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# THE NGORONGORO CRATER

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A PIECE OF INFORMATION FOR AN  
ENJOYABLE TOUR IN THE EAST AFRICA'S  
SERENGETI ECOSYSTEM



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# USEFUL INFORMATION FOR AN ENJOYABLE TOUR OF THE NGORONGORO

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## INTRODUCTION

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In February and March life is vibrant in the East Africa's vast green savanna habitats. At this time the Zebras, Giraffes and Gazelles are nursing their young and the Wildebeest calve by the thousands. Huge flocks of European White Storks and other birds have arrived to winter in the region alongside the colourful resident birds and a variety of wildlife impossible to see anywhere else on earth today.

The words Masai-Mara, Kilimanjaro, Tsavo, Amboseli, Serengeti, Ngorongoro etc. are perfumed with the romance and allure of the sprawling savannas, skies stretched with blue and countless creatures of every shape and form enacting nature's savagely beautiful passion play in an infinite East African landscape of varying climates.

East Africa is punctuated by two distinct rainy seasons - March to May and October to December. The ancient Rift Valley and Nairobi highlands are temperate with cool nights; the Masai-Mara and Serengeti are warm, whilst the coastline and offshore island are hot and humid, but washed with sea breezes.

It is in this intoxicating region that the notion of the safari, a Kiswahili word meaning 'journey', was born and it is here that the origins of the early man was discovered.

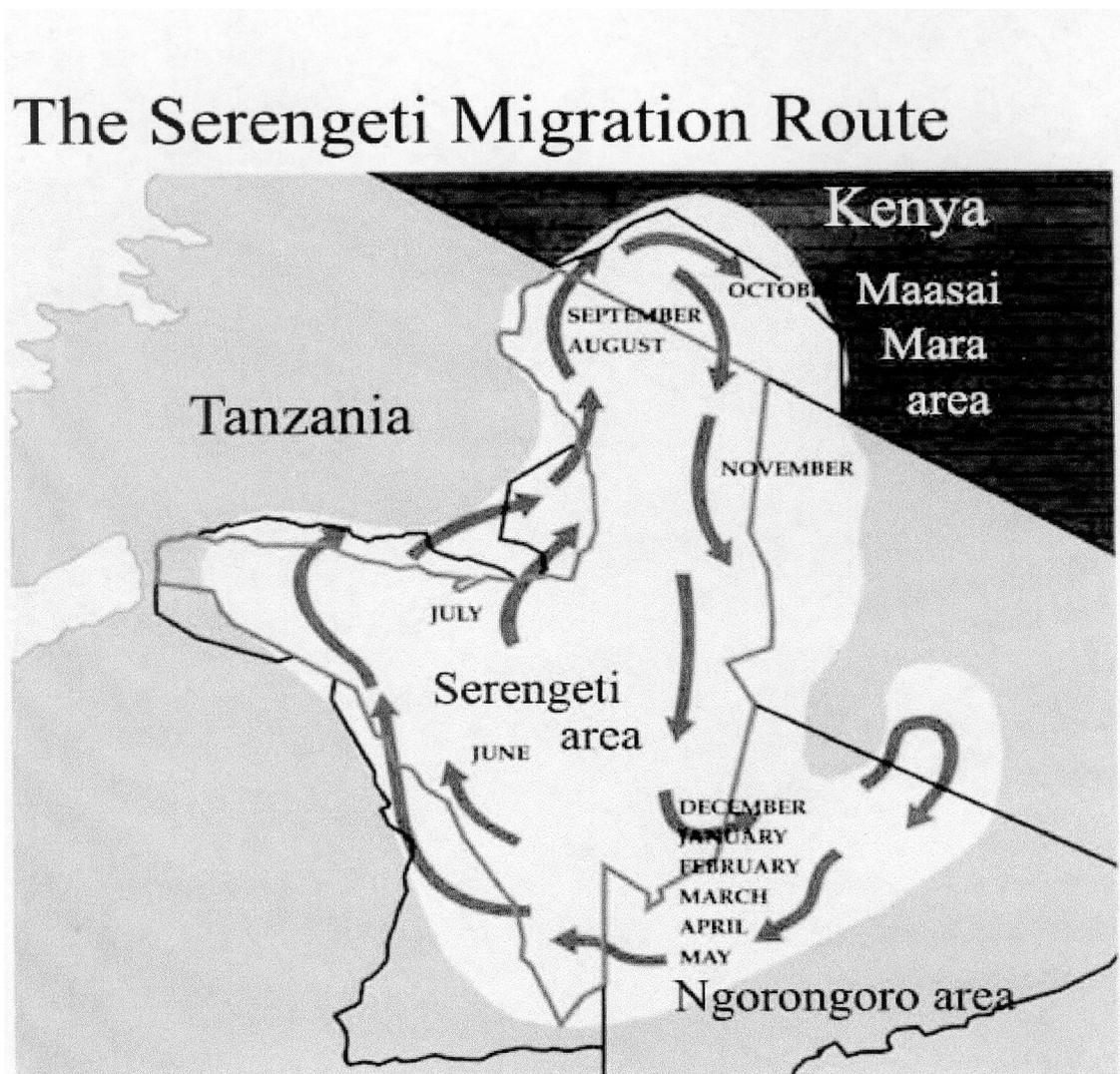
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## AN ANCIENT IMPULSE - THE GREAT MIGRATION

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As East Africa's plains fade yellow after the summer's rains, a natural signal is sent to millions of wildlife. Suddenly the horizon is blurred with the bodies of 1.4 million Wildebeest and 200 000 Zebra, Eland and Gazelle, relentlessly tracked by Africa's great predators magnificently trekking northwards in search of better life. This is the famous migration - one of the most awe-inspiring sights on earth.





The migration has its origin on the Tanzania's southern Serengeti plains, where great herds of wildebeest, zebra and Thomson's gazelle gather to graze on the rain-ripened grass in January.

But by the end of May the depleted plains are unable to sustain them - and an ancient impulse commands them to move. Like iron filings being drawn by a magnet, the majestic sweep northwards toward the Maasai Mara plains begins.



By July the herds have amassed along the swollen and Crocodile ridden Mara River, their major barrier from the short, sweet grasses ahead. Here the nature's natural mechanisms for selecting the most fit organism to continue in the population is seen to take place.

Unhindered by the bursting floods and the waiting hungry crocodiles, both the strong, the weak, the old and the young pause momentarily, as if to say the last player and then in an incredible dare and force, the entire constellation plunges

itself into the river to fight the violent currents and dare the waiting crocodiles whose gaping maws are already set to grip and tear.



Many of the weak, the young and the old will never make it to see their “promised land”- the green Maasai Mara. Many end up being swept away or falling prey to the hungry crocodiles. Those who make it through the deadly flotilla are so weak for the lions and other large cats waiting across the river. They easily fall prey to the ambushing lions, cheetahs, hyenas etc. This is the dramatic natural dynamism, a life-and-death struggle with a natural intent of maintaining viable populations and a natural balance and hence continuity. This is incomprehensible by man.

