



KITULO NATIONAL PARK

GENERAL MANAGEMENT PLAN

2008 TO 2017



	<p>This General Management Plan has been developed through a participatory planning process involving a cross section of Kitulo National Park stakeholders, under the coordination of a Core Planning Team comprising representatives from Tanzania National Parks Headquarters, Kitulo National Park staff, and the Wildlife Conservation Society</p> <p>Planning technical assistance and facilitation was provided by the Department of Planning and Development Projects, Tanzania National Parks</p>
	<p>Logistical support during the planning process was provided by Wildlife Conservation Society</p>

PREFACE

Kitulo National Park (KNP) is situated in Southern Highlands of Tanzania, comprising portions in Iringa and Mbeya Region. It is approximately 412.9 - km² in area. The park generally lies at an altitude of 2,500 – 3,000 metres above sea level that the area is more reminiscent of the Scottish highlands and similar areas in Northern Europe. It is hard to believe that KNP is 8 degrees south of the equator. Vast expanses of rolling upland grassland and rounded (or occasionally knobbly) hills stretch away to the horizon. Locals refer to the Kitulo Plateau as “*Bustani ya Mungu*” (The Garden of God) while botanists have dubbed it the “*Serengeti of Flowers*”, host to one of the great floral spectacles of the world. Seemingly, “Kitulo National Park is the first park in Tropical Africa to be gazetted primarily for its floristic significance”.

Formerly, KNP was designated in the 1960s as a large area by a United Nations Food and Agricultural Organisation Wheat and Sheep Scheme. Eventually after some years, it was decided that since neither wheat nor sheep thrived in the area, then a Dairy Farm was established. However, due to pressure from various conservation groups, the farm, together with parts of the Livingstone and Kipengere Forest Reserves were gazetted into a National Park on the 16th September 2005 (Government Notice 279). TANAPA has been challenged to safeguard the existence of this unique Botanical wonderland together with its biodiversity.

Ecologically, KNP is one of the interesting great flower gardens of the world, with over 40 species of ground orchids alone. Flowers come out in their thousands, making an unparalleled carpet of colour especially from late October until April. The Kitulo ecosystem also serves as an important catchment area for Greater Ruaha River and Lake Nyasa. Until recently, the biodiversity of the whole Southern Highland area was poorly known and assumed to be of limited importance. The newly-described Kipunji (*Rungwecebus kipunji*), discovered by Wildlife Conservation Society in Rungwe and Kitulo is the first new genus of monkey to be discovered in Africa for 83 years, and the first new species for 25 years. On this regard, TANAPA acknowledges the good work done by Dr. Tim Davenport and his staff of Southern Highlands Conservation Programme of WCS based in Mbeya.

The park faces a number of challenges including a lot of disorganized farming which is turning the lower slopes into a mixture of pyrethrum, potatoes and weeds especially on areas outside the park. Other challenges include illegal harvesting of Chikanda, logging, hunting and arson fires. The park is still undeveloped for tourism use and only fewer people visit the park.

In order to address adequately all critical issues and problems identified in the process of preparing this General Management Plan (GMP) a multidisciplinary approach was used to involve different teams of experts and key stakeholders. We are convinced that while preparing this GMP the

dialogue held among the different stakeholders who were involved in the process, was an important step in addressing critical problems facing the Park. This implies that the Chief Park Warden of Kitulo National Park and his/her staff will continue with the same spirit to implement this plan by involving all key stakeholders. You are warmly invited to personally visit the Garden of God or the Serengeti of flowers!

Gerald Bigurube
Director General
Tanzania National Parks

APPROVAL PAGE

The Board of Trustees and the Management of Tanzania National Parks have approved the implementation of this General Management Plan for Kitulo National Park.

Xxxxxxxxxx
Chairman, Board of Trustee
Tanzania National Parks

Date:

Gerald Bigurube
Director General
Tanzania National Parks

Date:

EXECUTIVE SUMMARY

This 10-year (2008-2017) General Management Plan (GMP) has been produced according to the TANAPA Strategic Planning Process. This is the first plan for Kitulo National Park (KNP). This GMP is expected to guide the day-to-day management needs of the Park for the next 10 years.

