

# **Pastoralism as a Conservation Strategy: Experiences from Tanzania (first Draft)**

*“Father-Mother Earth, We pray thee at sunrise and sunset, that you may not abandon your sacred duty of sustaining our lives. The water that quenches our thirst, the air that we breathe, the trees that provide shade, and the animals that give us company, all make life real and creation complete. We the children of the Earth pray for wisdom, that we in turn may be good custodians of these precious gifts to us and our unborn generations. For if we fail to safeguard these resources, man's moral standing as the most intelligent animal will be questionable. Furthermore, if we fail Nature, we shall have failed ourselves and the generations that come after us. And judgment will be very harsh on us.”*  
<http://www.maasaierc.org/maasailegacy.html>

## **1. Executive summary (In development)**

## **2. Introduction to study and Country Profile**

Pastoralism is increasingly being acknowledged as a conservation strategy in Tanzania and other parts of the world. Pastoralists' land or what used to be their territories continue to be among the last holding grounds for many of the remaining fauna and flora in Tanzania. While there is increasing amount of scientific evidence in support of this assertion, the national policy environment is in diametric contradiction as pastoralism continues to be discouraged as a land use and livelihood system. The conservation attitude of pastoralists is found in the very practices of pastoralism itself. Conservation ethic is found in their cultures, and their ways of managing critical resources.

Besides the almost non-contested recognition of pastoralism as a good conservation strategy, there has not been any explicit effort of those who are in charge of conservation to learn and possibly copy the strategies and approaches that pastoralists use in conservation.

Despite the recognition of the fact that pastoralism is compatible with wildlife conservation lands belonging to pastoralists are still being alienated for other uses which are considered more productive and environmentally friendly. The national policy in Tanzania is not friendly to pastoralism and goes miles to advocate for its complete Development interventions chosen for pastoralists which among others include sedentarisation and to economic diversification to other land use activities like farming, are not only a problem to pastoralism but ultimately to conservation itself. It will be argued in this study that the threats to pastoralism in Tanzania are threats to conservation itself. Evidence will also be adduced in support of the assertion that the pressure that pastoralism is facing has had adverse consequences on conservation. It will even be argued that future efforts to conserve critical ecosystems must start with supporting pastoralism itself. It is also being realised that because of the shocks that pastoralism has suffered over the last decades, pastoralists themselves have been forced to enter into practices that are not just unfriendly to their livelihood but which are also detrimental to conservation. It is because of this acknowledgment that conservation authorities much choose to assist to sustain pastoral systems of rather face the hard way of losing pastoralism to other practices like farming which are not compatible with conservation.

The United Republic of Tanzania lies on the Indian Ocean and is bordered by Kenya and Uganda to the north; Burundi, Rwanda and Democratic Republic of Congo to the west; and by Zambia, Malawi and Mozambique to the south. The country was created by a Union of Tanganyika and Zanzibar in 1964. The country is rich in diversity, cultural and in natural resources. The country is rich in languages with some 120 tribes speaking different languages, dialects and idiolects. It is geographically between 1°S and Longitude 30° and 40°E. It covers 945,000 km<sup>2</sup> of land including 59,000 km<sup>2</sup> of inland waters. It has an average population density of 27 people/km<sup>2</sup> and a total population of over 34.6 million (National Census, 2002).

Tanzania mainland is divided into many clearly defined geographical zones- the coastal plains, which have lush tropical vegetation, the Maasai steppe in the north, 200- 1000 metres ( 700- 3500feet) above sea level, and a high plateau in the south towards Zambia and Lake Nyasa. Savannah and bush cover half the country, and semi arid desert accounts for the remaining land area. Volcanic highlands can be seen in the northeast and southwest of the country. Over 53.000 Square kilometres are inland water, mostly lakes formed in the Great Rift Valley. The United Republic of Tanzania includes the island of Zanzibar and Pemba. About 45km (23 miles) off the coast to the northeast of the country

The climate is tropical and coastal areas are usually hot and humid but regulated by sea breezes. Average day temperature is 30 degrees centigrade. There are two seasons of rain in Tanzania: the long rains run from late March until June and the short rains from November until January. The long rains fall in heavy downpours, often accompanied by violent storms. The short rains tend to be much less severe. The hottest time of the year is December to March, and the coolest months are June, July and August. In high altitude areas such as Kilimanjaro or the Ngorongoro Highlands temperatures can fall below freezing.

Agriculture is the backbone of the economy in a country with an immense agricultural potential waiting to be harnessed. Nearly 90% of the country has enough rainfall for arable production of at least drought tolerant crops. However, only about 30% of this area has sufficient reliable rainfall for intensive arable farming

Livestock production is one of the major agricultural activities in Tanzania. The sub sector contributes to national food supply, converts rangelands resources into products suitable for human consumption and is a source of cash incomes and an inflation – free store of value. It provides about 30 per cent of the Agricultural GDP. Out of the subsector's contribution to GDP, about 40 percent originates from beef production, 30 percent from Milk production and another 30 percent from poultry and small stock production ([www.gov.tz.org](http://www.gov.tz.org))

Livestock production originates from a large resource base composed of the different livestock species, breeds and types whose ownership and distribution differ from region to region. Three livestock production systems are commonly distinguished in the rangeland areas; commercial ranching, pastoralism and agro-pastoralism.

The country is proud owner of over 17 million cattle, making it the third largest owner of livestock in Africa. A sizeable population in the country is dependent on livestock. Out of 3.7 million households in the country, 3 percent are pastoralists and 7 percent are agro-pastoralists. This accounts for more than 10% of the population, which derives its livelihood from livestock. The contribution of livestock sector is estimate at over one-quarter of agricultural GDP. Virtually livestock related are found in the traditional sector with big ranches and dairy farms constituting the remaining 1 percent.

The country is endowed with abundant natural resources and has since independence managed to come with a clear commitment to the conservation of critical systems. This commitment was registered in no uncertain terms by the first President of the United Republic of Tanzania; the late Julius Nyerere in what has commonly come to be referred as the Arusha Manifesto when he said:

“The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration but are an integral part of our natural resources and of our future livelihood and well being. In accepting the trusteeship of our wildlife we solemnly declare that we will do everything in our power to make sure that our children’s grand-children will be able to enjoy this rich and precious inheritance.

The conservation of wildlife and wild places calls for specialist knowledge, trained manpower, and money, and we look to other nations to co-operate with us in this important task the success or failure of which not only affects the continent of Africa but the rest of the world as well.”(Tanzania, 1998)

The nation’s rich wildlife is a heritage that is both important for the nation as well as well as globally. See box below for the diversity of fauna and flora.

- Primates (20 species and 4 endemic),
- Antelopes (34 species and 2 endemic),
- Fish (with many endemic in Lake Victoria, Tanganyika and Nyasa and other small lakes and rivers),
- Reptiles (290 species and 75 endemic),
- Amphibians (40 endemic),
- Invertebrates and plants (around 11,000 species including many endemic).
- Important areas of wetland, swamps and flood plains are found throughout the country (Kilombero Valley, Wembere and Kagera Swamps, Usangu plains etc.).
- A rich variety of lakes occur in Tanzania, including large parts of the great lakes (Victoria, Tanganyika and Nyasa), which are important for endemic fish and invertebrates.
- The country is also endowed with a number of soda lakes (Natron, Eyasi, Balangida and Manyara) which are important for birds.
- The county also posses a range of different forests including restricted lowland forests, and highly dispersed patches of coastal forest and montane forest. These forests, but most especially the Eastern Arc forests (Usambara, Ukaguru, Udzungwa and Uluguru mountains) are important in terms of diversity and endemism.

**Source: Wildlife Policy of Tanzania, 1998**

As tribute to the diversity of the its unique landscapes and biodiversity Tanzania has set aside close to 30% of its land mass to conservation of which 4% is 12 National Parks (NP), 1% is Ngorongoro Conservation Area(NCA), 15% is 31 Game Reserves (GRs) and 8% is 38 game controlled areas(GCAs). Consequently Tanzania has 19% of her surface area devoted to wildlife in PAs where no human settlement is allowed, (NPs and GRs) and 9% of its surface area to PAs where wildlife co-exists with humans. The forestry sector has also followed conservation policies

that greatly increase the coverage of Pas within Tanzania. A total of about 570 FRs cover around 15% of Tanzania's surface area, of which 3% overlap with Protected areas as devoted to wildlife conservation (Tanzania, 1998)

### **3 The pastoralist Lands-Ecosystem and vegetation types, forms of land uses.**

Tanzania rangelands which constitute 350,000sqkm support the production of livestock and serves as the bedrock of livelihoods and cultures of these people. The Tanzania pastoralists are concentrated in the northern plains grazing areas where climatic and soil condition does not favor other crop productions. Agro pastoralism is found in low rainfall of areas of western Tanzania (Shinyanga and Tabora) and central zone (Dodoma and singida), where shifting cultivation of sorghum is a cereal crop like sorghum is practiced.

Pastoralists land ecosystems are difficult to delineate given the very difficulty of defining who and who is not a pastoralist. This study is not going to deal with question of definition. For the pastoralists lands we will mostly refer to those lands occupied by Maasai and Barbaig pastoralists and occasionally and where appropriate talk of the lands occupied by some of agro-pastoralists groups. The areas occupied by pastoralists and agro-pastoralists are arid and semi-arid rangelands of the country, which are highly diverse in climate, landforms, soil types and vegetation. They are also characterised by high spatial and temporal variability in precipitation, which directly affects plant productivity. Nomadic pastoralism is the major land use activity in these rangelands. Farming is also practiced in these areas with intensity prevailing in rangelands occupied by agro-pastoralists.

The Maasai eco-system is less difficult to delineate since it will often coincide with the social-cultural boundaries of Maasailand. The traditional Maasai territory stretches from Southern Kenya into Northern Tanzania (Goldman, 2001). The Western side of the ecosystem is delineated by the Rift valley escarpment, which divides western and eastern Maasailand. The extent to which one ecosystems stops in the, East and South are difficult to recognise but the northern side is easy as this coincides with the Kenyan boundary at the North. The ecosystem is described by Prins who says that 'Maasai ecosystem is in reference to those with the most profound effect on the largest part of the ecosystem' (Prins, 1987 in Goldman, 2001).

The whole of the Maasai ecosystem comprises of Kenya Maasailand. It covers an area of 93,000 square kilometres, roughly 33,000 in Southern Kenya and about 60,000 in Northern Tanzania (Talbot,?). It extends from roughly latitude 1 to 6 degrees south, between longitude 35 and 38 degrees east (ibid). The ecosystem is comprised of a varied topography consisting of level plateau between 900 and 1800 meters elevation.

The barbaig, after a long history of migrating down the Nile Valley to the East African highlands have occupied and settled in Hanang' District of new Manyara region. The terrain of the area is characterized by flat plains of about 800m and continue rising to a mixture of both hills and mountains of 1807m – which represents Hanang' peak. Rainfall in the area is low, ranging between 500mm in the lower lands to approximately 800mm in the highlands. It therefore leaves the country side with permanent dry conditions most *of* the time.

The vegetation of the area is typical of many semi-arid lands of East Africa. Generally, most trees are deciduous and they behave in response to topography. Where the land is flat and or becomes plain, grassy vegetation become dominant but occasionally punctuated by annual species such as

*Bidens shimperi* and *Tribulus cistoides*. Other vegetation types found in the lower land area of the Barbaig' territory are; *whistling acacia*, *Yellow backed acacia*-especial where the water table rises close to the surface, *acacia mellifera* and *commiphora* species. As the land rises to subsequent high altitude towards Hanang' Mountain, the vegetation structure also changes. This area is mostly dominated by forest vegetation, acacia species and *Ficus circomorus* species along riverbanks.

The predominant soils of the area are *Vertisols* and *Millisols* belonging to a larger family of back soil which is highly fertile to support grass growth.

The vegetation in pastoralists ecosystem vary from areas to area but will roughly be dictated by variations in soils types, patters of rainfall and topography. Forests are found in most of the mountain masses and riverline forests are found in most of the watercourses (Ibid). Scattered tree grassland and desert grassland are the main types of vegetation in the rangelands. Scattered tree grassland falls within *Themeda Hyparrhenia* Zone (Heady, 1960 in Talbot) and it consists of perennial grassland with scattered trees or bushes, mostly different species of Acacia). This category is predominant in elevations of between 1,200 and 2,000 meters. The second type, the desert grass-bush land (*Chrysopogon-Chloris-Aristida* Zone (Heady)) is more arid and of poorer vegetation characterised by species of *acacia* and *commiphora*.