Between June and October the herds of the survivors totalling 1.4 million beasts arrive in the Massai Mara in the Kenyan side of the Greater Serengeti ecosystem, filling the air with the dust cloud of movement and noise. To the young calves who have never been here before, the green plains and the sweet waters of the Mara ecosystem is a dream come true. It is their promised land after the great dangerous trek through draughty conditions and the dangers of all the enemies and barriers along the way. The grass of the Mara plains nourishes them - until the arrival of the November rains, calling them back south again.

The migration is an epic of life and death, an incredible display of nature at work. Of all the calves born in the Serengeti, two out of three will never return from their first and most demanding migration. It is the inextricable binding of renewal and sustenance, feast and famine, life and death that makes the Great Migration one of nature's greatest wonders. The cyclical movement of the herds bring sustenance to the predators and life to the vegetation. In November, the beginning of the wet season, these animals complete the cycle, and return to the

Serengeti Plains. Here they exploit the young growing grass rich in minerals. Note that the two journeys have different challenges. Can you identify them?

In February/March one of wildlife's most amazing occurrences take place. For 3-4 weeks, 90% of the female wildebeest give birth, flooding the plains with thousands of newborn calves, estimated to be about 8,000 births a day. This synchronised birthing is a strategy for increased survival of the calves. Since the young are at their most vulnerable in the first month or so of their lives, the chances of being killed are much lower for each calf if they are all born within a short period. Calves born outside of the synchronized birth period seldom survive. The wildebeest may remain on the plains for several months, where they share these productive grasslands with migratory zebra, Thomson's gazelle and eland, as well as the many residents including the Grant's gazelle, topi, and hartebeest.

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## **MAASAI MARA**

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Blessed with an astounding concentration of animals, and panoramic vistas across plains and dotted woodlands, the Maasai Mara provides an unrivalled experience. As the northern extension of the great Serengeti grassland, the reserve is host to the annual migration of over a million wildebeest - the most awesome wildlife spectacle on planet earth.

Covering an area of some 1.500 square kilometres in the south-western corner of Kenya, the Maasai Mara is unfenced, but bordered in the west by the Oloololo Escarpment and in the east by the Ngama Hills. Under Kenyan law, the Maasai people own the land and earn revenue from visiting guests. In Maa, the

common language among Massai clans, the word mara means 'spotted' - referring to the clusters of bush which dot the plains.

A living tapestry of grassy savanna, spreading thorn trees, rounded hills and tall gallery forests, this feast of wildlife draws photographers and visitors from across the globe. In addition to the wildebeest and hordes of zebra which join them in their annual pilgrimage to the ever-changing pastures, the Massai Mara supports Lion, Cheetah, Elephant, Kongoni, Topi, Thomson's gazelle and the Waterbucks, as well as eight species of primate.

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## THE NGORONGORO CRATER LOCATION

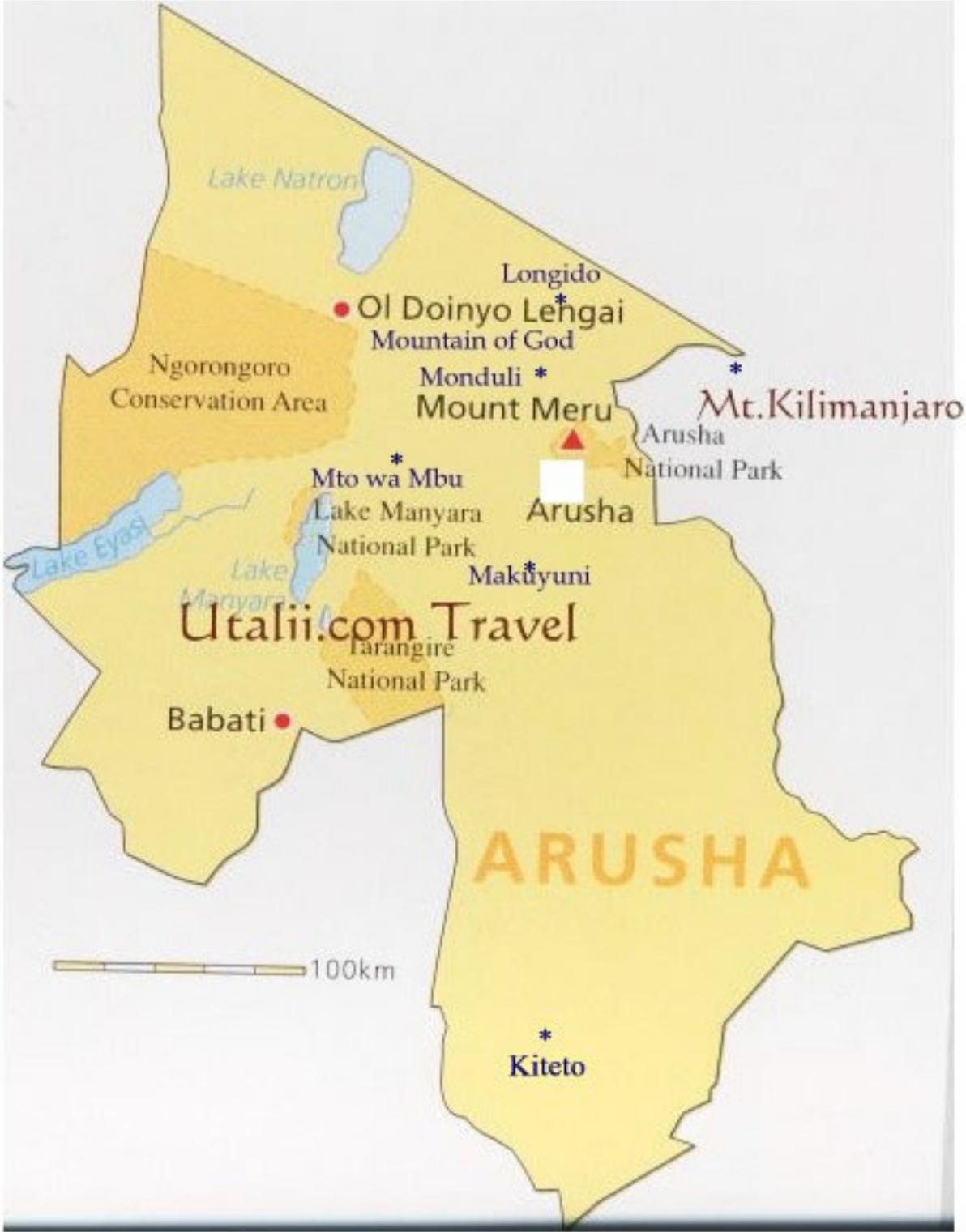
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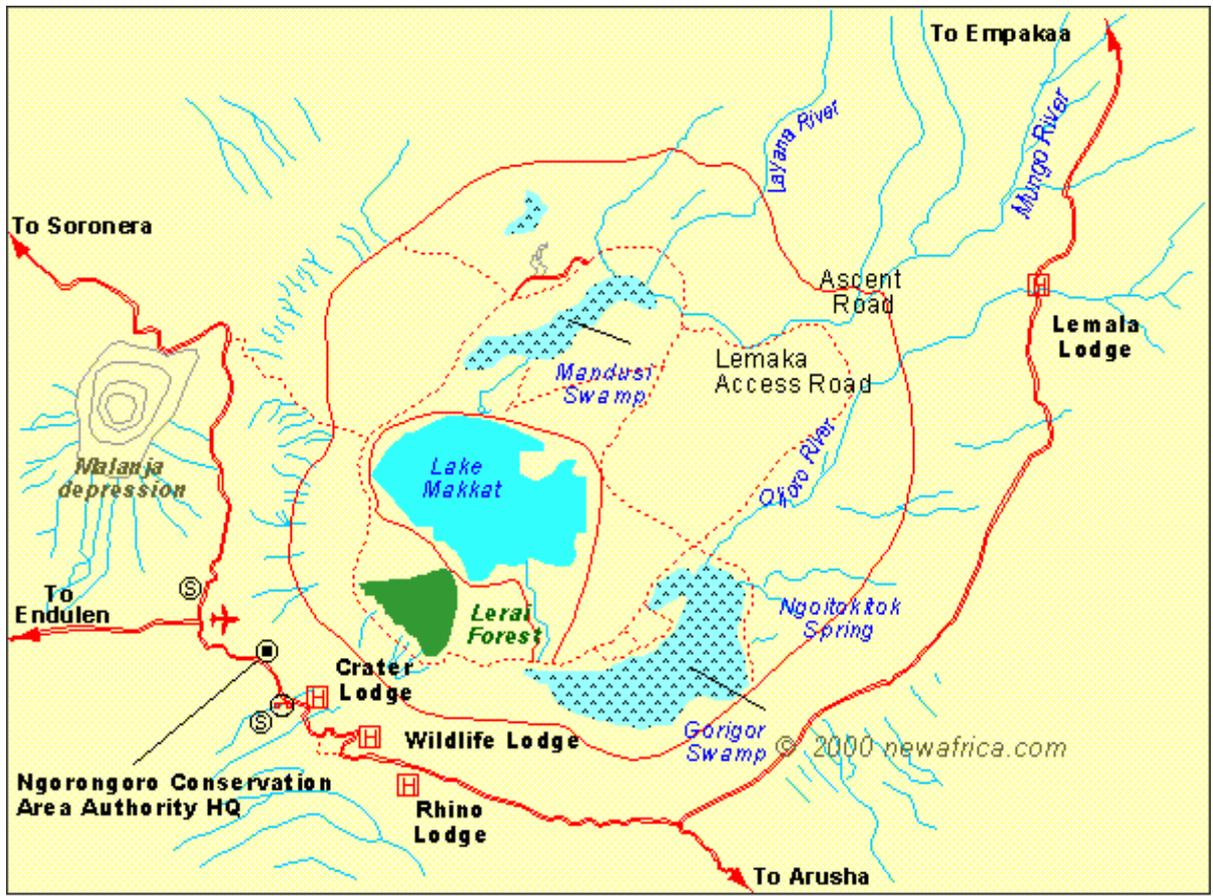