A participatory planning approach was adopted to develop this GMP, which brought together key KNP stakeholders TANAPA (Headquarters and Park management), Regional Natural Resources Advisor, District authorities, representatives of local communities, scientists, and NGOs. There are no substantive tour operators in Kitulo yet even though individuals are already visiting the park. The process involved a series of specialist working groups and interdisciplinary planning team meetings, which enabled the diverse interest groups to work together constructively, aiming at achieving a sustainable conservation of KNP resources.

The GMP is organized into four major Management Programmes, each of which is aligned with different KNP Departments. These Management Programmes are designed to facilitate plan implementation by building a sense of ownership and accountability for delivering specific components of the GMP in the concerned department. Each Programme consists of a long-term strategy, with management objectives, targets, actions and, where appropriate, management prescriptions for the full 10-years of the GMP. Potential environmental impacts of major Programme actions were evaluated, with mitigating measures identified to reduce, eliminate, or avoid any adverse affects.

A three years action plan was developed for each Management Programme and is designed to be regularly rolled forward and monitored throughout the implementation of this GMP. This will ensure that the GMP remains a dynamic plan, with the required flexibility and responsiveness to changing Park and TANAPA management needs and priorities. It will also help ensure strong linkages between the management actions prescribed by the GMP and the Annual Operations Plans (AOP) to be developed by KNP management.

Park Purpose and Exceptional Resource Values

The Park Purpose Statement summarises the importance of the protected area based on the Exceptional Resource Values (ERVs) of the Park, historical considerations, and prevailing national and TANAPA policies.

In this context, the primary purpose of the Kitulo National Park is:

Park Purpose: To conserve Kitulo’s montane biodiversity and ecosystem services for the heritage and development of the nation through tourism

The fulfilment of the Park Purpose and the maintenance of the Park’s Exceptional Resource Values will be addressed in this GMP through four distinct management Programmes/strategies, described in the following sections:

- ❖ Ecosystem Management Programme/strategy
- ❖ Tourism Management Programme/strategy
- ❖ Community Outreach Programme/strategy
- ❖ Park Operations Programme/strategy

This purpose statement is derived from the Park’s Exceptional Resource Values (ERVs), which have been divided into four categories: Natural, Scenic, Social, and Cultural as indicated in the table below.

Item
Natural
1. Unique montane grasslands
2. Montane/dense bamboo forests
3. Rare, endemic, and threatened flora and fauna
4. Important Bird Area
Scenic
5. Scenic landscape (waterfalls, crater lakes, floral gardens, views, rolling grassland, mountains)
Social
6. Important water catchment area and carbon sink
Cultural
7. Natural and cultural attractions outside the park

KNP Zoning Scheme

The Kitulo Zoning Scheme aims to provide a framework for achieving and reconciling the twin management needs of protecting the natural qualities and environment of the Park and regulating and promoting visitor use. The zones identify areas where similar types and levels of use and management emphases are applied; based on the Park’s Purpose, its Exceptional Resource Values, appropriate Park uses, and management objectives.

The whole of Kitulo National Park covers an area of 412.9 km². For this GMP, the Park has been divided into three zones: the High Use Zone (171.78km²),

Low Use Zone (168.08km²) and the Wilderness Zone (88.06 km²). Where possible the zone boundaries have been designed to coincide with current uses of the area as well as physical features to aid their easy identification on the ground for management purposes.

Management Programmes

The GMP’s four Management Programmes/strategies with their associated responsible Departments indicated in parenthesis are:

1. **Ecosystem Management Programme** (Ecology and Protection Departments)
2. **Tourism Management Programme** (Tourism Department)
3. **Community Outreach Programme** (Outreach Department)
4. **Park Operations Programme** (Protection, Administration and Stores/Works Departments)

The key features of these Programmes are described below:

Ecosystem Management Programme/Strategy

The Ecosystem Management Programme identifies eleven KNP **Conservation Targets** - the ecological components that capture the unique biodiversity of the Park. The Conservation Targets identified for KNP are:

Conservation Targets	Ecosystem Level
1. Montane grasslands 2. Montane/dense bamboo forests 3. Water sources	System
4. Wild flowers	Community
5. Resident and migratory bird species 6. Primates 7. Ungulates 8. Carnivores	Species

The Ecosystem Management Programme aims at ensuring that all KNP resources are conserved through the implementation of strategies designed to reduce specific threats to the prioritised Conservation Targets and to restore the species-level Conservation Targets. In line with TANAPA policy, the Ecosystem Management Program will seek to minimise human impacts on natural wildlife population dynamics. In particular, this will involve ensuring minimum disturbance to the Kipunji until more about its biology is known, and the preservation of migratory bird species and their habitats inside the Park.

