

³⁸ See: <http://unsr.jamesanaya.org/cases-2010/32-united-republic-of-tanzania-alleged-forced-removal-of-pastoralists>

³⁹ FEMACT, *Loliondo Findings*

⁴⁰FEMACT, *Loliondo Findings*

However, it should also be noted that there is no documented scientific evidence of any long-term environmental degradation or negative impacts on wildlife in Loliondo as a result of existing livestock grazing practices and patterns, or other aspects of local pastoralist land uses, and no concrete evidence has been presented by the Government either before or after the evictions took place. It is likely that 2009 was a year when both people and the environment were highly stressed as a result of the drought, and the conditions experienced were temporary.

The immediate outcomes of the evictions carried out in 2009 included the following:

- Economic losses at the local level in Loliondo and major concerns about land rights, livelihoods, and access to resources;
- Negative national and international media coverage of the evictions in relation to the status of human rights in Tanzania, which has also cast the Tanzanian tourism industry in a negative light due to its apparent linkage with human rights violations and negative impacts on land rights of local communities⁴¹
- International interventions including by the Africa Union's Commission for Human Rights and the United Nations Special Rapporteur on the Rights of Indigenous Peoples⁴²
- Tensions with development partners, with European Union members raising the issue of human rights abuses in Loliondo and specifically the Ambassador to Denmark also raising the issue in public discussion.⁴³

Considerable activism has been devoted to the Loliondo conflict within Tanzania, particularly by pastoralist advocacy groups, some that have strong linkages with international networks and organizations. A number of documentaries have been produced, and more recently a Constitutional case was filed in an effort to secure legal recognition of the communities' land rights over the disputed area.

All of this serves as a backdrop to the current and ongoing process of attempting to find a mutually agreeable long-term solution, which supports national objectives relating to economic growth, poverty reduction, and environmental conservation. Resolving the land tenure status and land use provisions in Loliondo is an important component of returning peace, stability, and prosperity to the area. Since shortly after the conflict in 2009, the Ministry of Natural Resources and Tourism (MNRT) has been pledging to resolve the conflict through measures, such as participatory land use plans,⁴⁴ but to date there has been no agreed or mutually acceptable solution put forth. A Parliamentary Investigatory Committee which was tasked in 2010 with investigating the matter, and carried out extensive

⁴¹ Renton, A., 'Tourism is a curse to us'; Hammer, J. 2010. Last days of the Maasai? *Conde Nast Traveler*. November 2010. <http://www.concierge.com/cntraveler/articles/503114>

⁴² For a useful summary report prepared by the latter, see: <http://unsr.jamesanaya.org/cases-2010/32-united-republic-of-tanzania-alleged-forced-removal-of-pastoralists>; See also IWGIA. 2009. African Union enters the fray on the Loliondo saga. <http://www.iwgia.org/sw39801.asp>

⁴³ AllAfrica.com. 2009. 'Denmark wants end to human rights abuse in Loliondo.' <http://allafrica.com/stories/200909140049.html>

⁴⁴ For example, in September 2009 the Minister for Natural Resources and Tourism pledged that demarcation of land use zones for wildlife, grazing, agriculture and so forth would be used to solve the conflict. See: *The Arusha Times*. 2009. 'Loliondo saga'. Available at: <http://allafrica.com/stories/200909221127.html>

consultations with affected local communities; however this committee was unable to publicly present a report on the affair.⁴⁵ Resolving the conflict between the Loliondo GCA and the villages' lands is a key to the process, since under the Wildlife Conservation Act of 2009, these land use categories may no longer overlap as they have for so many years.

The next section provides a comparative analysis of the different land use and land tenure options for the area, with a review of their likely economic and environmental impacts and implications.

⁴⁵ See Peter, F. 2010. 'Activists up in arms over Loliondo report'. IPP Media. <http://www.ippmedia.com/frontend/?l=13819>

V. An Economic Analysis of Land Use Options⁴⁶

A key to resolving the Loliondo conflict in an equitable, effective and sustainable manner is to understand clearly the economic options for land use and understand the land tenure categories in the area. The key productive activities occurring in the disputed area are trophy hunting, photographic tourism and livestock production. This section provides some basic economic information on the different activities, which is important to informing policy options in relation to land use planning.