The Ngorongoro Crater, conserved as part of the greater Ngorongoro Conservation Area, is located in Northern Tanzania, west of the rift valley which runs from Red sea to lake Nyasa in southern of Tanzania. The entire area covers about 8,292Km<sup>2</sup> and stretches from Lake Natron on the North West to Lake Eyasi

in the South and Lake Manyara to the East. The area includes the still active Ol-Ndoinyo Lengai (Mountain of God-In Maasai Language) volcano, Olduvai Gorge and the Ngorongoro Crater which occupies only one tenth of the entire conservation area. The Ngorongoro Crater, is one of the Africa's best known wildlife-viewing areas and one of Tanzania's most visited sites. At about 20 km wide, it is also one of the largest calderas in the world. The maps below show the geographical location and more detailed site maps of the Conservation area of Ngorongoro and the Serengeti National Park, as well as the other Tanzanian Conservation areas.







Legend			
	Park HQ		Lake
	Lodge		Forest
	Shop		Swamps
	Airstrip		Park boundary
	Foot Path		Rivers.
	Main road		
	Road		

  
[newafrica.com/maps](http://newafrica.com/maps)  
 Scale 1:127,000

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## HOW THE CRATER ECOSYSTEM CAME ABOUT

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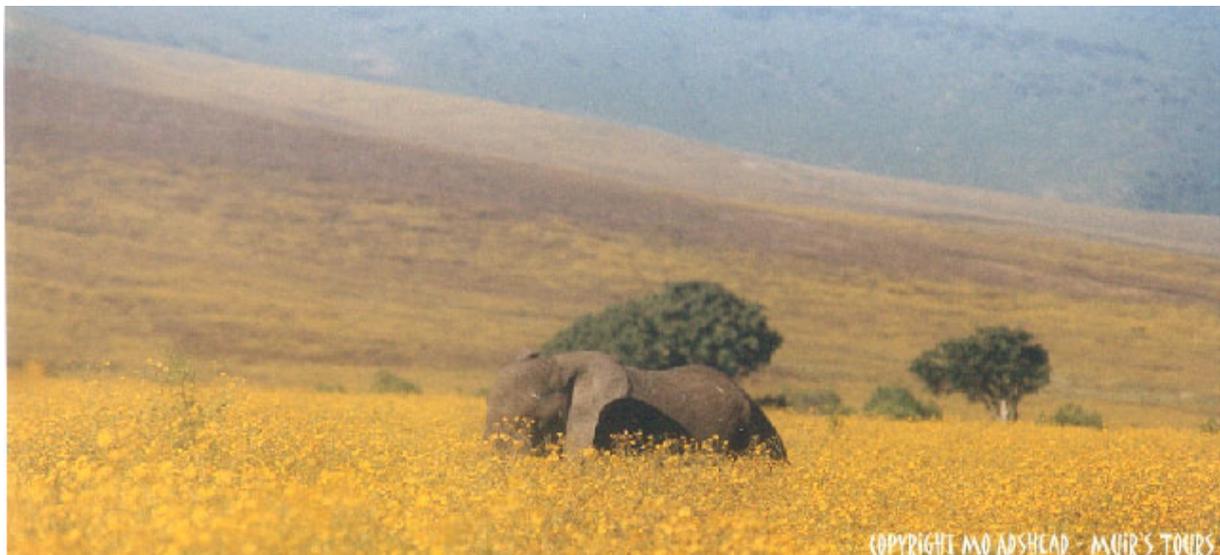
The famous Ngorongoro crater, was once a gigantic volcano, perhaps taller than the Mt. Kilimanjaro. When the volcano collapsed, a vast bowl known as a caldera was formed. Measuring about 20kms in diameter, 600 metres deep and about 300 sq kms in area, looking like an amphitheatre with 500-600m steep walls.