The Programme also provides a **framework** for the development of a simple and cost-effective Ecological Monitoring Plan for KNP, based on the Park's Conservation Targets and their key ecological attributes. The Ecological Monitoring Plan developed will enable an assessment of management interventions as well as facilitating adaptive management.

Tourism Management Programme/Strategy

The Tourism Management Programme or strategy aims to provide an outstanding experience for both local and international visitors, optimal economic benefits to the nation, TANAPA, private sector partners and local communities, and minimal impacts on the Park's resource values. A high priority for this GMP will be to offer interpretative and educational services and facilities to visitors who wish to learn about the resources within the Park that contribute to its role in national conservation and environmental strategies. Kitulo National Park contains exceptional biodiversity and many charismatic species of great interest to visitors. Researchers have made significant contributions to the global knowledge of Kitulo biodiversity and its habitats.

One of the main ways of achieving tourism in Kitulo will be the **diversification and dispersal** of tourism activities, especially in the montane grassland and forests in the park, which are presently underdeveloped. In addition, efforts to mitigate visitor impacts will be enhanced through the dissemination and enforcement of the **Code of Conduct for visitors (guidelines)**, which summarizes the park rules and regulations through a few general behavioural characteristics expected of visitors, their tour guides, and drivers.

Community Outreach Programme/Strategy

The Community Outreach Programme aims to enhance the support and collaboration of the communities surrounding the park in order to safeguard the ecological integrity of KNP's resource values. The planned activities to achieve this will include scaling-up the conservation education Programme to all park-adjacent districts, and improving park-community communication and co-operation. Implementation of this Programme will focus on improving the **Support to Community Initiated Projects** (SCIP) scheme.

Park Operations Programme/Strategy

The Park Operations Programme aims to enhance the efficiency and effectiveness of KNP park operations. The GMP problem analysis identified illegal harvesting of Chikanda, hunting, logging and encroachment as the priority management issue to be addressed by this Programme. In response, KNP management will investigate and pilot modern **anti-poaching** techniques; strengthen the Protection Department with the necessary modern equipment and build ranger-local community cooperation and anti-poaching

reward schemes. The park does not have a headquarters complex including staff quarters. The GMP proposes a site for the construction of the office complex and staff houses.

Another priority for this Programme is to achieve best practice in park administration and management systems. The first action to achieve this will be to build the capacity and motivation of the park staff - through relevant training, the provision of better medical services, and improved working environment for all personnel.

3-year Action Plans

This section provides the initial 3-year Action Plans for each of the four management Programmes. These plans provide a clear and consolidated summary of the management actions to be carried out under this GMP, the timeframe on which they will occur, the input requirements, and responsibility for implementation. Where appropriate, each action described under the management Programme has been broken down into a series of **3-year activities** to facilitate the action's implementation and to aid their incorporation into the Park's Annual Operations Plans.