Vegetation types and their variations is also a factor of climate and rainfall, which are sparse. The lowest rain occurs in the rift valley and extreme Maasailand with the average between 250 and 500mm. Elsewhere Maasailand receives an average of between 500 and 750mm (Talbot). Rainfall falls in two seasons, the short rains in November and December and the long rains from February to May. Despite the seemingly low rainfall and their unpredictability Maasailand contains many species of wild animals. According to Talbot:

Maasailand probably contains the greatest concentration of mixed species of plains wildlife left in the world. There are over thirty species of wild ungulates ranging from the 4.5 kilograms dikdik to the 5-ton elephant.

Plants are in an integral part of the life of pastoralists. Plants are used for a variety of purposes including, providing building materials, fodder, weapons, medicines, etc.. For this reason plants have become the most revered, and treasured friends in the world. Because of this intimate relationship pastoralists have a developed thorough and complex knowledge systems on plants. Most pastoralist Maasai recognize almost every plant in their range lands and pastures (Ole Lengisugi 1996). All pastoralsits understand the seasonality of plants, their nutrients, toxicity and pharmacological benefits (Bizimana, 1994 and Kilongozi *et al*, 2005).

The knowledge of the nutritive value of plants and its variability is important for pastoralists as it is through them that they are able to undertake management decisions in relation to pastures for their animals. The Maasai are said to be able to differentiate a good botanical composition from a bad composition, for example changing from 'opalkai' (good) to 'oryet/ingaiteteya' (bad) botanical composition when the prairies 'orn'garwa' Kilongozi *et al* (2005). Maasai elders are able to tell key perennial grass species such as '**emurua**' (*Cynodondactylon*) and '**orpalakai**' (*Panicum maximum*) which are preferred for milk production from annuals like '**omaketya**': key browse species, for example '**ol gorete**' (*Acacia tortils*), '**ol dimigomi**' (*cordial sinsensis*) and '**esitete**' (*Grewia bicolor*).

One of the ways that pastoralists use to determine and assess the palatability of plants is by monitoring animal behaviour when grazing. Animals tend to be selective on which plants to graze and browse and which ones not to and will often spend more time on palatable plants and less time on less palatable ones. Besides, palatable species decreases faster than others in the annual grazing cycle. Palatable species will most of the time be the ones that are suitable for milk production and the general health of the animals. Others can have negative impacts on animal health and production capacities. These species are recognised by pastoralists and will try to make prevent animals from concentrating feeding in them (Kilongozi, 2005).

Besides the Maasai, Barbaig pastoralists have also developed knowledge systems on plants and their general environments. Grasslands known as '**moheda**' while grasslands with few trees are known as '**getaghula**'. Bushes are known as '**manang'eneda**'. 'Moheda' is the most preferred for grazing but '**manang'eneda**' is the better option for browsers like goats.

Besides using plants for animals, pastoralists use plants for a variety of other uses. They are used in a score of social and cultural functions such as in blessing, circumcision, fertility and settling disputes. They are also used for fencing livestock, and treating the sick animals and people. In naming plant species, Maasai specifically classified basing on a combination of general morphological features, the habitat of the plant and its perceived character and use. The factor that most influences the specificity of a name is its use. Plants with distinct uses have distinct names. The names are more consistent for plants that are commonly used: for example, *Pappea capensis*, a most useful plant among the Maasai, is known by the names *orkisikong'o* and *oltimigomi*. This is consistent throughout Maasailand. A less common and less useful species such as *Bersama abyssinica* (Melianthaceae) often shares the same name with *Ekebergia capensis* (Meliaceae).

Maasai pastoralists as indicated in several ethnobotanical studies use plants in ceremonies, an important function in their life (Maundu *etal* 2001, Ole-ngisungi,1996, Minja ,1998). The main ceremonial plants among the maasai of Tanzania include □ *Olea europaea* ssp. *Africana*, this tree is used in all ceremonies as its believed to bring good luck; *Ficus thonningii* and *Ficus cordata*: are used for the ceremony for blessing women; □ *Olea capensis* is another sacred tree used during the ceremony of initiating the *olorip-olasar*; *Cordia monoica*: used to settle disputes; *Lantana trifolia* is used in many rituals involving livestock.

Maasai uses a wide variety of species are used for fencing animal's enclosures and building other structures. Most important are poles of plants, which are strong and resistant to termite attack and decay. The traditional fencing system of Maasai uses branches of thorny acacias and *oleleshua* (*Tarchonanthus camphoratus*) or, where thorny material is limited as in Ngorongoro highlands by sticking *oleleshua* and *olmisigiyo* (*Rhus natalensis*) into the ground. Other species used for dead fences include *Maytenus heterophylla* (*olaimurunyai*) and *Mystroxydon aethiopicum* (*olodonganayoi*).

In homestead or housing construction the most preferred tree species are *Juniperus procera* (*oltarakwai*) which is popular among maasai of Oloirobi and misigiyo at Ngorongoro highlands, *Olea europaea* ssp. *africana* (*oloirien*) ; *Acacia nilotica* (*olkiloriti*); and *Olea capensis* (*ololiondoi*) highly used by Purko maasai in Loliondo.

Pants are also used as food. The most preferred edible fruits among the Maasai for example include (*olamuriaki*) *Carissa edulis*; (*olgum* (*Vangueria apiculata*); *oltimigomi*, *orkisikong'o* *Pappea capensis*; (*olairagai* (*Syzygium cordatum*); *oldongururwo* (*Flacourtia*

*indica*). Other commonly used fruits include: *Rhus natalensis* (*olmisigiyo*); *Scutia myrtina* (*osanangurut*); *Cordia monoica* (*oseki*) and *Grewia similis* (*olnyalugwai*)

Farming is also becoming an important land use activity for pastoralists. Virtually all pastoralists of Tanzania because of the different forces and pressures facing their livelihood have resorted to agro-pastoralism (Hassan, 2006, Conroy, Lane, 1991). Over the last decades, pastoralists have converted semi-arid grazing area to agricultural croplands (Conroy). Farming been resorted to a mechanism of protecting their land from encroachment by the state and other ethnic groups. This has also be done to yield pressure from the government which has always wanted pastoralists to settled and get pre-occupied with other forms of land use that are more appropriate like farming. The adoption of crop growing has also allowed them to capitalize on the cash market for grain, diversifying their income by growing maize and beans, while at the same time expanding the livestock herds (Conroy).

#### **4 Pastoralist Natural resource management strategies-general and species Specific**

Pastoralists have many ways of managing resources occurring at their own areas. Pasturelands can be managed through burning without destructing or reducing its intrinsic value. Though practices for managing those rangeland resources by use of fire may be common amongst many pastoralists, the following case from Maasailand can be considered. The Maasai for example use fire to control rangeland resources in the following manner. A specific area of pastureland which has not been burnt after the last year's rainfall and hence having oldest grass (*erashe*), is earmarked and fire is set on. The earmarked part of the pasture is burnt in the evening when the day heat is over and winds are gentle to avoid any possibility of uncontrollable fires. For them, morning is also not suitable for pasture burning because grasses are wet following the chill nights of the semi-arid and hence grass may not catch fires. The Maasai have specific times of the year suitable for this activity. The pastures are not set on fire just immediately after the rain season is over, but between September and October when the first rains of other rain-season is expected to fall. This is because the Maasai do not only burn the grass to get rid of the old ones, but do so, so that new grass can easily shoot up and flocks or herds can access it.

When the pastureland has been set on fire and new grasses have started sprouting following rains, a traditional succession of livestock feeding is followed to allow a more efficient and effective use of pasturelands. In this regard, goats and sheep become the first to tour the newly shooting grasses of the pasturelands-because its believe that the newly stemming grass, and which is very close to the ground can only be easily reached small ungulates and feed on it. However, as grass grows tall enough for other animals to feed on, calves follow up the succession and lastly mature cattle can be allowed to visit the pasture lands. All that time when the succession by small ungulates is taking place, mature cattle have to feed on unburnt part of the pastureland to allow the land to recover itself with minimal usage by goats and sheep. The management system goes on, with alternate burning of one part of the pastureland and resting of another part.

The use of fire is also common among the Barbaig pastoralists. Range management is an integral part of Barbaig' land use practice for livestock herding. This is more than allowing animals to graze range forage. It includes the use of fire to stimulate grass growth and control ticks a practice called

**ghwardaida ng'yanyid** (ghwardaida =burn, and ng'yanyid = land). Fires are lit before the onset of rains in November or February. The purpose is to burn off the rank and unpalatable dry and dead grass, and other plant debris that remain at the end of the dry season. Even without rains, the added sunlight stimulates new growth Barbaig' call *semang*, which takes up residual moisture in the soil. With the onset of rains *semang* grows to become *boshand*; the generic term for seedling grass before flowering. This practice permit grass to more reach maturity. Fully-grown grass is called *lasaned*, and it is this grass that sustain livestock throughout the dry season. They are more likely to do this if they do not have to compete with a mat of dead foliage that builds up when fire is not used.

Ticks, called *maschek* by the barbaig', are controlled in the same way. Fire consumes ticks living in the vegetation, and hence by reducing stands of dead and rank grass, ticks habitant is destroyed and future tick population is limited.

Pastoralists have developed measures to protect their plants and other natural resources. This illustrated by a few practices common among the Maasai. Whenever the Maasai harvest a plant for use- for making their cattle kraal or houses, the only parts of the tree used are branches. Large trees are never fallen without special purposes and that should be known to the elders who must justify the activity and give a go ahead. Special cases for falling whole tree in Maasailand could be, making beehives and or poles for *Bomas*. However, the number of trees fallen for this purpose is strictly control by same elders through morans who are charged with the task of monitoring and guarding resource use in the rangeland. If however, a large tree is fallen accidentally following accidental bushfires or natural occurrence like thunderstorm, then special rituals must be performed as a means of avoiding misfortunes that is believed to befall on the countryside. As famous pastoralists, the Maasai are mainly concerned with the ecological sustainability of the land for the wellbeing of people, animals, and plants. Modern science sees the adaptive flexibility of pastoralism as an ecologically sustainable way to use the spatial and temporal variation of arid and semi-arid rangelands. From time immemorial the Maasai have relied on plants for nutritious as well as medicinal substances. For this reason plants have become the most revered, and treasured friends in the Maasai world. For many years through intimate association with the natural grasslands, most pastoralist Maasai recognise almost every plant in their range lands and pastures (Minja, 1999).

Some other plants in Maasailand are believed to sacred and hence never can they be cut or used ineffectually but only at exceptional occasions like during rituals. For example, plants of *Fichus* family (*oreteti*), some water loving plants (*ngaiteteyia*), immature Acacias- *Acacia nailotica* (*Engilority*) and many others, should be accompanied with exceptional reasons whenever need arises for usage. *Fichus* family plants are only harvested for ritual purposes like circumcisions and for making special sticks that are rubbed against each other when making fire. *Ngaiteteyia* perform a ritual function different from that of *fichus*. The former is used soaked in water blended with milk to make the mixture maintain its coldness so that the participants can be drunk for a longer time.

Animal species and birds are also without doubt other biodiversity components of rangeland ecosystems that pastoralists manage and control for ecological reasons. Maasai for example have some animal species that are not killed for reasons attached with fertility of herds and flocks. *Ejolis*- which belongs to the *penguinpine* family is believed to bring fertility to the flocks whenever it is hosted in the flock-enclosure. This is also true about some birds like *Esupakerr*. Another famous bird is an *ostrich* whose believe to the Maasai is strong about bringing fertility to



women and predicts rains. Women who have not given birth or still need more fertility, take ostriches eggs, empty them and hang them with a special string down their beds to symbolize a daily prayer for fertility. If it happens that once upon time someone in your family line has killed an ostrich, then you won't have any luck to experience fortune to be expected. Not one therefore wants involved in killing an ostrich if she or he expects fortunes for the family in the future. There are variety of other animals and birds that are considered sacred in Maasailand and as the case maybe receive special attention. These include dove-birds, snakes especially black mamba-which when seen in the house must be fed milk as a way of dismissing it in peace, and swam of bees particularly when make hostage in the house just at the opening above the mother's bedroom.