### *THE CRATER FLOOR*



The crater is a unique functional ecosystem with all the structural and functional elements expected in any large protected area. The floor is covered with Grass, Acacia trees, lakes and swamps supporting over 25,000 animals, predominantly grazing animals, including some of Tanzania's endangered black

rhino. Lake Makat, fed by the Munge River is a soda lake and a magnet for flamingos and other water birds which come here to feed. The animals are free to leave or enter the crater driven by the nature's cycles that dictate the climatic changes and the food availability associated with it. Most animals however remain in the crater floor throughout the year because of the plentiful water and food availability on the Crater floor. The impressive assemblage of wildlife within the caldera makes the Crater one of the wonders of nature, dubbed "the eighth wonder of the world" and likened to the Noah's Ark in its preservation of diversity.



*An Elephant grazing on the crater wall*

The four major habitat types on the crater floor are:

### ***Grassland***

Open grassland covers most of the crater floor and feeds most of the 20 000 large grazing animals mainly wildebeest, zebra, buffalo and gazelle and many smaller ones such as mice and grasshoppers. These support the predators such as lion, hyena and smaller ones such as jackal and birds of prey.

### *Lake Makat*

This soda lake is filled by the Munge River and the great attraction is the thousands of flamingos and other water birds which feed here.

### *Swamps*

Most of the large animals depend on swamps for fresh water and reserve food supplies. Elephants feed on the giant sedges and hippos wallow in the pools.

### *Lerai Forest*

"Lerai" is the Masai word for yellow barked acacia or fever tree. The small forest patches on the crater floor, are home to monkey, baboon, bushbuck, waterbuck, elephant and rhino.

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## **NGORONGORO CONSERVATION AREA (NCA)**

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The Ngorongoro Conservation area has one of Africa's largest wildlife conglomerations. It is also home to a small and isolated relict of the black rhino population which was once a common and widespread group across southern and eastern Africa.

The NCA has palaeontological and archaeological sites over a wide range of dates. The four major sites are:

- Olduvai gorge,
- Laetoli site,

- Lake Ndutu site,
- and the Nasera Rock Shelter.

The variety and richness of the fossil remains, including those of early hominids, has made Ngorongoro one of the major areas in the world for research on the evolution of the human species. Olduvai Gorge has produced valuable remains of early hominids including *Australopithecus boisei* (Zinanthropus) and *Homo habilis* as well as fossil bones of many extinct animals. Nearby, at Laetoli, fossil hominid footprints of Pliocene age have been found.

### ***CONSERVATION MANAGEMENT***

The Ngorongoro conservation area was first established as a conservation area to accommodate the displaced Maasai after the establishment of the Serengeti National Park. The Ngorongoro Conservation Area Ordinance of 1959 created the Ngorongoro Conservation Area Authority (NCAA) which was charged with ensuring multiple land use of the area to assist in conserving and developing the areas natural resources, and promoting local interests. This however failed to function due to lack of understanding between government officials and the Maasai people. After independence in 1961, the Tanzanian government conducted a pioneer experiment in multiple land use (one of few such areas in Africa) which attempted to reconcile the interests of wildlife, Maasai pastoralists, and conservation. The 1975 Ngorongoro Conservation Area Ordinance stipulates the objectives of the areas as:

- the conservation and development of the NCA's natural resources;
- the promotion of tourism;

- and the safeguarding and promotion of the interests of the Maasai.

Long-term conservation of the area has been supported by

- the assessment of the land use pressures in, and adjacent to the conservation area;
- determining development needs of resident pastoralists;
- reviewing and evaluating management options;
- formulating conservation and development policies to fulfil the needs of both local Maasai people and conservation priorities;
- and to develop proposals for follow-up activities.

Some animals, such as buffalo, wildebeest and zebra migrate out of the crater during periods of drought and considerable effort is being made to prevent the migration routes from being encroached upon by settlements and agricultural developments. The contiguous and nearby protected areas provide key feeding grounds for a number of species that migrate seasonally, for example wildebeest, zebra and Thomson's gazelle.

Within its borders are a variety of animals and vegetation, including grasslands, swamps, forests, salt pans, and a freshwater lake. One is likely to see lions, elephants, rhinos, buffalos and wildebeest, as well as a Thomson's gazelle, zebra or thousands of flamingos wading in Lake Makat, the soda lake at the Crater's base. Unlike many protected areas in the Savannas, the Ngorongoro is managed in such a way that certain human settlements and activity are permitted so that the wild animals don't have the crater all for themselves.



*Local Maasai tribes have grazing rights and may be seen tending their cattle in the crater.*



*Maasai grazing his livestock on the crater wall*

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## **CONSERVATION AND SOCIAL ECONOMIC DEVELOPMENT IN AND AROUND NGORONGORO CRATER**

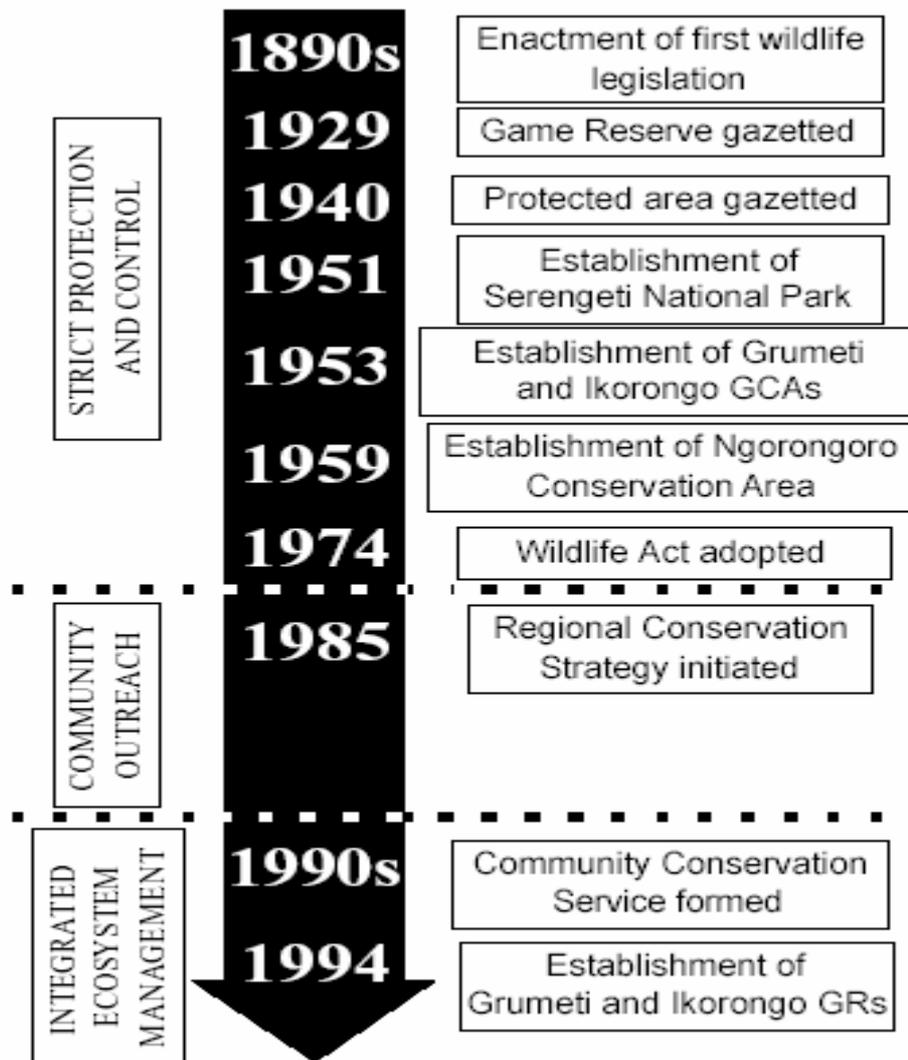
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The Ngorongoro crater and its associated Ngorongoro Conservation Area forms a part of the Greater Serengeti ecosystem comprising of the crater, the Serengeti plains and the Maasai Mara. The GSE is one of the most diverse and species rich protected ecosystems in Africa, yet under severe threat from a wide spectrum of human caused problems ranging from tourism, land uses, culture deterioration, poverty of its associated communities and inadequate planning and management practices.