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ABBREVIATIONS AND ACRONYMS

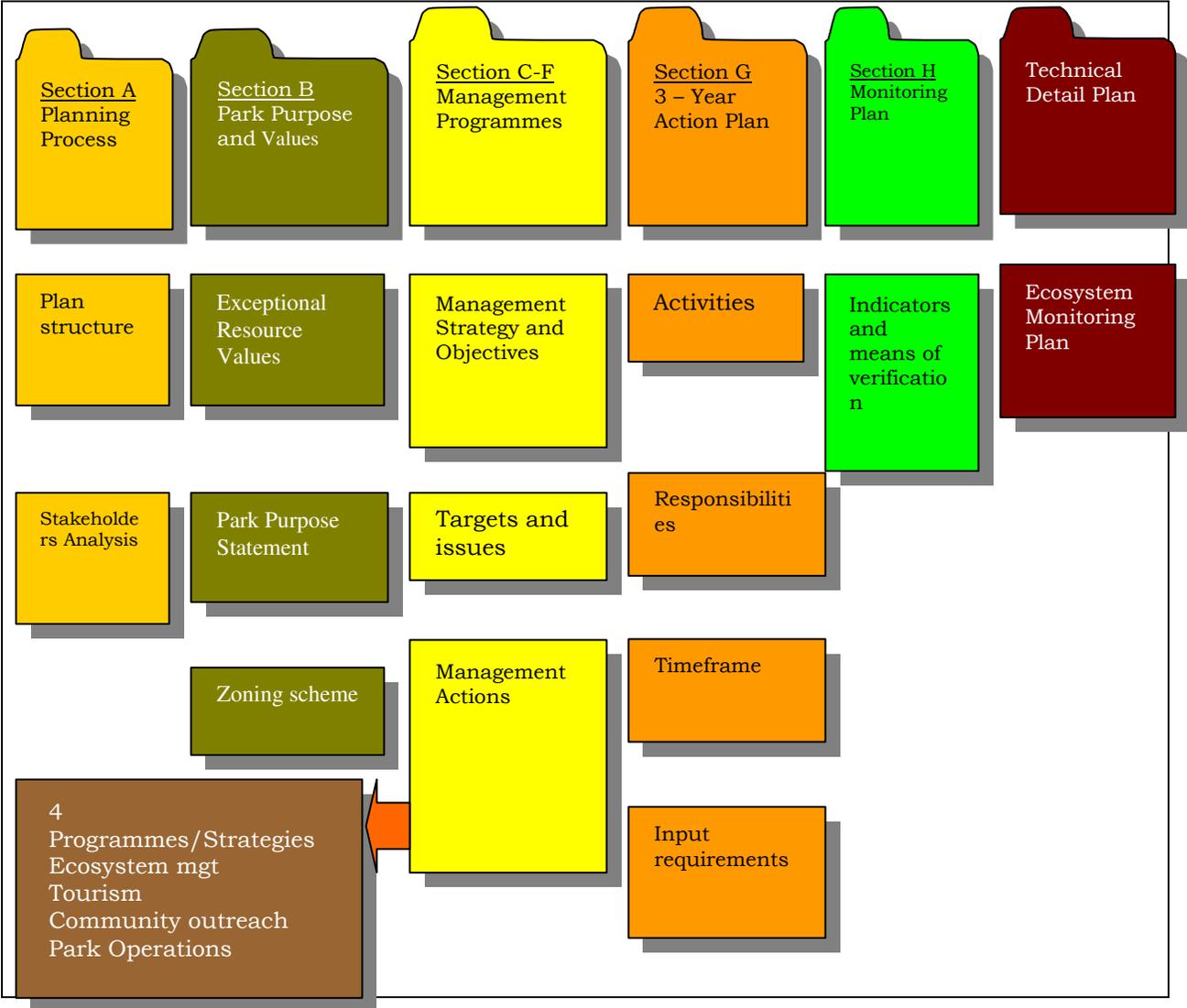
ADM	Administration Manager
AOP	Annual Operation Plan
C/Tech	Civil Technician
CBO	Community Based Organization
CPW	Chief Park Warden
DAFCO	Dairy Farm Company
DALP	Development Action and Lease Procedure
DC	District Commissioner
DNRO	District Natural Resource Officer
DPDPTS	Director for Planning and Development Projects and Tourism Services
EIA	Environmental Impact Assessment
ERVs	Exceptional Resource Values
FBO	Forest and Beekeeping Division
FR	Forest Reserve
GIS	Geographic Information System
GMP	General Management Plan
HIMA	Natural Resource Conservation and Land Use management (Hifadhi ya Mazingira)
HIV/AIDS	Human Immunity Virus/Acquired Immune Deficiency Syndrome
HQ	Headquarters
IBA	Important Bird Areas
IUCN	International Union for Conservation of Nature
KEAs	Key Ecological Attributes
KNP	Kitulo National Park
LFA	Logical Framework Approach
MDC	Makete District Council
MNRT	Ministry of Natural Resources and Tourism
MoU	Memorandum of Understanding
MPDP	Manager Planning and Development Projects
MTS	Manager Customer and Tourism Services
NEMC	National Environmental Management Council
NGOs	Non Governmental Organization
NTFP	Non Timber Forest Products
OPM	Outreach Programme Manager
OPW	Outreach Programme Warden
PA	Park Accountant
PE	Park Ecologist
PEA	Pragmatic Environmental Assessment
POS	Point of Sale
PSO	Procurement and Supplies Officer
PW	Park Warden
PWP	Park Warden Protection