In the past, the Maasai do not eat game meat for reasons that wild meat is for those without cattle, sheep and goats. They therefore consider it blasé fame and useless killing wildlife for meat or marketing on their products while having plenty of herds and flocks for the same purpose. For them, wildlife is for someone who has no livestock at all, *ndorobo- a sub tribe maa-speakers thought to be belonging to the same ancestral father with the Maasai*. Maasai have a taboo not allow any one to roast or eat game meat in them boma for that act may bring misfortune and hence lose of livestock. However, to day some Maasai pastoralists eat game meat due to serious decrease of livestock following diseases and recurrent droughts. Also as a means of diversifying their economy, the Maasai have started to realize the importance of trading on wildlife products such as honey, firewood, timber, grass for thatching and fodder, animal trophies, and some times game meat. They do these businesses as means of earning a living due to economic difficulties subsequent to lose of herds. It is not surprising to find to day a Maasai trading on products of those animals or plants earlier thought to be sacred such as ostriches and Ficus plants.

The table above shows the most common categorization of pastoral species and management systems by the degree of movement, from highly nomadic through transhumant to agro pastoral. Pastoralists are by their nature flexible and opportunistic, and can rapidly switch management systems as well as operating multiple systems in one overall productive enterprise. For example, the Maasai and Datoga cattle herders in Northern Tanzania can practise a system of regular transhumance for a long period, building up patronage relationships with farmers on their routes. However, in the case of extreme drought or disease stress, they switch to highly nomadic patterns, moving to new areas and breaking these relationships. When the crisis has passed they may revert to their former routes or move into an entirely new management mode.

A characteristic feature of transhumance is herd splitting; the herders take most of the animals to search for grazing, but leave the resident community with a nucleus of lactating females. There are many variations on this procedure, and the development of modern transport has meant that in recent times households are not split so radically; members can travel easily between the two bases. Whether milking females, weak animals or work animals are left behind depends substantially on the system being followed, and may even vary within an individual system on a year-by-year basis.

Whereas in many parts of the world this system has been transformed by the introduction of modern transport like the use of trucks to carry animals from one grazing area to another, this is not yet the case in Tanzania. However, it seems likely that this pattern will at one time be transformed, especially as the problem of controlling animals in.

## 5 *Pastoralist Institutions for managing natural resources.*

Pastoralists used to have strong institutions for managing their natural resources before the advent of colonial and the national government. Traditional institutions were largely abolished in Tanzania during after independence in favour of a one and united nation of more that 120 tribes. The strong pro-unity ideals of the ujamaa era in Tanzania discouraged traditional structures that operate alongside the national institutions (Barrow et al, 1992, Barrow and Mlenge, 2003, Odhiambo, 2005, Homewood and Rodgers, 1991). But as will be seen, pastoralists, managed to retain some of their institutional structures, which continued to operate *de facto* alongside the national ones. The institutions are very central and have indeed been useful in the enforcing of traditional values for the conservation and management of natural resources. These institutions are still very active among the Maasai Pastoralists and this we evaluate below.

On institutions, the Maasai society is divided into divisions, subdivisions, clans and families (Homewood and Rodgers, 1991). These different institutions have distinct relations to natural resources and different management roles. While land is generally taken to belong to the whole Maasai community, ownership and users rights are further subdivided among the smaller groups. This arrangement allows natural resources to be managed in a systematic way.

To reinforce the different management and ownership rights, the Maasai have developed orderly political and spiritual institutions across the society. The overall political power over natural resource management is vested on appointed political institutions called 'ilaigwanak'(sing, 'alaigwani'). These are people who have been appointed by the society because of their individual capacity and they enjoy respect from the rest of the community members. 'Ilagwanak' enforce community natural resource management techniques and are custodians of cultural values to make sure that no single individual violates them and where it happens do not hesitate to use penal sanctions. 'Ilaigwanak' act also as arbitrators in situations where there are conflicts among different clans or people in the use of natural resources. They will for example resolve conflicts arising out of competition of water and pasture.

Ilaigwanak are different into different categories for efficient leadership and management of natural resources. There are ilaigwanak of Olosho (division) and ilaigwanak of Engaji (clan). The former have superior powers over the latter and their decisions override those of the particular clans whose mandate is to protect the interests of their particular clan.

Besides elaborate authority, the Maasai do also have spiritual/religious leaders. These are famously known as "iloboinok"(sing, 'oloiboni'). These are revered because of their outstanding capacities to guide the community spiritually. 'Iloibonok' are very central in the management of natural resources among the Maasai. Because of their outstanding spiritual faculties, they are the ones who are consulted in the engagement of non –spiritual aspects of natural resource management. In times of crises, they will be consulted to give spiritual prediction on causes and effects of different natural calamities and give advice on how to avert them. They will have superior knowledge on medicinal plants. 'Iloibonok' will be consulted and make binding decisions on which grazing areas are safe from diseases and enemies and grazing patterns must follow their wise guidance.

One day to day basis, the Maasai have introduced an elaborate system of division of labour for the management of livestock and natural resources. The Maasai operate on an age set system with each age set mandated over designated duties in the society. All these duties revolve around livestock and their environments. Uncircumcised boys of different ages are entrusted with several

responsibilities related to the grazing /taking care of livestock and small stock of different classes. The arrangement is such that the youngest taking care of animals which do not graze far from home and the more grown up with the capacity to walk long distances will likewise take care of animals that graze afar from home. Warriors and the elderly will supervise and monitor grazing techniques and patterns. Warriors will also undertake more matured and courageous duties such as protecting and defending livestock and human against potential and actual enemies, human and wildlife alike. They are also entrusted with duty of taking care of livestock in times of hardships and crises. During the dry season and beginning of the rainy season, the warriors have to shoulder the task of moving around with livestock to areas where grass and water can be found. In any case the whole task of digging dry season wells is the task of the warriors. They are also the ones who entrusted with the task of constructing homesteads and must know which trees are useful for this.

The elders, both junior and senior are entrusted with more supervisory and advisory roles in the management of natural resources and livestock. They enjoy exclusive powers of instructing warriors to undertake different tasks such as surveying different areas far from home can be useful for grazing in coming months. They will be required to come up with detailed reports showing among others, the type and quality of grass, available water, proximity to enemies, animals in the area. This information will help elders in making decision on how to graze animals in different seasons. They have ultimate decision making powers on matters related to the choice of where to graze and move cattle and small stock at a designate time of the year. The more one gets old the more his authority and decision- making powers. The logic here is simple, authority is vested with those with the most experience and age is an important indicator when it comes to living that experience. Elders make decisions on pasture management, disease avoidance, interaction with wild animals, in negotiating grazing with their neighbours. Elders will have authority and decisions over burning of pastures and mobility patterns of domestic animals and people.

Women and girls have equally important roles in the management of natural resources. They are the managers of the domestic 'company'. They decide who should get milk and other food products (with the exception of meat which is the preserve of men) and who shouldn't and their corresponding quantities and qualities. They are responsible for fuel wood and hence interact with flora on a continued basis. They are the ones who have superior knowledge on which plants are best for fuel wood. The women own the house and the task constructing houses is their preserve and specialty. They alone will have the superior knowledge of the different plans that useful for the making of houses. They will fetch water for domestic use and are expected to manage this resource both at home and at the points of collection.

Besides the traditional institutions of managing natural resources, modern institutions do also have a significant role in the same. Traditional leadership institutions operate alongside systems of modern government. Pastoralists like other rural communities are organized around administrative an entity called a village. The village is governed by Village Councils. Village Councils are elected from among village members by General Assembly with executive with final decision making powers on all matters in the village. In pastoral villagers the role of traditional institutions is increasingly being interfered by modern ones, with the latter making decisions according to official government policies on the management of natural resources. This practice adversely affects pastoralsits methodologies of natural resource management. A clear example is on land use plans. The existing policy environment in relation to natural resource management requires that all villages must come up with land use plans, which must conform to the methodology that is in use by the government. What this means in reality is the fact that the way pastoralsits use land is increasingly being interfered with modern techniques, which employ

a different logic and approach. This will in turn interfere with pastoral land use systems and will have adverse impacts on the environment in the long run.

Among the (agro-Pastoralists) Sukuma the 'ngitili' system that is discussed in details elsewhere in this study have developed traditional institutions to make sure that decision made are enforced and respected by the community. They have for example developed a system of traditional militia called 'sungusungu' (also, wasalama) (Barrow et al., 1992, Barrow and Mlengi, 2003) mandated to bring to enforce community decisions and bring perpetrators to justice. The practice of *sungusungu* is now is use throughout Tanzania against people of ill will and those who interfere with other people's security and that of their property.

The Barbaigs do also have institutions that enforce rules and traditional norms of land use and natural resource management. According to Kilima, 'property relations are basically contractual relationships which confer jural status and established legal responsibility' ( Kilima in Lane, 1991). Jural authority is to be found at the tribal, clan and neighbourhood levels. Among the Barbaigs, the highest decision making body is that of the tribal assembly (**Getabaraku**) bringing together all adult members of the community to determine matters of grave concern to the community. The said assembly has exclusive authority on matters of common property but which belongs to the clans will remain the exclusive preserve of clan authority. The Getabaraku will have authority over the users rights and will impose penal sanctions for anyone violating rules related to water uses including banning one from using same. The same applies to the use of plants. Of particular importance is the place the Getabaraku takes place. It is considered a cardinal offence punishable by fines when one cuts or damages the trees under which the Getabaraku assemble (Lane, 1991). Even cutting a branch of these trees will attract the severest of penal sanctions. These trees are therefore conserved in perpetuity by strong tribal rules. The way of jural system operates is advanced o the extent that in matters of grave concern, the Getabaraku will assign its tasks to a special committee called the **Makchamed**, to investigate matters and will often conduct its proceedings in camera, a practice that is akin to the modern dispute processing systems.

The Barbaig also distinguish themselves for the rest of East African pastoralists by having a very strong council of women which has enormous powers on the management of natural resources, among others. They have a women council known as the **girgwaeda gademg with** a lot of political and jural powers. It is described as collective conscience of women (Kilima 1965 in Lane, 1991). The council can pass decisions of the highest order including even against men in authority. It has powers over land and especially on matters related to the spiritual aspects of natural resources. It is even recalled that the said council was bitter and made strong decisions against the ploughing of land for farming, very much against its original and proper use-that is pastoralism.

At the clan level there is the **hulandost** which adjudicates mostly on marital matters but more importantly on matters related to conflicts arising from clan land and other natural resources. There is also the 'neighbourhood council', **the girgwaged gisjeud** which deals with matters on private property and especially dispute arising therefrom(Lane, 1991). This council is vested with authority admitting and allocating land to newcomers to the neighbourhood. The council will also make sure that livestock numbers do not at any one time overwhelm the size of the land by among others making sure that men with large livestock herds do not live close to another and thereby stress and exhaust land resources.

## 6. Managing for risk and enhancing resilience

Pastoralists in Tanzania are confronted with a multiplicity of opposing and challenging forces, which make the practice of pastoralism one, that is difficult to sustain. Some of these problems are natural as is the case with climatic and topographic limitations; others are man made as is the case of unfavourable government policies and inappropriate development interventions. To sustain the pastoral system under these forces is a gigantic task, which requires a serious degree of creativity and flexibility. The good news though is the fact that pastoralism has always had to adopt to change climatic and ecological conditions. This, they have done for years; the experiences are there to be of hand when new forces are coming into the picture. This time round though, the forces are greater than any time before when the land resource base is under the strangle hold of decimation and when their population and that of their neighbours is under increasing pressure.

Pastoralists lands have been described as dry, with low, erratic and unpredictable rainfall patterns. The soils of these lands are not always the best. Pastoralists in Tanzania live in arid and semi-arid lands (ASAL) just like other pastoralists in the world experience a cycle of good and bad hardship years (Cullis) which result in massive herd die-offs and sometimes the entire livestock resources and has been the case in Tanzania in the repeating draughts of 2005/2006 where many animals died (get the exact number of animals that have died this year). Cyclic droughts tend to occur in Tanzania every 11 years, but the situation is even worse in pastoral systems, which are semi-arid to a large extent. Here draught is said to occur every 3-7 years. This situation is not stable as has been witnessed over the last two years, where rains have failed many dry areas in pastoral Tanzania. This draught patterns impact on rangeland status, which fluctuates overtime depending on rainfall availability. The drought do also affect the nutritive quality of the pasture all impact on the health of pastoral herds.