### ***HISTORY OF CONSERVATION AND MANAGEMENT APPROACHES IN THE GREATER SERENGETI***

The Serengeti has been subject to a long and varied history of externally imposed wildlife management regimes, starting as early as the last century.

The diagram below shows three distinct phases of these regimes which have characterised wildlife management activities in the ecosystem. Through this time there has been a shift from the Grzimek principle of authoritarian, state-controlled and exclusiveness conservation approach (protectionist model) to approaches which recognise and permit at least some degree of community participation and benefit sharing in wildlife management.



*History of the management regimes in the GSE (EMERTON & MFUNDA 1999)*

### ***ISOLATIONISM AND PROTECTIONISM***

Beginning 1890 onwards, the German and British colonial administration enacted the first and longest phase of conservation activities which commenced with a series of legal instruments aimed at protecting the rare wildlife species and habitats in the Serengeti ecosystem. Wildlife management up to 1961 was based on the expansion of the national wildlife estate and on restrictions on human utilization of land and resource in the protected areas. During this period a number

of protected areas within the Serengeti ecosystem have been established. These include the Serengeti National Park, declared a national park in 1940, Ngorongoro Conservation Area, as well as Grumeti and Ikorongo which were designated Game Controlled Areas. Conservation approaches, during this period, were based on strict protection and control, following an island mentality of “isolation from surrounding communities” policy (MNRT 1985). The main focus of the policy was wildlife protection and policing. Interactions between wildlife authorities and local communities consisted mainly of law enforcement operations such as anti-poaching patrols and the eviction of resident human settlers. The local residents had no direct benefits from the wildlife earnings, despite the disturbance of reallocation or crop and livestock destruction by the wild animals.

On the Kenyan side of the Ecosystem, other developments were taking place. Out of the 5560km<sup>2</sup> , a 1680km<sup>2</sup> Maasai Mara National Reserve, was gazetted in November 1974 leaving the rest of the ecosystem, surrounding the reserve to be subdivided into private ranches for wildlife and livestock owned by wealthy Maasai clans and influential political personalities.

### ***MULTIPLE LAND USE AT NCA: AN HISTORIC EXPERIMENT TO BALANCE MAN AND NATURE IN AFRICA***

The multiple land use philosophy in the area is to maintain the peaceful co-existence of human and wildlife in a natural and traditional setting. Pastoralism, conservation of natural resources and tourism are the three, main components that are given equal consideration in policy shaping decisions. The NCA aims for the historic balance of people and nature in a way which has not been possible in many parts of the world. At stake are the rich biodiversity and ecology of the Serengeti Plains and The Ngorongoro Highlands, the major palaeontological and

archaeological sites and important water catchment areas. Tourism is a vital element in raising revenue and has been encouraged and developed with a respect for culture and without damaging the environment. Man and his ancestors have lived in the Ngorongoro eco-system for more than three million years. By careful research and continuing management, the fragile balance between man and nature will be successfully maintained.

Maasai pastoralists arrived in the area a few hundred years ago. Their strong traditional customs and way of life allow them to live in harmony with the wildlife and the environment. Today there are approximately 5200 Maasai living in the NCA with their livestock. Being herders of cattle, goats and sheep, their semi-nomadic life depends on accessible water supplies. Their seasonal homes, known as bomas, are scattered throughout the landscape and are rebuilt upon return from the dry or wet season quarters.

Some Engangs (villages) are designated 'Cultural Bomas' and offer visitors the chance to learn about the Maasai culture and to buy a variety of handicrafts. Such cultural tourism also encourages residents to share their values with the outside world and provides them with direct financial benefits. The Longido Village is one such cultural village.

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# TOURISM AT THE NGORONGORO AND SERENGETI

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## *GENERAL INFORMATION*

Tourism is a relatively new social activity that has recently emerged as a global economic phenomenon in which travellers are trading in over-commercialised mass tourism for recreation, amusement and new cultural and nature-based experiences all generating the much-needed revenue and employment for the regional governments. In many African countries tourism is the second foreign exchange earner to agriculture and is therefore a very desirable economic activity. It therefore plays an important and positive role on the social-economic and political development by boosting the economies and offering new employment opportunities on one hand, and contributing to broader cultural understanding by the creating the awareness through the integration of the foreign cultures and lifestyles to the local people way of life. Tourism may therefore be described as the “Green Gold” of the Greater Serengeti residents. The reality on the ground is however be left for the visiting tourist to find out.

The Ngorongoro Crater can be visited at any time of year. During the months of April and May it can however be extremely wet and the roads difficult to drive on. Access to the crater floor may also be restricted at this time due to bad weather.



*Access to the crater floor may be difficult during the wet months*

## ***EFFECTS OF TOURISM ON THE PROTECTED ECOSYSTEM***

Tourism relationships with the environment are complex. Irrespective of the degree of planning and efficiency in management, tourism will always produce impacts that can never fail to produce negative effects on the ecology of the conservation area concerned. The only way tourism can have zero impact on an ecosystem like the Ngorongoro Crater is to remove it out of the area all together (One must be careful not to say this in the hearing of any government officer or hotel manager). Every touristic activity has the effect of reducing the environmental quality as indicated by:

- The resulting pressure on the resources

- Generation of wastes and the ensuing pollution, eutrophication
- Disturbance and the subsequent harm to wildlife / corresponding habitats
- animal, plant and mineral selection (souvenirs)
- Trampling, soil erosion, biotope degradation
- Import of alien species
- Increasing cultural erosion



It should also be noted that the effects of tourism on some aspects of the ecosystems are very intrinsic to the affected organisms, making it difficult to predict. The impacts of the disturbances by tourism do not also remain only within the boundaries of the protected areas in question. The dynamism of those areas maintained by a constant exchange of energy and materials between them and their surrounding regions result in a wide spread of those impacts over a wide area.