PWT	Park Warden Tourism
RUBADA	Rufiji Basin Development Authority
RUNAPA	Ruaha National Park
SCIP	Support for Community Initiated Projects
SHCP	Southern Highland Conservation Programme
TAFIRI	Tanzania Fisheries Research Institute
TANAPA	Tanzania National Parks
TANROADS	Tanzania Roads Agency
TAWIRI	Tanzania Wildlife Research Institute
TV	Television
UDSM	University of Dar es Salaam
VGS	Village Game Scout
WCS	Wildlife Conservation Society
WCST	Wildlife Conservation Society of Tanzania

GMP structure

The Kitulo GMP follows the adjustments made to the generic GMP planning process and structure that was revised by TANAPA in the Strategic Planning Process Manual (2004). In particular, emphasis has been placed on making the plan more relevant to the day-to-day management needs of Park managers. The plan structure, as illustrated in Figure A.2 below, defines the main sections of the plan.

Figure A.2: GMP structure



Alignment of GMP with Park departments

According to the revised planning process, the structure of the GMP puts emphasis on planning by Management Programme or strategy, rather than by management zones, as in past plans (see TANAPA, 1991 and 1996). These programmes provide the overall long-term strategies, objectives, targets and prescriptions as well as the short-term management actions for achieving the Park Purpose and maintaining the Park's Exceptional Resource Values. The four Management Programmes/strategies for Kitulo National Park are:

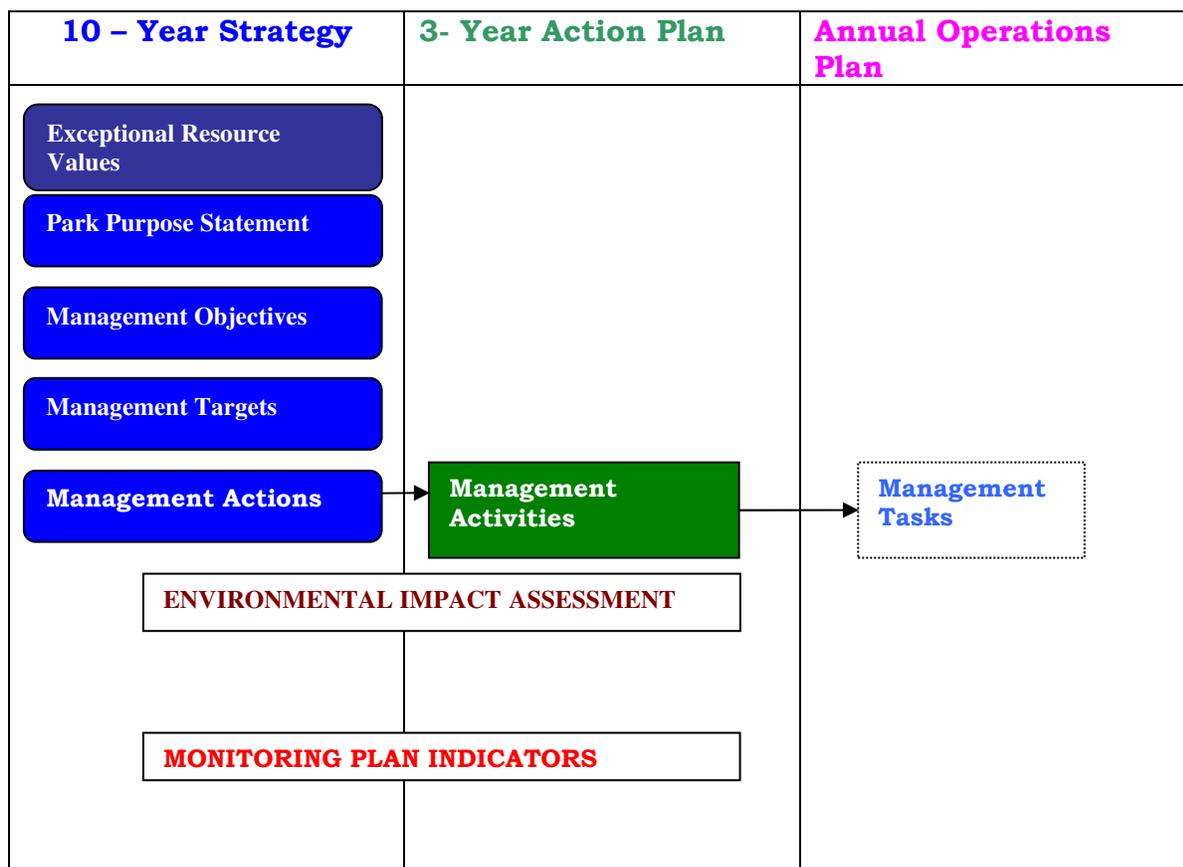
- Ecosystem Management
- Tourism Management
- Community Outreach
- Park Operations