Tourist Hunting

According to a representative of OBC, Mr. Isaac Mollel, as quoted in a recent article about the Loliondo conflict published in *The East African*, OBC makes total payments to the central government of \$560,000, to Ngorongoro District Council of \$109,000, and to the villages of \$150,000 on an annual basis, **for total annual revenue of \$819,000.**⁴⁷ Using an area of approximately 1,500 km² in the western portion of Loliondo GCA where hunting takes place, this equates to generating \$546 per km² from hunting.

It should be noted that OBC is not a normal tourist hunting operation; the owners of OBC do not market their hunting quota or run normal safari outfitting businesses as is the case with nearly all other hunting blocks in Tanzania. Rather the interest of OBC is in recreational hunting, and the owners of OBC have financial resources to pay well above market rates for this leisure activity. For example, OBC is reportedly paying over \$800,000 per year for the Loliondo block, which is considerably more than the market value of the hunting concession.⁴⁸

Tourism

In 2007, tourism in Loliondo generated \$300,000 for the six villages, in direct cash payments, plus an additional \$60,000 for Ngorongoro District Council.⁴⁹ This equates to \$240 per km² using the same 1,500 km² land area as the core tourism zone which is actually used for tourism. As the villages received \$300,000 from tourism and now receive \$150,000 from hunting, tourism earned twice as much for local communities as hunting did.

⁴⁶This section is based on an earlier TNRF policy brief on Loliondo, "Resolving the Loliondo Conflict: Policy and Economic Options"

⁴⁷Ihucha, A. (2010, August 16-22). United front to fight renewal of Emirates hunting contract. *The East African*, p. 3.

⁴⁸ Informal estimates of the total market value of hunting blocks in Tanzania, given the high quality of the Loliondo concession, would place the market value of the Loliondo block roughly between \$250,000 and \$400,000.

⁴⁹TNRF, *Wildlife for all Tanzanians*. This is the most recent year for which aggregated tourism data is available.

However, it should be noted that because the Loliondo area is classified as a hunting block leased by the MNRT, and the government and OBC have periodically challenged the legality of agreements between tour operators and the villages, tourism development in Loliondo has been greatly constrained for the past 20 years. Therefore, given this background, perhaps a more accurate way of assessing the economic value of Loliondo for tourism is to use data on revenue generated in SNP, where tourism development is encouraged rather than constrained by conflicts as it has been in Loliondo. The Loliondo area is widely recognized to have similar tourism attractions as the park—wildlife, scenery and pleasant weather.

The National Park generated approximately \$20,935,306 in 2006/07 financial year, with virtually all of this total coming from tourism activities (entry fees, concession fees, etc).⁵⁰ With a total area of 14,763 km², **this amounts to annual revenue of \$1,418 per km², which is nearly three times the earnings-per-land-area that Loliondo currently generates from hunting.**

This strongly suggests that within the Greater Serengeti Ecosystem, photographic tourism is a more valuable and economically productive form of land use than tourist hunting, even at the generous level of payments above normal market rates which is afforded by OBC.

Livestock Production

The disputed area in Loliondo is a key livestock producing area in this part of northern Tanzania, because it has pastures with relatively fertile soils and permanent water sources. The table below provides an estimate of the economic value of livestock production, based solely on estimated levels of cash earnings through trade.⁵¹ **This suggests that livestock production in Arash and Soitsambu Wards generates more \$3 million annually, or about \$2,010 per km²** from the disputed area. This is more than three times the total amount generated by OBC through hunting.

Total Livestock in Arash and Soitsambu Wards	% Sold Annually	Total Livestock Sales	Avg. Sale Price	Total annual livestock sale value	Sale value in USD/km ²
150,776	10%	15,077	\$200	\$3,015,400	\$2,010

Table 1: Estimates of total annual commercial value of livestock trade in Arash and Soitsambu Wards.

⁵⁰TANAPA (Tanzania National Parks).(2007) *Annual Report and Financial Statements 2006/07*, TANAPA, Arusha, Tanzania.