Because of the above uncertainties pastoralists in Tanzania, have, through many of experience learned to be creative. We look into risk aversion strategies and resilience building techniques among pastoralists in Tanzania.

The first risk aversion strategy is to be found in the composition and choices of the pastoral herds. Pastoralists keep a mixture of animal species in their herds. Their herd is composed mostly of cattle and small ruminants. The keeping of this mix and blend of different of animals is a permanent draught insurance strategy. The large stock in the form of cattle is the most preferred and has much exchange and wealth value but the small stock are more important in capital build up as they multiply faster (Lundholm, 1976). Small stock and especially browsers like goats are more resilient to draught as their feed base is abundant even when grass is not available for the large stock. Small stock have also the advantage of being easy to exchange and hence fast moving wealth in times of crises. It is also the case that small stock are kept exclusively in dry areas such as those in Ngorongoro and Monduli lowlands where climates and temperatures are not supporting of large stock. The choice of species is itself done carefully such that is it only those with most resistance to disease and draught that are kept.

The second methodology used by pastoralists to cushion climatic and policy stresses is that of mobility. While mobility is acknowledge to be the most efficient way of utilizing fragile and seasonably varying resources, this practice is almost the most disliked and discouraged of all pastoral practices. Pastoralists in Tanzania have to struggle against a policy environment, which supports sedentralisation and individualization of land.

The importance of mobility in pastoralists systems has adequately been documented and supported (Basset, 1986, scones, 1994, Niamir-Fuller, ?) Mobility is done for a variety of reasons,

depending on the specific situation of pastoralists practicing it. Mobility is used in marketing animals; in symbiotic interactions with farming communities as is the case in the exchange of manure (Niamir-Fuller, ?) Sometimes pastoralists use mobility as a mechanism of disease avoidance. A typical example in Tanzania is when pastoralists remove their animals from possible contamination of Malignant Catarrh Fever (MCF) from wildebeests when they calve. This methodology is so well done timely to the extent sometimes there is no contamination at all. In some cases mobility is important to avoid the contamination of the foot and mouth disease. Long experiences and wisdom has taught pastoralists on how to avoid different ecological zones at designate times of the year to avoid some livestock diseases. So while mobility is blamed by policy makers for spreading livestock diseases (Tanzania, 2005) for pastoralists' mobility is actually an effective mechanism of avoiding them. Mobility is also a mechanism of accessing unevenly distributed rangeland resources and in the most cost effective manner. It is cost effective compared to intensive and sedentary livestock keeping systems, which thrive on bringing feed and water to animals.

Mobility is also done by pastoralists as a mechanism of preserving their environment and thereby ensuring sustainable availability of the resources for the livelihood base. Pastoralists are dependent almost exclusively on the environment that they will be the last to destroy as they will in fact be destroying themselves. Mobility is critical for pasture maintenance and improvement. This practice enables part of the pasture that is left to regenerate so that it can be used during other times.

Since the arid ecosystem's productivity is spatially and temporally variable and to a large degree unpredictable, mobility enables the opportunistic use of resources (Niamir-Fuller,). This includes moving to minimize the effects and impacts of droughts, and being able to use underused pastures distant from settlements, or those that only seasonably available. This phenomenon is best illustrated by rotation grazing system of the Barbaig of Tanzania.

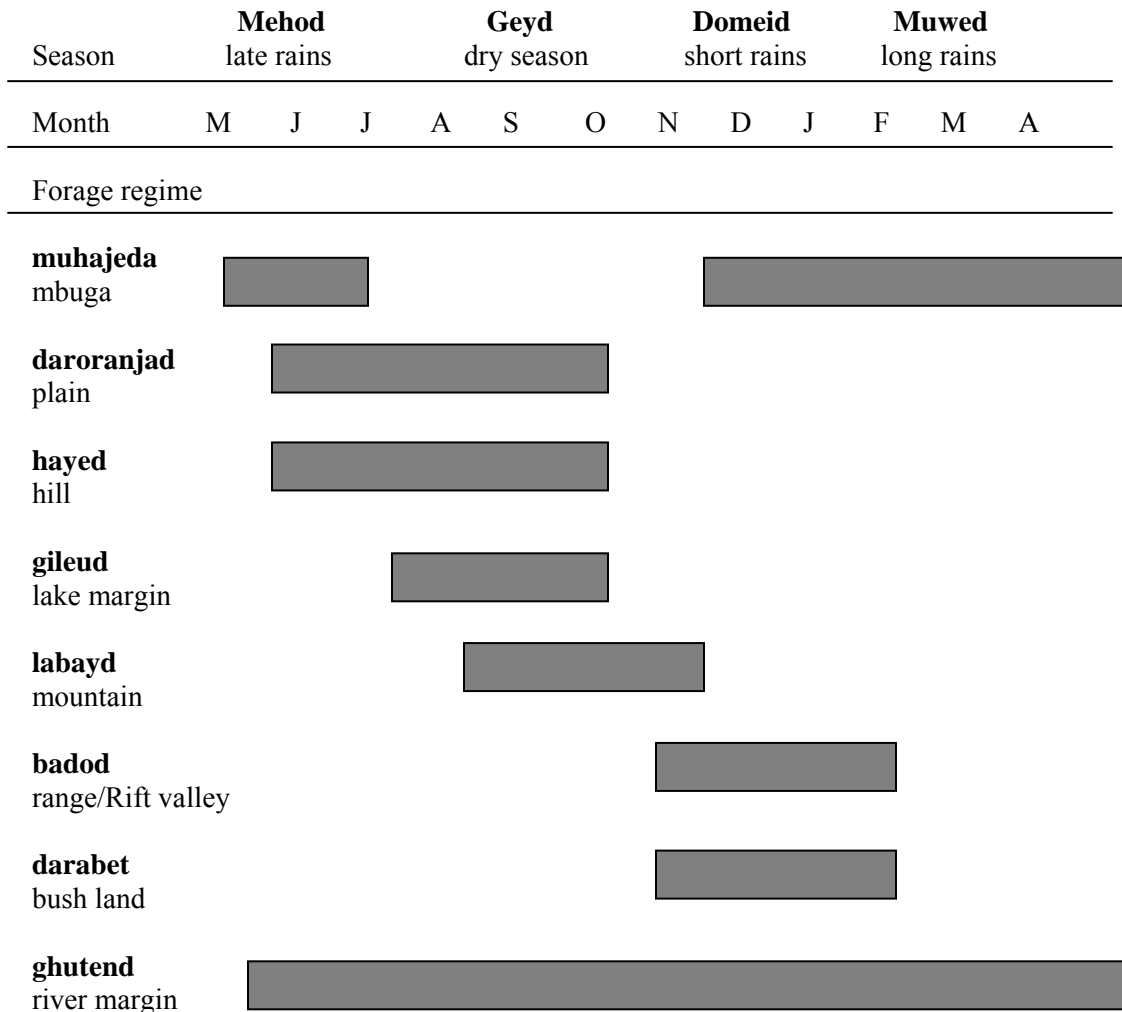
The Barbaig resided historically in Hanang' District in Manyara region which is characterized by a wide variety of natural features that include Mount Hanang', ranges of hills, escarpment, lakes, grassland and forests. Together with the associated soils and vegetations these provide a wide variety of pastures whose productivity is determined by climatic factors. The area is semi-arid with an average rainfall of just over 600mm, high evaporation rates and periodic droughts. The location and quality of the grazing resources combine to determine when and for how long livestock are able to make best use of forage.

Because of the variability of natural resources and limiting climatic and relief factors, the Barbaig' have developed an efficient grazing system which recognises and utilises eight major regimes. The first one is the **muhajeda** associated with Vertisol and Mollisol soils mainly on the Basotu plains. This forage regime is active between October and June. The second regime is **darorajand** – of the Barbaig' plains, and is most in use during the period of mid May and September. Third regime is **hayed-** meaning hills. It is best suitable for livestock between mid May and September. Fourth regime **gileud** meaning lakeside margin, is mostly toured by animals for grazing between July and October. Fifth regime is **Labayd** for mountain and the forage offered by this landscape is used during the period between late July and early October. Sixth regime is **badod** that stands for range or Rift escarpment, and is used between early October and January. Other regimes include, **darabet** -bush lands, whose pastures is used between same periods of early October and January. The eighth regime is the river margin – **ghutend**, is used throughout the year (Figure 1). Each regime type is treated with a catena model approach which

recognizes different vegetation types occurring in a predictable sequence on particular relief. (Pratt & Gwynne, 1977, in Lane, 1991).

Some herders move their herds and households up and down the Rift valley wall on the regular basis. Others usually those living farthest from the Rift valley, remain on either the Basotu or barbaig' plains, relying on the environmental variation within those areas to provide grazing. However, in times of drought, herders have to either congregate where water and grazing persist or migrate to areas where new pastures can be found.

Figure 1: Traditional Barbaig' grazing rotation.



Source: Lane, 1991.

Mobility by pastoralists is increasingly becoming impossible to practice. This is because of land alienations and allocation of pastoralists land to other uses. A typical example is that of the lands that have been alienated to conservation. An often-cited example is that of the Manyara-Tarangire ecosystem (Hasan, Goldman, 2001) where the creation of national parks and other conservation areas has disrupted land use patterns of pastoralists:

What is now the MTC (Manyara/Tarangire National Parks Complex) was part of the Masailand pastoral ecosystem, until when it was separated to become exclusive lands for wildlife) sic)...This development greatly reshaped and reoriented Maasai's notions of spatial organisation in their fragmented habitat characterized by dual landscapes separated by unequal power relations, originating from the utilization and management needs differential of now split ecosystem. Ever since, the Maasai have developed a kind of popular discourse, which distinguishes the exclusive wildlife zones from their pastoral domain"(LEAT, 1998)

Because of the disruption of the mobility systems, pastoralists living near the systems have either been forced to move out of the system or remained behind as changed pastoralists practicing subsistence and small-scale agriculture, which is neither good to pastoralism nor conservation. (Goldman, 2001, ). The irony though is although the expansion of agriculture in land within and adjacent Tarangire-Manyara ecosystem nothing is by done by policy makers to promote and safeguard the interests of pastoralism as a more wildlife compatible form of land use.

Pastoralists coping strategies can even be more sophisticated and sometimes overwhelm scientists. A good example is the type of animals that reared in the rangelands. Animals of designate colours are favoured over others. Research has for example demonstrated that pastoralists make choice of keeping light coloured cattle as these are better adopted to heat stress and require less water and hence suitable to the particular conditions of pastoralists (Finch and Western, 1997). It has also been established that pastoralists prefer to keep small body size animals with less body weight but with big mouths than large ones (500kg) as a mechanism to maximize risk during crisis mitigation in leapfrog movements when faced with an extended drought of debilitating infections disease (King et al., 1984, Semenyé, 1987).

One other strategy that is often misunderstood by many is that of keeping many animals. Animals are critical when droughts, diseases and other calamities are in the picture. Pastoralists keep many animals in good years because they have learned overtime that not one year is the same as the other. Today's large numbers are insurance of remaining with some animals when draughts and other calamities hit them hard.

Reciprocal exchanges of animals is also another strategy to ensure that one has animals all the time. The practice is such that pastoralists have created complex systems of mutual leasing, borrowing or lending animals to their relatives, clan mates or even just friends. The logic here is that the more one gives to somebody in need the more one stands of getting something back in times of crises. A good illustration of this system is that of 'Ewoloto' among the Maasai(see Potkanski, 1994) . In this system, the Maasai have developed a system of mutual assistance where relatives and clans members who have lost livestock are helped to regain their pastoral status by contribution for each member.

Another droughts insurance strategy of spreading and splitting animals over different places and of climatic variations. This helps to spread the risk to droughts since not all areas tend to experience the same climatic and weather conditions in one given time. Experiences have taught them that putting one's eggs in basket is not the best of way of circumventing vagaries of nature.