Structuring the GMP into these four discrete programmes will facilitate understanding and subsequent implementation. This is achieved due to the programmes being aligned with different departments in Kitulo National Park such as the Ecology, Outreach, Protection and Tourism Departments. This alignment ensures that the plan can be implemented relatively easily compared to a GMP that is, for example, entirely organized by Park zones. Allocating responsibility for implementing individual Management Programmes to specific Park departments also helps to build a sense of ownership and accountability for GMP success in the concerned department. Finally, Management Programmes also complement the Logical Framework Approach to Park planning (see Figure A.3 over page).

10-year strategic and 3-year action plan structure

General management plans typically have a 10-year planning horizon, with both management strategies (and objectives) and actions established on a 10-year timeframe. The GMP takes a different approach, incorporating both 10-year strategic and 3-year action planning timeframes. This structure ensures that the GMP retains a long-term strategic vision while at the same time providing the required flexibility and responsiveness to changing Park and TANAPA corporate management needs and priorities, such that the GMP remains relevant to the day-to-day management issues and needs of Park management staff. Specifically, the approach aims to ensure that there is a strong link between the actions prescribed by the GMP and the annual operations planning carried out by Park management, which is directly, and crucially, linked to the corporate annual budgeting cycle of TANAPA headquarters.

Figure A.3: The 10-year strategic and 3-year action plan components of the GMP, and the link to annual operating planning



Logical Framework Approach

Another key innovation in this GMP is the application of the “Logical Framework Approach” (LFA). The LFA is now the methodology of choice in development project planning, and provides an efficient, accountable and logical rationale for planning, which will result in a GMP that can be more effectively and efficiently implemented. The GMP is also more easily monitored and evaluated. The main feature of the LFA is the explicit and logical linkages established between the GMP’s 10-year management objectives and the activities in the 3-year Action Plan, and ultimately the management tasks in the Annual Operating Plan.

Stakeholders Analysis

The TANAPA strategic planning process aims to ensure that all National Parks’ stakeholders are given an appropriate opportunity to contribute to the design of the GMP. In this way, the stakeholders are encouraged to take

ownership of the planning process, to ensure that the plan is both realistic and appropriate and that they are committed to its implementation. The planning process was first adopted during the Serengeti National Park GMP that involved a multi-layered approach to participation, and has been tested for the development of GMPs in Mahale Mountains, Gombe, Kilimanjaro, Mikumi and Ruaha National Parks. The objective is to provide an opportunity for as many involved parties (stakeholders) as possible to contribute to the planning process in realistic and appropriate ways.

At an early stage, the KNP Park Core Planning Team carried out a Stakeholders Analysis as a basis for developing a simple participation and communications strategy for the planning process (see Table A.1 below). Stakeholders were assigned to categories according to their anticipated degree of participation in the planning process:

Involve – key stakeholders to be invited to participate in and contribute to the main GMP planning workshops and, as appropriate, the management programme working groups.

Consult – important stakeholders who will be actively consulted during the planning process, and whose inputs may be directly incorporated into the planning process. Consultation will be carried out through one-on-one interviews.

Raise Awareness – stakeholders who should be kept informed about progress in the planning process and given an opportunity to provide feedback, but who do not need to be directly involved or consulted.