### ***Tourism causes Fragmentation***

The main internal problem of the conservation area is the fragmentation of the inter-connected mini-ecosystems and/or habitats by tourist traffic infrastructure. Fragmentation of populations leads to decreased effective sizes of local sub-populations and reduced gene flow among the fragments. As a consequence, the coalescence times (time to the most recent common ancestor) become shorter within sub-populations. This increases inbreeding, reduces the level of genetic variation and causes inbreeding depression in small declining populations that have maintained harmful recessive allelic variants. This may be the case with the lions at the Ngorongoro Crater. Species vulnerable to habitat loss often are involved in a multiplicity of complex interactions with other species. Fragmentation and habitat loss can therefore alter the strength of interactions, and destabilise food web links.

The resulting isolation of habitats does not only lead to increased genetic depression of populations but also inhibits the essential dispersal movements of populations and individual animals. Fragmentation is not only a linear disturbance of ecosystems, because of building barriers, but is also of a gradual interference from the source of the disturbance into the wider spatial context around it, known as edge effect. This edge effect continuous itself as a disturbance gradient into the landscape. If the number and extent of trails and roads in a protected area exceeds a specific limit the whole area is actually under a gradual disturbance regime, which could mean a total unsuitability of the whole area for sensitive species.

Having a relatively flat landscape, with few hills, river valleys and forests, the crater floor like is the case with the entire Serengeti ecosystem, presents an optimum surface for tourist drivers to easily drive off road in pursuit of animals. You are likely to experience this in your own tour of the Ngorongoro. Check on it!!

### ***Tourism leads to Soil Compaction and Erosion***

Both vegetation and soil loss as a result of trampling and compaction of soil by motor vehicles is taking place in the protected areas. Compacted soil changes its texture and structure which eventually changes its ecology. Apart from compaction, the created track paths present open areas for run-off water during rainfall and may in the long run result into severe gullies that do not only encourage soil erosion but may form barriers for animal movements. Increased tourist facilities in the protected areas is therefore causing both the loss of naturalness and the scenic beauty of the protected landscapes.

### ***Tourism has direct harm to wildlife***

Noise from vehicles and people, low flying aircrafts and balloons is a major source of disturbance to the wildlife. The accompanied infrastructure built to accommodate the tourist transport and accommodation needs, which include the roads, hotels and power systems often mean drastic changes in the landscape scenery and its associated aesthetic qualities with further consequences in the structure and function of the ecological systems. In her study MUTHEE (1992) observed that the hunting and feeding behaviour of some wild animals like cheetah and lion was grossly disturbed by the constant presence of vehicles.

Animals have their diurnal and seasonal cycles like hunting for food, resting, mating and breeding. These habits and cycles are coming into constant interference from the tourists who are ignorant of them (GAKAHU 1992). Animals could also be affected by diseases accidentally imported from the tourists home countries or from the garbage left behind. Diseases like animal Tuberculosis that killed large populations of lions and buffalos in the Kruger National Park (South Africa) were

imported from the European lands. The consequences of direct disturbances for population dynamics, reproduction success and behavioural ecology are not easy to predict.

### ***Tourism causes in-direct Harm to Wildlife***

Lodges have garbage and sewage disposal problems. Garbage attracts carrion-eaters such as hyenas, baboons, velvet monkeys and marabou storks. This may also influence the food chain relationships as some animals, like the monkey, are drawn out of its natural habitats and create new niches near the tourist lodges and camps. This affects their role as seed dispersers and therefore affects other ecological processes in the landscape.

### ***Tourism and Conservation: A Shotgun Marriage?***

Due to the attractiveness and uniqueness of both the Serengeti and the Ngorongoro area, the mass tourism they both attract can best be described as a necessary evil to both the ecosystem and the area residents. Its relationship with the conservation area environment may be described as a shotgun marriage between conservation and recreation, in which both parties are somewhat interested and at the same time "inconvenienced" by the other.

Despite the multiple land use policy in the NCA, the management of most of the Greater Serengeti protected areas is to a large extent based on protecting those large charismatic mega faunas for trophy and tourism purposes. The 'hard-line exclusionist' command and control approach which exclude the local people from most of the Greater Serengeti Ecosystem are designed basically to ensure safety for the tourists entering those areas than to protect the ecology of the area.

In the long run the protected area is severely damaged by the impacts of the mass tourism. The irony is that the indigenous rightful inhabitants of those areas, who have harmoniously co-existed with other components of their ecosystems for many centuries, are thrown out as an "alien species". The tourist and his machines (motor vehicles, aeroplanes and balloons etc,) who has no long term interest in the area are allowed in. The 'hard-line protectionist' approaches to conservation thus succeeds only in protecting the use of the Savanna landscape resources from their rightful owners only to expose it to the excessive "rape" by the so called resource managers and the pleasure seeking tourists whose only interest is the short term romance and love of nature's serenity and healing, away from the noise and stress of routine work. This kind of management and its associated tourism may in no time become the demise of destruction, by "loving to death", the very resources and landscapes it so much seeks to conserve/enjoy.

It is only the tourist with love for nature, on the ground at the Ngorongoro Crater, who can be able to describe the moral responsibility of the local area managers, the tour guides and the tourist himself to the crater's ecology and the local human social economic and infrastructural well being.

Some useful questions one could ask while on the ground at the Ngorongoro are:

- What is the annual tourist's turn over in the region?
- What is the annual income from the tourism and other resources in the area?
- Are the lodges and other tourist infrastructure owned by the local residents?
- Does the annual income from tourism reflect the areas social economic development?
- How are the resources from tourism and anther resources ploughed back into the area to sustain the ecosystem and the social life of the inhabitants?

- Why do the local residents engage in poaching?
- What can best be done to promote the Ngorongoro ecosystem and its associated social cultural and economic life of its inhabitants?

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## APPENDIX

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*Auszug aus DVD: Schätze der Welt – Erbe der Menschheit, Afrika Naturparadiese*

*(Jens Drückers), zu beziehen über den SWR Shop: [www.swr-shop.de](http://www.swr-shop.de)*

*Originaltext übertragen und bearbeitet*

### **NGORONGORO - DER KRATER NOAHS**

*Naturdenkmal: 8288 qkm Naturschutzgebiet, Ngorongoro-Krater mit einem Durchmesser von 16 bis 19 km einer der größten, nicht "gefluteten" Krater der Welt.*

*UNESCO-Ernennung: 1979*

*Flora und Fauna: Akazienwälder und Grasland mit Akazienarten wie *Acacia xanthophloea*.*

*Bis zu 4000 Kaffernbüffel, wenige Elefanten und Anubispaviane, 7000 Weißbartgnus, 4000 Steppenzebras, 3000 Thomsongazellen, Löwen, Servale und Schakale, zudem wenige, von der Ausrottung bedrohte Spitzmaulnashörner (11-15 im Jahr 1995)*