Other tactics, such as range enclosures and deferred grazing, were practiced for centuries in some pastoral societies in Tanzania, "Olokeri" for Maasai, (a special reserve for calves during dry season) as part of a drought-evading strategy. This system is also practiced by the Sukuma agropastoralists , but using a different name and with slight variations in the name of 'Ngitiili' Some practices, such as the sophisticated and labor-intensive cattle-watering system of the



Datoga, in conjunction with a form of rotational-deferred grazing through the organized seasonal use of water resources, to keep stock and human numbers under control

Raiding and warfare used to be another important strategy for recovery by pastoralists but this one is becoming less common because of growing social interactions between different tribes as well strengthened state instruments of enforcing law order.

Today, pastoralist adaptation goes beyond the system itself and includes emigration to cities in search for wage labour. Among the Maasai Pastoralists, this has becoming the biggest coping strategy. It is not uncommon to see Maasai youth roaming in small and big cities doing and searching for wage labour. Their specialisation is however on being night guards and in plaiting women hair. This are not the most honourable activities for a maasai warrior but times are changing and the pastoral economy, culture and livelihood are under sever pressure. . Emigration and working in town is said to be a result of dwindling pastoral economic base at home as a result of recurrent droughts and animal diseases have decimated livestock numbers over the last couple of years .The wage labour in the urban areas helps to cushion economic stresses, as the money that is generated by those in towns is taken back for food and buying of livestock.

**Box 1. General for risk management among pastoralists.**

Herd management: transport of animals to areas where forage is available; sales and slaughter of animals; diversification or switching of species composition within the family herd;

Generation of food stores: cereal stores to prevent needless distress, sales of livestock; stores of milk, meat, fat, wild fruits, and others;

Forage supplementation: preparation of hay, lopping of trees (leaves, fruits, and branches), and supply of commercial forage supplements, others;

Supplementing and diversifying of income: hunting, food gathering, fishing, trade, working in urban areas

Dispersement of resources and demand: herd and family splitting, temporary migration, transfer of animals within social networks (whether with kinship basis, or with stock associates) on which individuals have legitimate claims, resource sharing (e.g. circulation of milking animals);

Migration to urban areas: to obtain wage labour as watchmen, selling traditional herbs and bead-ornaments (Mc Cabe, 1990; Scoones, 1992, 1995)

## **Box 2. Maasai Risk Management techniques.**

The Maasai pastoralism has been historically characterized by highly developed herds and rangelands management techniques and social cultural institutions at the intra and inter community levels that provided security against shocks such as drought, crop failure and epidemic diseases. Key to pastoral production was that herd management and milk production were the domain of the individual domestic units (the household or the homestead), while rights to pasture and water were communal so as to guarantee access to both dry and wet season grazing. It is this combination of individual and communal resources and intra and inter community relations that enabled pastoralism to thrive for millennia.

In order to supply their herds with a constant supply of pasture, water and mineral (salty licks), the Maasai practice a method of resource utilization called “transhumance”. This consists of cyclical movements of the herds (*ronjo*), but differs from nomadic in that a relatively fixed homestead is maintained in the permanent water area. Other Maasai management techniques used in conserving and improving pasture includes:

Regular use of donkeys to carry water, both to expand grazing areas and to permit camps to stay away from their dry seasons reserves as long as possible; moderate burning of grasslands during good rainfall years either to rid it of ticks and other livestock disease carriers or to promote growth of more nutritious grass species; careful management of sheep and goats to avoid damage to grass at critical growth periods and to extend grasslands by regular browsing of bush encroachment; and regular social rebuke of families or camps which fail to adhere to good management principles. (Galary, 1980)

Despite the historically proven effectiveness of Maasai pastoralism to provide food security and preserve and even enhance the ecological base of its production, it has nevertheless been dismissed by those who claim it did not provide security against ‘natural shocks’ such as drought epidemic diseases (Halderman, 1983). This view overlooks or undervalues the complex intra-community relations that bind together the domestic units through a plurality of relationships of reciprocity. Such institutionalized sharing consists of rights and obligation of cooperative relations mediated by the age-set system through its creation of a set of prohibitions and injunctions concerning hospitality and consumption.

A herd that concentrated in one area is more susceptible to the vagaries of nature and therefore livestock giving provides the security of spreading the herd out and collecting the obligation of others to reciprocate (Galary, 1981). For those with larger herds, giving is an economic necessity due to shortage of labour and also to avoid overgrazing (Hedlund, 1979). Stock partnerships, reciprocal gift-giving, bride wealth prestations and other relations of exchange thus function as a de facto Maasai system of security against natural shocks such as localized drought and diseases.

Source: Homewood and Rogers, 1991; Galary, 1980)

## **7. Compatibility with other forms of land use.**

Pastoralism is now acknowledged to be compatible with other forms of land use, most notably with farming and wildlife conservation. The many conflicts that are found now between pastoralists and other forms of land use are largely the creation of modern state policies, which have put pastoralism in conflicts with other forms of land use. One has just to compare the present situation with historical times to find evidence of the veracity of this proposition. We will have a closer look at the mutual and beneficial relationships between pastoralism and these farming and wildlife conservation.

### **7.1 Farming and pastoralism**

The relationship and complementarity between pastoralism and farming is as old as human kind. The complementarity between pastoralists and farmers is found in their mutual exchanges of different products. While pastoralists are known to be principally dependent on the products of their livestock, they are forced to supplement them in times of need. The milk, blood and meat that form the core source of nutrients for pastoralists cannot be provided in constant abundance all year through. This is because the environments that pastoralists occupy as was seen before are susceptible to the vagaries of weather. These food products can only be available in abundance during the rainy season and the beginning of the dry season. Pastoralists are dependent on cereals for much of the dry season. The production of cereals has never been the specialisation of pastoralists but that of their neighbours. Pastoralists have been trading with their neighbours for these cereals and other non food goods (Sikana et al, 1993, Brongiton, 200-) . A good example of this dependence in food among the Pastoralists of Ngorongoro who are prohibited (limited) from cultivation are almost entirely dependent on cereals produced by their neighbours in Karatu District. Even in places that have experienced bloody conflicts between farmers and pastoralists like Kilosa in Morogoro, this complementarity is still difficult to do away with. Pastoralists and farmers in Kilosa are relating to another in a mutually beneficial way very much despite the fact that the government had ordered pastoralist villages to be separated from those of their farming neighbours.

Farmers themselves have to supplement their diets by animal proteins which are available on a mutual exchange from their pastoralists' neighbours. Farmers have to get milk, meat and hides from their neighbours.

Another important but often ignored evidence of the complementarity between farmers and pastoralists is the practice of agro-pastoralism. Agro-pastoralists manage to do farming while at the same time rearing livestock in the same lands and conflicts are almost non-existent. Shinyanga region for example which the biggest domicile of agro-pastoralists in Tanzania, has the largest number of cattle and yet with the minimal possible amount of conflicts. Keeping domestic along side farms in a basically a land use choice that can sustain through careful planning.

## **7.2 Pastoralism and Wildlife Conservation**

The peaceful co-existence of pastoralists and wildlife is no longer contested and there is growing cogent scientific evidence to ascertain that pastoralism is itself an efficient method of conservation. Pastoralists are friends of their environments and wildlife. The Maasai of Ngorongoro call their land 'Ramat' meaning a healthy habit for people and animals (Goldam 2001, Parkipuny, 1989), all Maasai, in though in a way that is gender insensitive refer wildebeests as the lost cattle of their womenfolk. This mutual and co-existence is a factor of several reasons. One, which is less difficult to comprehend and therefore needless to argue against, is the fact that pastoralists rear animals who share many characteristics with wild animals. The landscapes and climates that pastoralists' herds thrive are also to a large extent the same ones where wild animals thrive. Secondly, and proceeding from the first, the manners in which wildlife utilise land is almost the same at that by pastoralists, and the resources that are important for sustaining pastoralism are the same required by wildlife. Thirdly, because of old age and well established peaceful co-existence between wild and domestic animals pastoralists have personalised this co-existence by making taboos that prohibit the misuse and abuse of wildlife resources(create box on different taboos). The perceived conflict between wildlife and pastoralists in one of creation and not of design. A very good example of this mutuality is the fact that despite the separation of

pastoralists from wildlife by eviction and restriction of access to conservation areas, many wildlife animals are still available in what is called dispersal areas and in fact there is growing evidence to ascertain that some of these wildlife animals (especially herbivores) cannot afford to live away from pastoralists( See the Colorado report). Interestingly, many, pastoralists and wildlife continue to exist peacefully in dispersal zones, which lie outside the boundaries of the many of the national parks. (Hassan, 2006)

The evidence of the peaceful co-existence between pastoralism and wildlife is one that is easy to find. Many good names of national parks and other protected areas are almost exclusively found in areas that pastoralists claim ancestral ownership. The names like Ngorongoro, Serengeti, Manyara, Arusha, Tarangire, Amboseli, Mkomazi, Loliondo, Longido evoke memories of pastoralists lands that have been taken by the conservation empire. In East Africa as a whole it is estimated that about 70% of wildlife populations, are dispersed outside protected areas on lands, which overlaps with pastoralism (Western and Gichuhi, 1993). Some of these wildlife reserves are famous for the sheer quality and quantity of wild ungulates. Ngorongoro Conservation area has the biggest concentration of wild animals species in the world. Tarangire has the biggest pollution of wild game in East Africa (Hassan, AWF, Igoe)

The compatibility of wildlife and pastoralism is greatly enhanced by the practices of pastoralists, which by design or default have beneficial impacts to wildlife populations. The fact that pastoralists migrate from one area to another in search of pasture is beneficial to wild animals as this helps to create and reduce competition with wildlife on critical resources. The movement of wild animals has more restriction than that of domestic animals as the latter are assisted by the human owners. The blockage of wildlife corridors and migratory routes has been observed has been observed to be one of the biggest threats livestock numbers in Tanzania. Conservation efforts such as those of the different actors in the Tarangire-Ecosystem to secure the Kwakuchinja corridor are done to assist wild animals to migrate unperturbed in different landscapes(AWF, Hassan). While other human activities such as farming and charcoal burning and harvesting are seen as threats to these movements, pastoralism is acknowledged to be one of the practices that should be promoted as it does not pose any serious threat to migration. This is good evidence in support of the complimentarity and peaceful co-existence between pastoralism and wildlife.

The practice of transhumance by many pastoralists in has several advantages to wildlife. The homesteads and grazing areas that pastoralists leave behind when they move attract wild animals as they are rich in nutritional plants which are cannot be found in the same quality and quantity in areas that are grazed by wild animals. The use of fire in pasture management by pastoralists is also advantageous to wild animals. Burning destroy coarse grass and pests which are not palatable for wild and domestic animas. Besides burning has the advantage of decimating pests that are perpetual menace to wild and domestic animals

| The conservation ethic among pastoralists is also deeply rooted in their cultures. The Maasai for example are known to shun eating wild animals. A member of the community who eats wild game is treated with the severest disrespect. Even it times of severe hunger and food shortages which are common occurrences because of droughts, the Maasai have never resorted to wild game as alternative food. This is the strongest conservation ethos that can be found in a human being. Even where pastoralists eat wildlife, it is only few species that can be eaten. Even in few occasions where wildlife animals are eaten then it is only applies those species that have the closet resemblance with domestic animals are eaten. Animals like buffaloes, Eland, gazelles, can be eaten at times but then it is not regarded as a revered practice.

Maasai pastoralists occasionally kill animals but selectively and only for special on and off situations. They kill animals consider a menace and danger to peace and security-that of human being and their domestic animals. Warriors demonstrate their energies and courage by confronting lions, the fiercest and most feared of wild ungulates but only in selected periods of the year.

The Maasai do also kill select species of birds during circumcision ceremonies which occur only once in a life for an individual and only collectively for age set after ten to fifteen years. The killing is done by young circumcised boys 'Isipolio'. The exercise, which in most cases lasts for two to three months is done just for decoration purposes and not other forms of consumption. For example, one colored bird's species such as "Emaunya'(scienfic name?) are rarely killed. These practices are not reported to have caused any threat to bird species and generally there is no evidence of these and like practices to have posed a serious threat to wildlife populations.

## **8 The Enabling Policy for Pastoralism**

The prejudices and negative conceptions that prevail on Pastoralism in Tanzania are best expressed and visible from the existing policy and legislative environment. Virtually all policies and legislations that deal with pastoralism portray it in the most negative terms possible. This study will expose the most relevant policies and legislations. These are mostly in the areas of wildlife, poverty reduction, land use, environment, range management and livestock development. It will become obvious from the policies that we will expose that all of them take pastoralism to be a system of land use that is not worth supporting.