⁵¹ These data are derived from Government data on livestock numbers and value in Loliondo and Ngorongoro District more widely. See also: Malpas, R. *Land Use Economics: The Case of Serengeti/Loliondo*, Retrieved from http://www.serengeti.org/download/Land_Use_Economics.pdf

Several notes about these livestock figures are important. First, these estimates exclude the value of the disputed area to livestock producers living outside of Arash and Soitsambu Wards, including in other areas that were affected by the conflict such as Piyaya and Malambo villages. Thus the wider value of the key dry season grazing areas in Arash and Soitsambu are excluded from these calculations. Second, these estimates are based on commercial trade in livestock only, and do not include the subsistence value of livestock to the residents of the area, which is certain to be much greater in economic terms. The purpose of these estimates is to show that, in purely commercial trade terms, livestock nevertheless generates more revenue than tourism and hunting combined, and still would even if Loliondo generated as much revenue per unit of land as SNP did in 2007. The estimates of livestock value also do not include the value of milk, hides, and other livestock products that are widely traded, nor the multiplier effects of livestock trade such as associated vehicle hire, veterinary supplies, meat sales and restaurants, etc.⁵²

		Hunting	Tourism (actual)	Tourism (potential based on SNP earnings)	Livestock sales
Total Annual Revenue		\$819,00	\$360,000	\$2,100,000	\$3,015,400
Revenue per km²	per	\$546	\$240	\$1,418	\$2,010

Table 2: This Table summarizes the economic value, represented solely by revenue generated directly from the different activities in the disputed area of Loliondo

Implications for Land Use Policy

The estimates provided above demonstrate that on purely commercial grounds related to revenue generation, livestock is easily the most important form of land use in Loliondo. Livestock also supports the livelihoods of more than 180,000 people across Ngorongoro District, including approximately 30,000 residents of the disputed area in Arash and Soitsambu Wards in Loliondo Division. But these estimates highlight that these residents of the area make a greater economic contribution both locally and nationally than either tourism or tourist hunting. Estimated levels of livestock trade from the disputed area generate more than three times as much revenue as what OBC pays, according to its corporate representative, for use of the Loliondo hunting concession.

⁵² The economic value associated with the livestock trade in northern Tanzania can be substantial. One report which researched the *nyama choma* restaurant industry in Arusha estimated total economic value of this trade at \$22 million annually.

If photographic tourism was not constrained by the conflict with tourist hunting, it could reasonably be expected to grow to levels in line with the average yields across Serengeti National Park, but this would still place tourism's total yield at about 30% less than livestock trade.

The policy implication from these calculations is that any land use planning processes for Loliondo should maximize the area of land designated for livestock production- in other words, maintain livestock as the predominant form of land use across all of Loliondo. Since various forms of wildlife tourism have co-existed with livestock production for many years, it is logical to maintain livestock as the primary form of land use, and develop tourism or tourist hunting as secondary forms of land use that can be integrated within pastoralist managed landscapes.

VI. Land Tenure and Land Use Options and Implications

Following on from the economic review of land use options in the previous section, this section reviews land tenure options for Loliondo in light of prevailing legal and policy frameworks and the compatibility or incompatibility of different land uses.

There are three basic land tenure options for the Loliondo area, all of which are more or less the subject of local national discussion and debate at present:

- 1) The first option is that the entire area retains its status as Village Lands under the 1999 Land Act and Village Land Act, as it has generally been recognized for the past two decades, and that management continue to be based primarily on village-level land use plans and village by-laws, supported by district and national authorities as necessary and appropriate. **This is effectively what the formal status of Loliondo has been for the past twenty years**, and much longer in an informal sense.
- 2) The second option is for the disputed area in Loliondo to be classified as a Game Controlled Area (GCA) under the new provisions of the Wildlife Conservation Act of 2009. The provisions of this Act, in a major change from the previous wildlife legislation, now ban all livestock grazing, settlement and agriculture inside GCAs. This means that, unlike in the past up until the present, GCAs and Village Lands can no longer overlap. For a GCA to be designated or maintained in Loliondo it would mean that villagers can no longer use and live in the area, as the land will be 'Reserved Land' under the Ministry of Natural Resources and Tourism, and will no longer be Village Land. According to the Village Land Act of 1999, compensation would have to be paid and agreed upon between the Government and the affected villages since their customary rights of occupancy would have to be extinguished for this land tenure category to take effect.
- 3) A third option is for the establishment of Wildlife Management Areas (WMAs) in the disputed area. WMAs are areas designated on Village Lands for purposes of natural resources management where local communities, through elected representative Community-based Organizations, are granted limited user rights to wildlife, which may enable greater legal benefits from wildlife to be obtained from tourist hunting or other forms of tourism.⁵³ Under this structure, land would be formally designated by the villages for wildlife conservation, and gazetted as such, but the land remains Village Land.