*Unter den 400 Vogelarten: Zwergflamingos, Strauße und die bis zu 14 kg schwere Riesentrappe.*

*Wenn die Nebelschwaden von den Kraterhängen des Ngorongoro hinabziehen, bricht ein neuer Tag an. Mit ihm kommen die Tiere: Elefanten, Gazellen und Antilopen, Paviane und Meerkatzen, Löwen und Schakale. Sie alle drängen sich in das Tal des Vulkankraters.*

*In dessen Mitte liegt ein Natronsee, der in der Trockenzeit größtenteils verdunstet. Das verbleibende Wasser scheint rosa, es sind die Flamingos, die hier leben.*



*Flamingos im Makati See*

*Tagsüber treibt der Stamm der Massai sein Vieh den Kraterrand hinunter und läßt es hier weiden. Seite an Seite mit den wilden Tieren.*

*Die Abgeschlossenheit und der Wasserreichtum haben aus dem Ngorongoro Krater ein Land im Überfluss gemacht. Es ist ein Paradies für Wildtiere und eine Arche für bedrohte Arten.*



*Nashörner sind hochgefährdete Arten*

*Jeden Morgen das gleiche Schauspiel, dichter Nebel stürzt vom Rand des Ngorongoro-Kraters 500 Meter in die Tiefe und löst sich kurz vor dem Boden auf. Der Kraterboden ist ein abgeschlossenes Oval von ca20KM<sup>2</sup>. Auf engstem Raum leben hier unzählige Vögel und über 20.000 große Säugetiere. Ein Refugium für viele bedrohte Arten.*



*Makati See und die Krater Löwen*

*Bis in die 70er Jahre siedelten die Massai noch innerhalb des Kraters.*



*Die Maasai sind eine ostafrikanische Urkultur*



*Die Maasai Krieger*

*Aber zuviele Wildddiebe konnten sich unter den Viehzüchtern verstecken und die Massai wurden umgesiedelt. Wer heute nachts im Ngorongoro angetroffen wird, ist entweder ein Ranger oder ein Wilderer. Tagsüber aber treiben die Massai ihr Vieh den Kraterrand hinunter und lassen es dort weiden und trinken. Seite an Seite mit Büffeln, Gnus oder Zebras.*

*Flußpferde gehen tagsüber nur selten an Land. Normalerweise grasen sie nachts und liegen bis zum Einbruch der Dunkelheit faul im Wasser.*



*Flusspferde*

*In der Trockenzeit ist der größte Teil des Sees verdunstet und hat eine weiße Salzfläche hinterlassen. Nur ein Tümpel aus konzentrierter Natronlauge ist übriggeblieben. Flamingos ernähren sich von den Algen und Kleinstlebewesen darin.*

*Hyänen haben bei den Menschen das schlechte Image von Aasfressern, obwohl das in der Tierwelt eine wichtige Aufgabe ist. Außerdem sind sie auch erfolgreiche Jäger. Hyänen leben in großen Sippenverbänden, in denen die Weibchen den Ton angeben.*



*Die Hyänen*

*Auch die Löwen sind gesellige Tiere, und es gibt viele von ihnen im Ngorongoro, vielleicht sind sie hier tatsächlich die Könige, jedenfalls lassen sich andere Raubkatzen nur selten blicken.*

*Fressen und gefressen werden, im Krater scheinen alle wohlgenährt. Die Hyänen, die Löwen, auch die Beutetiere, Zebras, Antilopen, Gazellen, Gnus.*



*Löwen nach einer Mahlzeit*

*Die relative Abgeschlossenheit und der Wasserreichtum haben aus dem Kesselboden ein Land im Überfluß und ein Paradies für Wildtiere gemacht.*

*Auch die notorische Jagdschwäche der Löwen hat hier kaum Auswirkungen. Vielleicht war dieses Weibchen auch gar nicht richtig hungrig...*

*Der Ngorongoro ist Teil und Spiegelbild des großen Serengeti-Ökosystems. Um den Salzsee herum gibt es Grassteppen und Sümpfe, Wälder und Flüsse, Seen und wüstenähnliche Zonen mit Wanderdünen. Fast die gesamte Tier- und Pflanzenwelt Ostafrikas ist hier zu finden.*

*Bis vor zwei Millionen Jahren lag der Gipfel des Ngorongoro noch über 5000 Meter über dem Meeresspiegel. Dann begann er, langsam in sich zusammen zu fallen. Heute liegt sein höchster Punkt auf 2300 Metern. Der Krater liegt in einer geologisch hochaktiven Zone am Bruch der afrikanischen Kontinentalplatte inmitten einer Reihe weiterer Vulkane.*

*Der Lengai, der heilige Berg der Massai. Auf seinem Gipfel erkennt man noch den Aschekegel des letzten Ausbruchs.*

*Der Empakai hingegen hat seine feurigen Zeiten schon lange hinter sich. Sein Krater ist mit Wasser gefüllt, ein Paradies für Vögel.*

*Zwischen Ngorongoro und den unendlichen Weiten der Serengeti liegt die Oldovai Schlucht. Das Paradies für Archäologen und Anthropologen auf der Suche nach den Wurzeln der Menschheit. Schädel des homo habilis haben sie hier gefunden. Und Fußabdrücke der noch älteren Lucy, wissenschaftlich "homo australopethicus". Vor ca. 1,9 Millionen Jahren gingen zwei dieser Vormenschen durch ein Feld von Lavaasche. Kurz darauf fiel ein neuer Ascheregen nieder, bedeckte die Fußabdrücke und konservierte sie so..*

*Der ganze Stolz der Wildhüter und Zoologen im Krater sind die Nashörner. Sie sind nach jahrzehntelanger Wilderei immer noch akut vom Aussterben bedroht, aber ihr Bestand wächst ganz langsam wieder. 13 scheue Exemplare lebten 1996 in den Grassteppen des Ngorongoro.*

*Die Oxpicker sind ihre ständigen Begleiter. Die kleinen Vögel ernähren sich vom Ungeziefer in Haut und Kot der Rhinocerosse und schlagen Alarm, wenn nachts Raubtiere umherschleichen.*

*Die Zahl der Nashörner innerhalb des Kraters reicht noch nicht für eine überlebensfähige Population, aber vielleicht sind die Jungen eines Tages*

*unternehmungslustig genug, sich über den Rand zu wagen und in der Serengeti Partner zu suchen.*

*Auch die Ngorongoro Waldelefanten verlassen den Krater immer wieder, bis auf wenige ältere Tiere, für die der steile Aufstieg wohl doch schon zu anstrengend ist. Pech für die Bäume und ihre Bewohner...*



*Ein Elefant in Protesthaltung gegen Störung*

*So abgeschlossen der Krater von Ngorongoro auch wirkt, es ist ein dynamisches Ökosystem im stetigen Austausch mit seiner Umgebung.*