We will expose these policies and the way they relate to pastoralism

### **8.1 The National Land Policy, 1995(NALAP)**

Tanzania adopted its first ever land policy in 1995. The overall aim of this policy is to promote and ensure a secure land tenure system, to encourage the optimal use of land resources, and to facilitate broad based social and economic development without endangering the environment (Tanzania, 1995, Mattee and Shem, 2006). The policy has a score of specific objectives including one that aims at ensuring that existing rights in land especially customary rights of smallholder peasants and herdsmen are recognised, clarified and secured in law and practice.

The need to have a comprehensive land policy is said to be a factor of many of aspects. One of them is what is perceived as growth in the already large livestock population, which has raised the demand for grazing land and has also created serious soil erosion. Land pressures have also led to increased movement of large herds of livestock from traditional livestock keeping areas to low livestock areas thus creating land use conflicts in receiving areas (Tanzania, 1995). The old age prejudice about over grazing and destruction to the environment and conflicts to their neighbours are blamed on pastoralism and its one of the problems that the new land policy is adopted to resolve.

The Policy also almost absent mindedly admits that there are growing social conflicts, environmental concerns and land use conflicts due to haphazard alienation of rangeland for large scale agriculture which frequently disown pastoralists of their grazing lands"(Tanzania, 1995:)

In what can be taken to be a positive note, the government intends to guarantee the security of pastoralists lands, by among others, gazetting those lands to protect grazing land from encroachment, issuance of certificate of village land to protect common property regimes and to give abandoned ranches or under-utilised former pasture lands back to pastoralists<sup>1</sup>.

The policy has also come up with a clear strategy on how to address the problems that are brought by pastoralism. Free movement of livestock will be abolished and replaced by sedentarisatin which will be promoted provisions of incentives to pastoral land stewardships like water, cattle dips and other services (Tanzania, 1995).

## **8.2 The Land Acts of 1999**

NALAP cleared ground for the adoption of two framework legislations related to land, the Land Act (No 4) and the Village Act (no 5) all of 1999. The third piece of legislation related to land is the Land (Courts) Disputes Act (no) of 2005. The Land Act deals with lands other than village lands while the latter deals with lands that are set aside and placed under the administration of village authorities. The land laws offer great opportunities for pastoralism to be suitable in a policy environment that is generally hostile to pastoralism. The inclusion of pastoral friendly provisions was not an easy task for those who drafted the land bill admittedly because of the general negative environment in relation to pastoralism. In his own words Professor Patrick McAuslan, the draftsman for the land laws in not unclear on this when he says:

“I have to admit that no subject in the (Draft) bill has been more difficult to provide for than pastoralism” (in Tenga 1996?).

The land tenure in Tanzania as provided in the land legislation retains the colonial practices which takes all land to be public land vested in the top executive-the president who holds land in trust for all Tanzanians.

The laws provide for triple category of land which is placed under different authorities for management and control but all these powers proceed from the power vested with the President. Public land is divided into village, reserve and general lands<sup>2</sup>. Village lands are defined, as lands currently under the use and occupation of villages, be it recognised by statute or customary law and practices. These are to be vested under the administration of village assemblies on behalf of village occupants. Reserve lands include lands reserved, designated or set aside under the provisions of the Forest Ordinance, National Parks Ordinance, Ngorongoro Conservation Area Ordinance, Wildlife Conservation Act, Marines and Reserves Act and Country Planning Ordinance, Highway Ordinance, Public Recreation and Grounds Ordinance, Land Acquisition Act, land parcel within a natural drainage system, land reserved for public utilities, declared to be hazardous land<sup>3</sup>.

The definition of general is problematic in the two main land legislations. Whereas the Village Land Act defines general lands mean public lands, which are not in the category of village or reserve land., the Land Act defines the same as public lands, which are not reserve or village land, and it includes unoccupied or unowned village lands. This ambiguity definition has severe implications to the security of pastoralists' lands as they are normally considered to be idle, unoccupied and waiting for development and occupation. Since pastoralists do not develop land

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<sup>1</sup> These under-utilised or neglected rangelands can only be given to pastoralists if the act does not conflict with national interests.

<sup>2</sup> Ibid, section 4(4)

<sup>3</sup> Ibid, section 6

in the understanding of property jurisprudence in relation to land, it can easily fall into the category of general land under the Land Act. The net effect of this is that the executive can easily alienate pastoralists' lands for other uses which are considered more appropriate and productive.

In connection to the above, the Land Law has been amended in 2004, to make among others, permissible the sale of bare land<sup>4</sup>. This is a novel development in the country's land policy. Previous land regimes allowed only the sale of land with unexhausted improvements. This is another serious blow to pastoralists' land tenure security. With land markets now substantially on the increase and the general disfavour on pastoralism as a competitive land use system, there is a danger that pastoralists' lands will be alienated on the pretext that they belong to the category of bare land.

### ***8.3 Draft Range Management Act, 2005***

Another important development in the land policy area is the recent move by the Ministry of the new Ministry of Livestock Development to come up with a draft Bill for a Range Management Act. This bill comes in just seven years after the repeal of the then existing the Range Management and Development, 1964 (Repealed by the Land Act, 1999). Several projects were undertaken to implement the 1964 but all them failed and fell in their fourth year because of the failure of policy makers to understand and operate within the logic of pastoral land use systems.

The overall objective of the proposed Range Management Act, is to increase the productivity of Tanzania's rangelands and livestock sector (see specific objectives in box below.)

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<sup>4</sup> Vide the Land (Amendment) Act 2004

### **Objectives of the Proposed Management Act:**

- To promote and enhance the contribution of the forage resources to the sustainable development of Tanzania for the benefit of present and future generations;
- To promote and enhance commercialization of forage resources;
- To encourage and facilitate the active participation of Tanzanians in the sustainable planning, management and utilisation of rangeland resources;
- Ensure ecosystem stability through sustainable utilisation of forage, water and soil resources;
- To delegate responsibility for the sustainable utilisation of forage, water and soil resources to the lowest possible level of individual users of rangeland resources consistent with the furtherance of national policies;
- To ensure the sustainable supply of livestock products and services by acquiring Range Development Areas;
- To enhance the quality and improve the marketability of livestock and their products;
- To promote co-ordination and co-operation between the ranches and other agencies and bodies in the public and private sectors in respect of the utilisation of rangelands of Tanzania;
- To facilitate greater public awareness of the economics and social benefits for improving and sustainable rangeland cover by developing programmes in training, research and public education;
- To improve understanding and methods of managing ecosystems for multiple benefits;
- To conduct range inventory, condition and trend analysis;
- To act as an arbitrator in conflicts between and within different grazing industry stakeholders and other land users;
- To maintain permanent, stable and productive livestock industry with an efficient use of forage resources as is consistent with protection of soil resources, permanence of forage production, related uses and environmental quality standards;

The proposed Act is has several consequences on the way pastoral land use systems. The draft Act proposes for the establishment of what are called Range Development Areas (RDAs). RDAs will be created by a legal process involving a score of government ministries and departments. The Minister responsible for livestock development will be required to consult the Ministry of Lands and Human Settlements, Ministry of Natural resources and Tourism, Ministry of Agriculture and Food Security and Ministry of Local Government and Regional Administration before making an order establishing RDAs.

The gazetting of RDAs has enormous implications to pastoralists' rights to the use of traditional grazing rights. Once an area has been established as a RDA entry and access to resources available therein will only be available upon application and written permission previously sought and obtained from the Minister. The powers of the Minister are quite enormous and are akin to those enjoyed by the Minister of Natural resources for people living adjacent to



conservation areas<sup>5</sup>. The Minister is empowered to make rules prohibiting, restricting and controlling entry into and residence within RDAs. The Minister shall have exclusive rights-of-way over the lands for stock-driving purposes to provide access to water, salt licks and marketing facilities or to lands not within the RDAs.

Two problems are obvious to arise as a result of the mechanisms intending to put into place. First, mobility, which is the cornerstone of sustainable pastoral system, will out rightly be constrained. This is because entry into any RDA is vested exclusively with the discretion of the Minister which permission can unreasonably be withheld. If it appears to the Minister that a certain RDA has reached its maximum 'carrying capacity'<sup>6</sup> further entry will be prohibited. Restrictions to mobility are sure to happen since one of the objects of the very legislation is to protect the environment which mobility of pastoralists is the number one blame. Secondly, the broad implications of the powers of the Ministry can also be construed to mean that the s/he can even limit the number of livestock that can be reared in a given area. This will mean some pastoralists can evicted from areas where livestock is considered to be in the access of the carrying capacity.

#### **8.4 The Wildlife Conservation Act, 1974(WCA)**

The WCA is perhaps the most important legislation when it comes to the relationship between pastoralists and conservation. This is because of two important factors. One, the WCA is the framework legislation that is incharge of largest share of conservation categories outside Ngorongoro Conservation Area and National Parks in Tanzania. Game controlled Areas (GCAs) and Game Reserves (GRs), which takes much of the country's conservation landmass a regulated by the WCA. Secondly, many of the GCAs and GRs that the WCA is in charge of are often times pastoralists lands or areas that they claim ancestral rights to.

The conservation logic of the WCA is premised on the orthodox approach to conservation. It employees the fences and fines approach to conservation. Human beings are taken to be antagonistic to conservation instead of being a constituent element in critical ecosystems. There has been many attempts to review the legislation as will be seen shortly, but these efforts have been constrained by those who still live in the past and are not ready to adopt the contemporary conservation logic which sees the human person as an integral part in conservation.

Many human activities are prohibited by the WCA. A typical example of these restrictions is that which relates to the hunting of wildlife. The hunting of wildlife and dealings with their trophies, both and outside core protected areas is prohibited and can only be undertaken with the permission of the director of wildlife. There are however some human activities which are tolerated by the WCA but often at times consent of the Director of Wildlife is a prerequisite.

To distinguish between human activities which are permitted and those which are not, the WCA has created different categories of protected areas in the country. The first category is that which relates **game reserves** where entry and residence is restricted save with the express permission of the government. The Director of wildlife can only use powers vested on him/her to prohibit residence in games reserve. This are the powers that were invoked to evict Maasai pasorlaists in Mkomazi Game Reserve in 1998(Bronkiton ?) .Other activities like livestock grazing are also prohibited serve with the express permission of the Director of Wildlife. The second category is

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<sup>5</sup> In fact the whole of idea of gazetting RDA is to have a category of land reserved for rangeland development in the same manner as parks have been reserved for fauna and flora.

that of partial game reserves to protect what the WCA refers to as protected animals. This category has never been created to the whole period when the WCA has been in force. The most contentious is that of **Game Controlled Areas (GCA's)** where though human activities are tolerated, the Director of Wildlife still enjoys a lot of powers on wildlife resources in them. This is contentious because the land acts of 1999 and the local government legislations have given village authorities the powers to use resources found in village lands for the benefit of communities and yet that power is restricted when it comes to wildlife resources. Many of the hunting activities take place in GCAs which also happen to be in village lands and very much without the consent of village authorities. An often-cited example is of the hunting rights to Orthello Business Cooperation (OBC) which has been ongoing for years despite strong resistance by pastoral local communities in Loliondo Game Controlled Area. There have been calls by many actors for degazettement of GCAs as these are seen as the biggest impediment to the realisation of community based natural resource management and undoubtedly the biggest source of land use conflicts between different users in Tanzania.

The WCA suffers from a fundamental set of weaknesses when it comes to its conservation ideals and practices. One, it restricts the use of wildlife and thereby does not involve local communities in the management of wildlife resources as well as denying them to benefit from them. Second, the law itself is outdated and as will be seen shortly, is in sharp contrasts with the approaches that have been introduced by the Wildlife Policy of Tanzania.