⁵³*Wildlife Management Area Regulations*, Wildlife Division, Ministry of Natural Resources and Tourism, and *Wildlife Conservation Act of 2009*, Government Printer, Dar es Salaam.

Option 1: Village Land- Current Use and Status

The main outcomes under this option will be as follows:

- Livestock production will remain the main form of land use in Loliondo and production will not be reduced or negatively impacted by land use changes. Community livelihoods will be secure and the main local land tenure concerns and grievances will have been addressed.
- This option is likely the most assured way of creating an environment of peace and security in Loliondo, because it addresses the root community and district-level land use and livelihood concerns. Any option that involves a reduction of the land area accessible to local residents and their livestock will likely contribute to future conflicts.
- It is not clear what the impacts of this option would be on tourist hunting and tourism, or specifically if hunting would even be allowed under this arrangement. However, no matter what it seems likely that for this option to successfully resolve the conflict, the hunting block situated in Village Lands would need to be revoked, as this block and its tenant, OBC, have been an underlying driver of the land use conflict. Therefore, revenue loss would total around \$819,000 annually.
- A loss from OBC might very well be offset by an increase in tourism development in Loliondo through the existing and established model of village-tourism partnerships. The analysis presented here estimates that the difference between actual tourism revenues in Loliondo and the potential, if the conflicts between tourism and tourist hunting were removed, is over \$1,700,000 annually. This suggests that if hunting was discontinued in Loliondo and tourism enabled to grow to the same scale as occurs nearby in SNP, the net balance of revenue would be more than \$900,000 in net gains to all stakeholders (central, district, and village governments).
- The outcome of this option for wildlife conservation within the disputed area may not be as clear as option 2 below; however, there is no evidence of a long-term negative trend in wildlife populations in Loliondo or of Loliondo resident pastoralists negatively impacting the wildebeest population, which has been stable since the 1970s. Therefore, it is estimated that overall impact of this option on wildlife would be largely neutral. In addition, the incentives to protect wildlife, inside as well as outside the disputed area, would be higher with the income from tourism, so the wildebeest migration might be better protected when local people retain control over all their land and resources.

Option 2: Reserved Land- Game Controlled Area

The main outcomes of choosing this option will be as follows:

- Livestock production in Loliondo will decrease considerably as the key grazing areas and water sources in the region will be removed from village management and local use. This will have a negative impact on villagers' livelihoods, increase emigration to

towns and other areas from the village, and will increase poverty. Based on the figures presented in this report, the economic losses from this designation, by totally excluding livestock from the disputed area, would likely exceed \$3 million in annual trade, and much more in lost subsistence production and local trade of products such as milk and hides.

- This loss of economic production will also be felt at the district level, through loss of revenues, trade activity and general decline in economic well-being in an area that is 80% dependent on livestock production.
- Photographic tourism operations will cease in the disputed area, as currently tourism operations are based on partnerships with villages. If villages lose control over this land this will not be possible. However, under this arrangement OBC will likely be given exclusive use for recreational hunting of the entire 1,500 km² disputed area and revenue would remain at \$800,000 per year. Revenue would likely not increase to the Government as OBC is already paying above market-rate for the Loliondo block.
- Wildlife conservation interests will be secured through this option, by maintaining wildlife as the main form of land use in the disputed area. This would improve permanent protection of wildlife habitat adjacent to Serengeti National Park including area used by wildebeest on their annual migration, as long as hunting is strictly monitored. However, excluding all livestock grazing from a GCA may not be completely beneficial for wildlife, as a great deal of research has shown that regular grazing by livestock benefits many species of wildlife by reducing the height and density of forage and improving the quality of grazing.
- Because community livelihoods will be adversely affected, it is very likely that land and resource use conflicts in Loliondo will continue into the future if this option is chosen. This may lead to further negative international publicity and critical media attention impacting on the reputation of Tanzania's tourism industry in general, tensions between Government and development partners, and disputes between national Government, local Government and local communities.