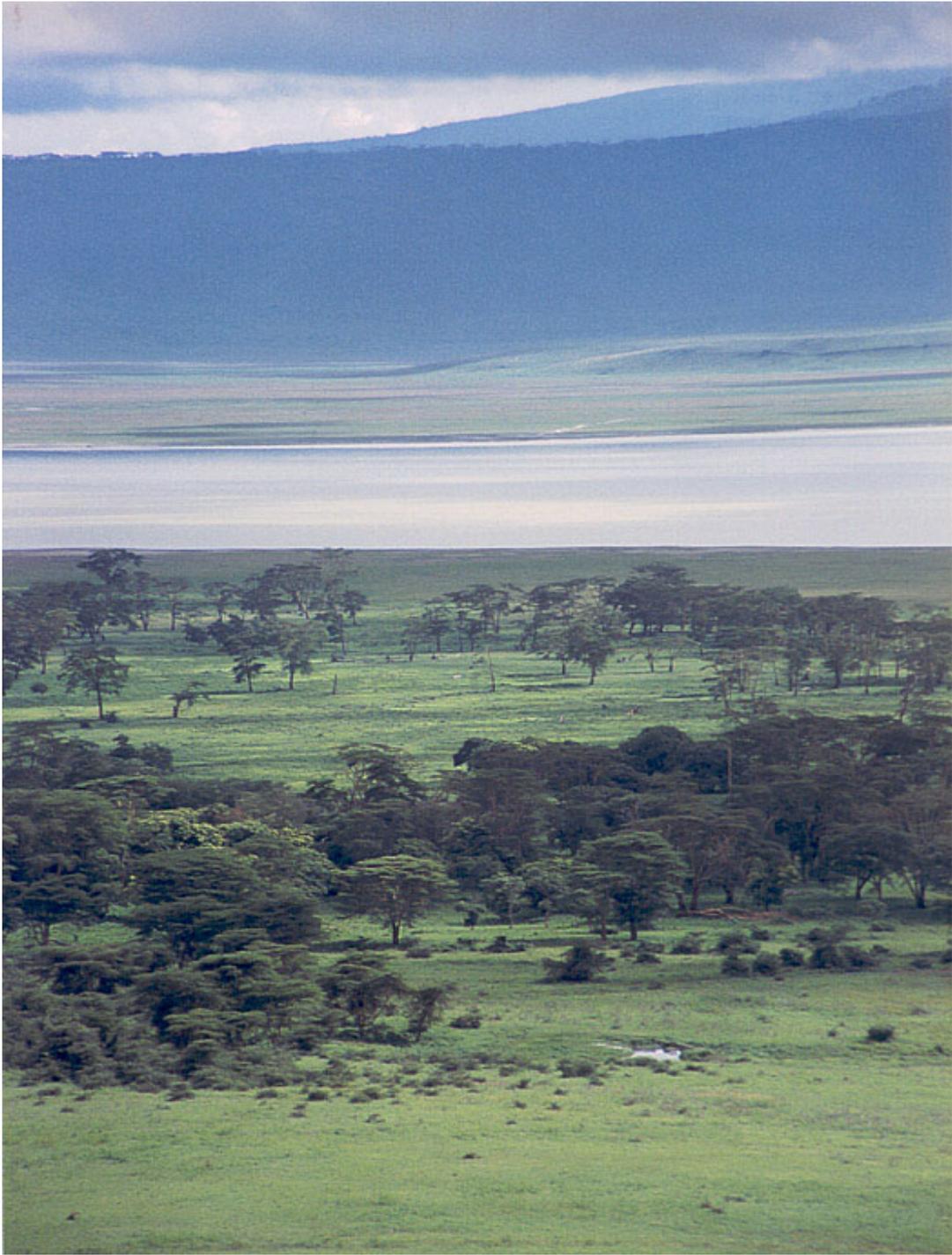
*In der Regenzeit, wenn sich die Wildtiere der Serengeti wieder auf die große Wanderung begeben, werden zigtausende Gnus und Zebras einen Abstecher in den Ngorongoro Krater machen. Sofern ihnen der Mensch keine Zivilisationsbarrieren in den Weg stellt.*



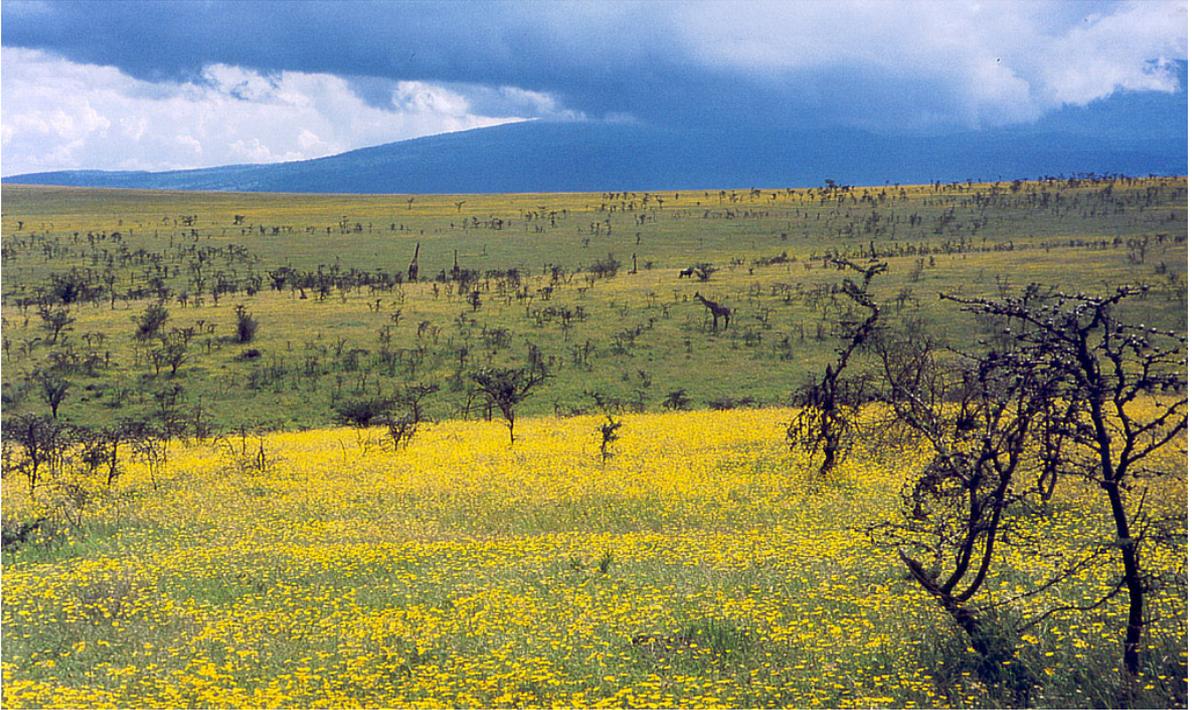
*Weißbartgnus zur Trockenzeit*



*Elephanten vor den Kraterhängen*



*Panorama mit Plain Savanne, Makati See und den Hängen des Kraters*



*Ngorongoro nach der Regenzeit*