### **8.5 The Wildlife Policy of Tanzania (WPT) 1998**

The Wildlife policy of Tanzania was adopted in 1998 in reaction to the weaknesses apparent in the then existing conservation approaches which did not salvage critical resources from disappearance and depletion. *The Policy's core objectives include ensuring the conservation of biological resources and the sustainable utilization of wildlife resources and ensuring that this conservation contributes to poverty alleviation and improving the quality of life of Tanzanians.* The policy enumerates problems facing wildlife sector to include, failure of wildlife conservation to compete as a land use for rural communities, the loss of wildlife habitats to settlement, agriculture, grazing, mining and logging due to human population increase, escalating illegal wildlife off take and trade and inadequate wildlife use rights granted to local communities.. The policy also identifies key challenges to the sector, including, the promotion of involvement of local communities in wildlife conservation, increasing foreign exchange earnings, integrating wildlife conservation with rural development and fostering sustainable use of wildlife, ensuring that wildlife conservation competes with other forms of land use. To overcome the identified challenges comes with a key strategies including, promoting the establishment of Wildlife Management Areas (WMAs) by local communities as a means to protect and conserve wildlife outside of protected areas, granting user rights to various stakeholders, providing clear policy guidelines, and stimulating public and private sector investment in the wildlife industry, developing an enabling legal, regulatory and institutional environment for rural communities and the private sector to participate in wildlife conservation. The Policy states clearly that, with respect to local communities: *“It is the aim of this policy to allow rural communities and private land holders to manage wildlife on their land for their own benefit.”*

The policy also recognises that for the vision of the sector to be achieved, deliberate attempts must be undertaken to overhaul the existing legislative framework related to wildlife resources in the country. The policy is categorical thus : *“The value of any new legislation in the wildlife sector will therefore be how effectively it serves to further the objectives of this policy, and in particular how it addresses the challenges facing the sector and implements the recommended strategies”.*

### 8.6 Wildlife Management Areas Regulations of 2002(the regulations)

The WPT had indication that the government of Tanzania is ready to do away with the old style of doing conservation. This aspiration is best expressed by the adoption of the WMAs regulations of 2002. These regulations attempt and are designed to give teeth to the WPT which is otherwise unenforceable without a backing legal framework. According to the regulation, WMA's are defined as village land set aside for wildlife conservation<sup>7</sup>. The overall purposed of WMAs is "to enable the local communities living in villages to participate in the protection and utilization of wildlife resources on village land." The concept of WMA is an attempt to shift from the old practice where the central government bureaucracy wielded power when it comes to the management of critical wildlife resources.

The establishment and management of WMAs is a function of a multiplicity of actors. These include, Authorised Associations, Village Councils, District Natural Resources Advisory Board, District Council, Ministry of Natural Resources and Tourism, the Wildlife Division, TANAPA, and Ngorongoro Conservation Area Authority, CSOs and the private sector. The multiplicity of actors has a stake in the establishment and management of WMA calls for a clear system that can care of the interests of all stakeholders. This is system does not seem to be in place with the existing WMA regulations.

#### Roles of Different institutions and Actors in the establishment and Management of WMAs

S/N	Institution/Actor	Responsibility/Role
1.	Authorized Associations	<ul style="list-style-type: none"> <li>• Acquire WMA status of the village land set aside for wildlife conservation</li> <li>• Manage WMA in accordance with existing General Management Plan (GMP) and laws.</li> <li>• Review GMP for the WMA and Strategic Plan for the AA</li> <li>• Recruit Village Game Scouts (VGS) from within the villages forming the WMA and manage the VGS</li> <li>• Participate in developing by-laws</li> <li>• Negotiate and enter into contractual agreements regarding the utilisation of resources in a WMA</li> <li>• Promote transparency and accountability</li> <li>• Ensure equitable sharing of benefits</li> <li>• Manage conflict/arbitration on matters pertaining to the WMA</li> <li>• Report to the Village Assembly</li> <li>• Report and seek authorisation of investments from the Village Assembly.</li> </ul>

<sup>7</sup> Section 2(2) of the Regulations

		<ul style="list-style-type: none"> <li>• Co-opt technical expertise as required</li> <li>• Protect resources in the WMA</li> <li>• Carry out problem animal control</li> <li>• Ensure efficient financial management</li> <li>• Ensure and maintain proper record keeping</li> <li>• Oversee collection and payment of required fees and taxes</li> <li>• Identify and organise training for the AA</li> <li>• Undertake entrepreneurship</li> <li>• Liase with other institutions for information and technological exchange</li> <li>• Acquisition and safekeeping of arms and ammunition</li> <li>• Apprehension of illegal users and sending them to appropriate institutions</li> <li>• Acquire and dispose of AA property</li> <li>• Ensure conservation of biodiversity</li> <li>• Undertake resource monitoring.</li> </ul>
2	<b>Village Councils</b>	<ul style="list-style-type: none"> <li>• Co-ordination of natural resources management activities at the village level</li> <li>• Prepare Land Use Plan (LUP)</li> <li>• Formulate natural resource by-laws</li> <li>• Monitor AA activities and report to the Village Assembly and District Council</li> <li>• Provide land for establishment of a WMA</li> <li>• Ensure a secure and favourable business environment in the WMA</li> <li>• Ensure that sectoral policies are implemented by the AA</li> <li>• Enter into an agreement with the AA on the management of the WMA</li> </ul>
3	<b>District Natural Resources Advisory Board</b>	<ul style="list-style-type: none"> <li>• Act as a forum for arbitration and resolution of conflicts</li> <li>• Resolve major land and natural resource conflicts pertaining to WMAs</li> <li>• Reconcile interests of major stakeholders in WMAs</li> <li>• Provide and co-ordinate technical advice to the AA</li> <li>• Provide legal advice (including by-laws and contracts)</li> <li>• Facilitate setting of wildlife quota by the AA through the DGO or designated wildlife authority and then forward it to the DW for endorsement.</li> <li>• Furnish the appropriate District Council</li> </ul>

		<p>Standing Committee with the deliberations of the Technical Advisory Body.</p> <ul style="list-style-type: none"> <li>• Verify and approve AA contracts.</li> <li>• Advise the District Council on investments in WMAs.</li> </ul>
<b>4.</b>	<b>District Council</b>	<ul style="list-style-type: none"> <li>• Facilitate applications by CBO to become an AA and to establish a WMA.</li> <li>• Ensure that the District Advisory Body is functional</li> <li>• Form a linkage between the AA and the WD</li> <li>• Approve natural resource by-laws</li> <li>• Approve LUP</li> <li>• Implement and monitor adherence to the WPT in and outside WMAs</li> <li>• Endorse investments in the WMAs</li> </ul>
<b>5.</b>	<b>MNRT and WD</b>	<ul style="list-style-type: none"> <li>• Facilitate the initiation of the establishment of WMAs</li> <li>• Authorise CBOs to become AAs</li> <li>• Declare an area as a WMA</li> <li>• Facilitate the gazettelement of WMAs</li> <li>• Confer user rights of wildlife resources in the WMA and on the lands of the participating villages.</li> <li>• Enter into contractual agreements, such as a Memorandum of Understanding (MOUs), with AAs on the management of WMAs</li> <li>• Oversee the performance of an AA in management of WMAs</li> <li>• Endorse animal quota</li> <li>• Screen prospective investors in WMAs</li> <li>• Oversee investment in the WMAs</li> <li>• Assist in protection of natural resources</li> <li>• Provide technical assistance to the AAs</li> <li>• Develop a standardised syllabus and provide modalities for conducting VGS raining</li> <li>• Assist to undertake resource monitoring and inventory</li> <li>• Assist in training</li> <li>• Monitor and evaluate development trends of WMAs</li> <li>• Assist in anti-poaching activities</li> <li>• Assist AAs in monitoring the resources</li> </ul>
<b>6</b>	<b>TANAPA, Wildlife Division</b>	<ul style="list-style-type: none"> <li>• Develop modalities with the WD to work in WMAs that they are stakeholders in.</li> </ul>

	<b>and Ngorongoro Conservation Area Authority</b>	<ul style="list-style-type: none"> <li>• Facilitate the establishment of WMAs</li> <li>• Act as an agent of the WD in a WMA.</li> <li>• Participate on the District/Inter-District Advisory Committee in areas where they operate</li> <li>• Assist to conduct resource monitoring and inventory in the WMAs</li> <li>• Assist AAs to undertake anti-poaching activities</li> </ul>
7	<b>NGOs</b>	<ul style="list-style-type: none"> <li>• Facilitate the initiation and establishment of WMAs in collaboration with WD, TANAPA, NCAA, GR, NPs and District Commissioners (DCs).</li> <li>• Sensitisation of communities</li> <li>• Facilitate community organization</li> <li>• Facilitate villages to prepare LUPs</li> <li>• Provide legal advice (by-laws and contracts)</li> <li>• Provide technical advice to AAs</li> <li>• Undertake capacity building activities (financial management, annual action plans, audits, strategic action plans and gender mainstreaming)</li> <li>• In collaboration with the WD, TANAPA, NCAA and/or DC facilitate joint ventures</li> <li>• Participate in District Advisory Board upon request</li> <li>• Collaborate with wildlife authorities in resource monitoring</li> </ul>
8	<b><i>Private Sector</i></b>	<ul style="list-style-type: none"> <li>• Enter into concessions/joint ventures, agreement on resource utilisation and investment in the WMA with AA</li> <li>• Adhere to/fulfill the terms and conditions of the concession agreement/joint venture contract</li> <li>• c) Market and promote the WMA's resources</li> <li>• Assist in protection of natural resources.</li> <li>• Participate on District Advisory Body meetings upon request.</li> <li>• Ensure that it pays AA and government dues promptly and correctly</li> </ul> <p><b>Source: MRNT Guidelines for the establishment of WMAs</b></p>

The existing regulations suffer from a set of setbacks, which can frustrate the implementation of the WMA concept. The regulations do not have a clear system of benefit sharing in WMAs between different stakeholders. The procedures for their establishment are also bureaucratic and call to technical processes

### ***8.6 The Wildlife Conservation (Tourist Hunting) Regulations, 2000(the Tourist Hunting Regulations)***

The Minister for Natural Resources and Tourism passed the Tourist hunting regulations in 2000 allegedly for the better implementation of the WCA. The regulations put many restrictions on the utilisation of wildlife and wildlife related activities in protected areas. According to the regulations:

*“ No person shall conduct tourist hunting, game viewing, photographic safari, walking safari or any wildlife based tourist safari within a hunting a block or within any wildlife protected area outside Ngorongoro Conservation Area, and National Parks except by and in accordance with the written authority of the authority of the Director of Wildlife previously sought and obtained*

*Provided that this subregulation shall not apply where such activities are carried in Gazetted Wildlife Management Are or a private captive breeding operation, which has been endorsed by the Director”<sup>8</sup>*

The regulations are openly made in support of hunting activities against other activities like eco-tourism (Nelson, 2005, Nshalla, 2001) and is a major setback to the realisation of the objectives of the Wildlife Policy. The central government is again seen to protect the hunting industry which is one of the leading revue earners to the central government. Tanzania is known to have one of the largest safari hunting industries in Africa (Leader-Williams et al., 1996 in Nelson, 2005) with an estimated annual gross value in the order of US \$ 27 million and the wildlife Division pocketing about US \$ 10 million (Ibid).

All attempts by local communities to benefit from Wildlife resources is crippled by the above bias on Safari hunting. A score of local communities in northern Tanzania are known to have obtained significant revenues from wildlife related activities other than hunting. The village of Ololosokwan in Loliondo Game Controlled Area is reported for example to have increased its revenues from only US\$ 2,500 in 1995-97 to an average of US\$ 57,000 between 2000 and 2002(Nelson, 2005. Such are the achievements which the tourist hunting regulations have the potential of affecting.

The regulations do also contravene and violate villagers’ rights to use their lands and resource found therein which they rightly enjoy by virtue of the existing land laws as well as local government laws. The Local Government (District Authorities) Act, 1982 recognizes that by virtue of village councils being incorporated they are empowered to enter into legal relations with any body, whether natural or corporate, in order to better ensure the prosperity of the village and its habitants. In addition, section 142(2), recognizes the functions of the Village to include:

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<sup>8</sup> Section 16(5) of the regulations

*“Initiate and undertake any task, venture or enterprise designed to ensure the welfare and wellbeing of the residents of the village; and participate by way of partnership or any other way, in economic enterprises with other village councils”.*

### **8.7 The Proposed Wildlife Conservation Act 2004**

The Government is in the process of coming with a new Wildlife Conservation Act to replace the existing one, which is not in consonance with new approaches of doing conservation. The Bill for the Act is expected to be table in parliament in October 2006. The first drafts of the Act have been accessible to stakeholders. The draft legislation seems not to have departed from the approaches of doing conservation under the old wildlife legislation. Below are of the existing limitations of the proposed Act.