Option 3: Village Land- Wildlife Management Area

The main outcomes of this option would be the following:

- The WMA option could balance the interests of resident villages and livestock producers with tourism or hunting investments and formal wildlife conservation interest. A WMA will remain village land and can be managed more flexibly and in an integrated way. For example, local by-laws could stipulate that livestock grazing can continue in a WMA as has been the case in the area in the past. This would maintain much or all of the land's high value for local livestock production, and would not damage local communities' livelihoods significantly. Thus there should be no significant loss of economic production related to livestock grazing in the WMA, particularly as the WMA could safeguard critical water sources and dry season grazing reserves, which are critical to pastoralist production.

- The WMA would allow the integration of multiple wildlife activities, such as both hunting and tourism, but would enable the local community to determine which investment activities should occur and to choose the most beneficial. There should thus be no reduction in overall wildlife-related income, although the balance between tourism and hunting revenue might change depending on local choices.
- A WMA would be positive for wildlife conservation interests as it would place permanent protection and formal conservation status on the key wildlife habitats and migration routes.
- The WMA would satisfy one of the villages' main concern that the area remains Village Land and that residents do not lose access to grazing pastures or water sources. The WMA could therefore be a mechanism for sustainable conflict resolution, promotion of peace and security, and eliminate future conflicts over land use in the area. This would also eliminate past and continuing negative international publicity around the land use conflicts in Loliondo.

	Option 1: Village Land	Option 2: GCA	Option 3: WMA (village land)
Ecological Outcomes	Neutral/slightly negative	Positive	Positive
Economic Outcomes	Positive	Highly Negative	Neutral/Positive

Table 3: summarizing the economic and ecological outcomes of the three basic options for land tenure in Loliondo.

VII. Conclusions

This study has highlighted the following key points about land use conflict, land use options, and land tenure categories in Loliondo, with the aim of contributing towards sustainable solutions that benefit all key stakeholder interests:

- Land use and land tenure conflict in Loliondo has a long history, going back in some respects to the establishment of Serengeti National Park in the late 1950s and including particularly the period of growing pressure on land in the liberalization period of the late 1980s. As a result of those latter pressures, villages in Loliondo obtained title deeds with the support of the Ministry of Lands in 1990 and the area has been managed as Village Land ever since, with Village Land Use Plans effective since 2000. The granting of a hunting concession to OBC in 1992, without basing that allocation on pre-existing village land rights or land use patterns, has been at the centre of land use conflicts in Loliondo for the past twenty years. The present conflict since 2009 was merely a culmination of these long-standing conflicts of interest in land, brought on in large part by conditions linked to the 2009 drought.
- Despite these historic and contemporary land use conflicts, there is also a strong record of co-existence between pastoralism and wildlife conservation, and wildlife tourism in Loliondo. There is no evidence of long-term declines in either the Serengeti wildebeest herd as a result of any local land use or other activities in Loliondo, and there is a range of long-term data suggesting wildlife densities in Loliondo have remained similar to those in Serengeti National Park.
- Livestock is the most economically productive land use in Loliondo. Even using only approximate trade estimates and not including many valuable livestock products such as milk and hides, livestock production generates more than three times as much annual revenue as tourist hunting in Loliondo. Tourism revenue is currently fairly low and undeveloped as a result of past and present conflicts with tourist hunting (OBC), but even if tourism levels reached those recorded recently in Serengeti National Park, livestock would generate about 30% more revenue than wildlife tourism. Livestock is thus the foundation of the local economy in Loliondo at village, ward, and district scales, and indeed forms a high-potential and productive component of Tanzania's overall livestock industry.
- Among the land tenure options for Loliondo, an option which maintains the area's status as Village Land is pivotal to resolving the existing land use conflicts in a sustainable and equitable manner. Therefore, the options are: maintaining the status quo of Village Land and strengthening village based Land Use Plans, or developing locally appropriate Wildlife Management Areas. And to ensure that the conflict is finally resolved, the choice between options must lie with the communities.