#### **Limitations of the Proposed Wildlife Act**

- The new draft act retains the provisions for Partial Game Reserves and Game Controlled Areas without any changes despite these areas being outdated and not performing conservation functions. The draft act does not in any way address the conflicts between Game Controlled Areas and the village lands which are prevalent and which inhibit implementation of WMA’s as well as implementation of the Village Land Act and constrain local community land tenure security.
- The draft wildlife act does not seem to have been harmonized with the land legislation and the local government legislation. The draft wildlife act gives new powers to the Minister of Natural Resources to create reserved land, which is in contravention of the powers of the President under the Land Act to transfer village land to reserved land.
- The draft wildlife act has not clearly and securely established the Wildlife Management Areas under the law but will leave them to be dependent on regulations, which can be changed at any time by the Minister. This reduces the security that communities can have to manage and conserve wildlife on their lands. The Act has absorbed the WMA regulations without any improvement but with all their shortcomings.
- While the draft wildlife act does little to increase the ability of local people to benefit from wildlife on community lands, it provides for new regulations and restrictions in the form of *corridors, buffer zones, and dispersal areas*. The draft gives the Minister new powers to declare and regulate these areas. It is possible that this will represent a new type of protected area in customary village lands and a new source of conflict between wildlife authorities and local communities. This is in contrast to the provisions of the Wildlife Policy, which call for using community-based conservation through WMA’s in the corridors and dispersal areas to achieve conservation in these places.
- The draft wildlife act also does not increase participation of local communities in tourist hunting carried out on village lands and does not strengthen the rights of communities as private landholders to determine what hunting occurs on their lands.
- The draft wildlife act does not provide for increasing the transparency and accountability of the tourist hunting concession system as called for by the Wildlife Policy.

Source: [www.tnrf.org](http://www.tnrf.org)



### **8.8. National Forestry Policy, 1998.**

The Government of Tanzania adopted a National Forest Policy in 1998. The policy departs from the hitherto existing policy and legislative environment, which was centralized and did not make local communities participate in the management of forest resources. The new policy has a very strong focus on sustainable conservation of forest resources by greater involvement of local communities, the private sector and local governments in the control and management of forest resources. The overall goal of the policy is **"enhancing the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of natural resources for the benefit of present and future generations."**

Specific objectives include:

- To ensure sustainable supply of forest products and services by maintaining sufficient forest area efficient management;
- To increase employment and foreign exchange earnings through sustainable forest-based industrial development and trade;
- To ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility; and
- To enhance the national capacity to manage and develop the forest sector in collaboration with other stakeholders.

The NFP sets four priority areas for legislation and implementation

- Forest land management;
- Forest-based industries and products;
- Ecosystem conservation and management;
- Institutional and human resources.

The new approach in forestry which is more participatory is a result of past experiences where it was recognised that the central and local governments had difficulties in managing forest resources in a cost effective and sustainable manner without involving local communities and the private sector. The shift in approach was also undertaken to be in tune with the ongoing local government reform programme.

The policy introduces measures which are thought necessary to address the shortcomings in the old regimes as well as retaining some practices which are considered to be useful in the new approach. One, the Policy introduces management by specialized executive agencies and the private sector. Two, Local governments will continue managing forest reserves under their jurisdiction but they can also place them under the management of executive agencies or private sector. Three, the policy introduces mechanisms where user rights can be exercised through joint management agreements. Four, Clear ownership of forests will be established for sustainable forest management. Five, an enabling environment and regulatory framework for the private sector involvement in forestry will be created. Six, incentives and credit facilities for investments will be promoted including those by joint ventures

### **8.9 The Forest Act, 2002**

The government adopted the Forest Act in 2002 to give teeth and enforce the provisions of the Forest Policy. The Act is therefore drafted along the same logic of involving different stakeholders in the management of forest resources. The Act has the following objectives.

- To promote, to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of natural resources for the benefit of present and future generations
- To encourage and facilitate the active participation of the citizen in the sustainable planning, management, use and conservation of forest resources through the development of individual and community rights, whether derived from customary law or under this Act, to use and manage forest resources
- To ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility
- To delegate responsibility for management of forest resources to the lowest possible level of local management consistent with the furtherance of national policies
- To ensure the sustainable supply of forest products and services by maintaining sufficient forest area under efficient, effective and economic management
- To enhance the quality and improve the marketability of forest products and regulate their export
- To promote coordination and cooperation between the forest sector and other agencies and bodies in the public and private sectors in respect of the management of natural resources of Tanzania
- To facilitate greater public awareness of the cultural, economic and social benefits for conserving and increasing sustainable forest cover by developing programmes in training, research and public education
- To enable Tanzania to pay, fully in contributing towards and benefiting from international efforts and measures to protect and enhance global biodiversity.

To achieve the objectives of the Act, forests have been divided into different categories which will be managed by different authorities. These categories include national forests, local authority forests, village forests, and private forests.

Of immediate interest to pastoralists are village and private forests. Village are found or to be established in areas designates as village lands and will be managed by village authorities. The Act has provided for participatory mechanisms for the management of village lands. The overall management functions of village forests is vested with the Village Councils which must consult local authorities in the vicinity of the forest, users of the subject forest and the local communities. All plans for the management of the forests must be approved by village Assemblies. The said plans must also get the technical approval of District Authorities.

Besides, village forests, the Act establishes private forests. These will include forests on village land held by one or more individuals under a customary right of occupancy as well as forests on general land of which the rights of occupancy or a lease has been granted to a person or persons or a partnership or a corporate body of NGO or any other body or organization for the purpose of managing the forest which is required to be carried in accordance with the Act.

## 8. 10 The National Strategy for Growth and Reduction of Poverty (NSGRP)

During year 2004/5, Tanzania went through a major review of its first Poverty Reduction Strategy (PRS 1), leading to the formulation of the new National Strategy for Growth and Reduction of Poverty (popularly known by its Kiswahili acronym MKUKUTA [Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania]). Although MKUKUTA builds on its predecessor PRS 1, it has strategic differences. These include:

- A move from priority sector approach to priority outcome and results approach.
- Recognition of cross-sectoral contribution to outcomes and emphasis on inter-sectoral linkages and synergies.
- Emphasis on mainstreaming cross cutting issues.
- Integration of Millennium Development Goals (MDGs) policy actions into the cluster strategies.
- A five-year implementation period.
- A greater emphasis and articulation of economic growth measures and reduction of income poverty.
- More linkage with the Government budget and
- Development of a MKUKUTA communication strategy

In context of MKUKUTA, the Livestock Sector has an Operational Target of an *increased growth rate from 2.7% in 2000/01 to 9% by 2010*. Five cluster strategies have been defined as priorities to achieve this target, as indicated below in the table below.. The sector is featured mainly under Cluster I (growth and reduction of income poverty), broad outcome 1 (broad based and equitable growth is achieved and sustained) and Goal 2 (Promoting sustainable and broad-based growth).

Livestock sector development in context of MKUKUTA

Operational Target 2.5	Cluster Strategies (2.5.1 to 2.5.5)	Intervention package	Collaborating sectors / areas	Key Actors
Increased growth rate for livestock sub sector from 2.7% in 2000/01 to 9% by 2010	2.5.1 Promote efficient utilization of rangelands and empowerment of pastoral institutions, for improved livestock productivity	- Utilization of range land - Sensitization of pastoralists	Land, pastoralism, environment, livestock	MWLD, CSOs, MLHS, PORALG, VPO, communities, LGAs
	2.5.2 Promote programmes that increase income generating opportunities for women	- Income generation programmes - Promotion of local SMEs for diary	Agriculture, Livestock, Marketing, cooperatives	MWLD, MAFS, private sector, research institutions, CSOs,

	and men in the rural areas through promoting local small-scale industries (SMEs), non-traditional products and traditional crafts.	(livestock?) products - Market development		farmers, LGAs
	2.5.3 Promote pastoralism as a sustainable livelihood system.	- Pastoralism - Sensitization of pastoralists	Land, pastoralism, environment, livestock	MWLD, CSOs, MLHS, PO-RALG, communities, LGAs
	2.5.4 Construct more water charcos; improve access and quality of veterinary services; and promote dairy and leather industries (SMEs).	- Infrastructure development - Promotion of dairy (livestock?) products related SMEs	Water, Livestock, Industry	MWLD, MIT, LGAs, PORALG, Communities, private sector
	2.5.5 Ensure improved access to reliable water supplies for livestock development through promotion of small-scale rainwater harvesting.	- Technology	Livestock, water	MWLD, MAFS, MSTHE, PO-RALG, LGAs

**Source: NSGRP, 2004**

The good intentions of the NSGRP on pastoralism will depend on their implementation. The fact that MKUKUTA has recognized and will **promote pastoralism a sustainable livelihood** is in itself an achievement in a policy environment, which portrays pastoralism generally in negative terms.

### **8.11 The draft National livestock Policy (2005)**

The government of Tanzania has for the last few years been in a process to come with a Livestock Policy. These efforts have now been given weight with the establishment of a separate Ministry of Livestock Development by the fourth phase government of President Jakaya Mrisho Kikwete.

The policy aligns the Livestock with the Tanzania Development Vision 2025 and the vision of the livestock sector is presented as:

*“By year 2025, there should be a livestock sector, which to a large extent shall be commercially run, modern and sustainable, using improved and highly productive livestock to ensure food security, improved income for the household and the nation while conserving the environment.”(Tanzania, 2005)*

The rationale behind the National Livestock Policy is to commercialise the industry and stimulate its development in order to increase incomes of the livestock farmers, attain self-sufficiency in food production of animal origin and increase livestock contribution to national GDP. The policy will also address the goals set in the National Strategy for Growth and Reduction of Poverty (NSGRP) of 2004 which emphasises on growth and reduction of income poverty, improvement of life and social well being, good governance and accountability. According to NSGRP, the livestock industry is expected to grow at 9% by 2010 for it to contribute towards poverty reduction in the rural areas. (Tanzania 2005)

The policy gives useful statistics on Tanzanian rangelands . The country is endowed with abundant natural resources, which include land, forage and a large livestock resource base. Out of the total 94 million hectares of land resource, 60 million hectares are rangelands ideal for livestock grazing. However, due to tsetse infestation and other constraints, only 40% of the 60 million hectares are utilised for keeping 17.7 million cattle; 12.5 million goats and 3.5 million sheep. Other livestock kept in the country include 0.8 million pigs, 47 million poultry and other species. Over 90% of the livestock population is of indigenous types, which are known for their low genetic potential. These animals are however, well adapted to harsh environmental conditions and have high resistance to diseases.

About 40% of the 3.9 million agricultural households in Tanzania are involved in crops and livestock production. The potential to increase both livestock production and productivity and its contribution to GDP exist, as the land carrying capacity of up to 20 million Livestock Units has not been fully utilized.

The draft policy presents the government thinking on pastoralism and the proposed interventions to bring development and growth in the livestock sector.

Wildlife conservation and expansion of crop cultivation in rangelands has resulted into reduction of grazing area and concentration of large numbers of animals on the marginal lands leading to overgrazing and environmental degradation. Furthermore, there is scarcity of land use planners for demarcation of land for various uses.

Indigenous Knowledge Systems in the Livestock are recognized but with no clear strategy on how to promote them. A good example is that the prevention of uncontrolled mating by the Maasai by using a ram apron.

On pastoral utilisation of the rangelands, the policy is categorical that this is mostly communal and it does not favour rangeland development. The net effect of this according to the policy is that this mode of land ownership leads to overstocking, overgrazing and land degradation. This is a less articulate way of stating tragedy of the commons doctrine but a good indication that habits don't die easily as orthodox thinking on pastoralism are still looming large despite many years of scientific evidence to the contrary. The policy blames and associates mobility of livestock for the spread of diseases and conflicts with other users.

Perceptions on carrying capacity as are still high on the agenda. According to the Policy:

*One of the principles of sustainable livestock farming is the keeping of livestock **relative** to the carrying capacity of the land. However, social and cultural perception of most livestock farmers is accumulation of large numbers of livestock for prestige and security and consequently overstocking.*

The policy proposes also to establish game ranching as emerging enterprise with high potential when combined with tourism. Some game animal species, according to the policy can be domesticated and run along with livestock on commercial ranches. And further it is said that game animals have the advantage of being resistant to many diseases and tolerant to some parasite and are also better converter of low quality roughages than livestock.

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## 9 Conclusion (in Development)

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