No Action – stakeholders for whom there is no immediate benefit in targeting for involvement in the planning process.

Table A.1: KNP GMP Planning Process Communications Strategy

Involve	Consult	Raise awareness	No action
Regional and district governments	District council	Donors (on completion of plan)	Business enterprise
Hotel operators (representation)	Employees	Film makers	Individual benefactors
Local communication (representation)	Local communities	General public	International organizations
DAFCO	Immigration	International communities	Suppliers
Kitulo National Park Management	MNRT	Tourists (through questionnaires)	Tanzania government

Wildlife Division	Tour operators		Tanzania Treasury
TANAPA HQ	NGOs/CBOs		
TAWIRI	Tourists		
CBOs/WCS	Politicians		
Tour operators	Researchers		
Researchers (WCS, WCST, UDSM)	Training institutions		
Mpanga/Kipengere Game Reserve	TANROADS		
FBD	DAFCO		

B

PARK VALUES AND RESOURCES

KNP exceptional resource values

The Exceptional Resource Values (ERVs) are the biophysical features of a national park that are assessed as being especially important to maintaining the unique ecological character and functions of the Park and that provide outstanding benefits (social, economic and aesthetic) to local, national and international stakeholders. The identification of KNP exceptional resource values provides a foundation for formulating the Park’s Purpose Statement, identifying the Park’s management problems and opportunities, and generating management objectives and targets.

The KNP Core Planning Team established four categories of exceptional resource values: *natural*, *scenic*, *social* and *cultural*. Table B.2 below shows the top seven prioritized by the Interdisciplinary Planning Team by category.

Table B.1: KNP exceptional resource values

Item
Natural
1. Unique montane grasslands
2. Montane/dense bamboo forests
3. Rare, endemic, and threatened flora and fauna
4. Important Bird Area
Scenic
5. Scenic landscape (waterfalls, crater lakes, floral gardens, views, rolling grassland, mountains)
Social
6. Important water catchment area and carbon sink
Cultural
7. Natural and cultural attractions outside the park

Natural values

1. Unique montane grasslands

KNP was originally identified by TANAPA as a new park because of its key montane grassland. In fact, not only is Kitulo the largest montane (or plateau) grassland in Tanzania, but also this habitat type has been identified by the United Nations Environment Programme as Tanzania’s (and Africa’s) most threatened and rarest habitat type. In addition, the montane grassland has considerable biogeographical significance displaying many of the ecosystem properties more associated with temperate Southern Africa. The montane

flowers, especially the terrestrial orchids much prized for *Chikanda* in Zambia, are world famous. This key Southern Highland habitat is recognized as an important centre of endemism for montane flora and fauna.



Photos by T. Davenport/WCS

2. Montane/dense bamboo forests

Whilst differing greatly from the adjacent grasslands, the montane and bamboo (*Synarundinaria alpina*) forest of the former Livingstone Forest Reserve and the montane and East African Cedar (*Juniperus procera*) forests of the former Numbe Forest Reserve (now both part of KNP) are important components of the local and national landscape. These are some of the most substantial ‘alpine’ bamboo forests in Tanzania, and the montane and upper montane forest, now increasingly rare across the nation, is of considerable bio-geographical, biodiversity, cultural and ecosystem service significance.

3. Rare, endemic and threatened flora and fauna

Until recently, the biodiversity of the whole Southern Highland area was poorly known and assumed to be of limited importance. However, since 2000, research especially by the Wildlife Conservation Society (WCS) has demonstrated that the area is not only biologically diverse but of great international conservation significance in terms of its rare flora and fauna. Species lists of the plants, mammals, birds, reptiles, amphibians, fish, butterflies, moths, and dragonflies are almost complete and will be published and available in



2008. However, amongst these, there are many highlights. The newly-described Kipunji (*Rungwecebus kipunji*), discovered by WCS in Rungwe and Kitulo is the first new genus of monkey to be discovered in Africa for 83 years, and the first new species for 25 years. A recent census has shown that it is probably the rarest monkey in Africa, and one of the world's 25 rarest primates. It will soon be categorised by the IUCN Red List as 'Critically Endangered'. Similarly, the Rungwe Galago (*Galagoides sp. nov.*) a bush baby recently discovered by WCS is also listed as one of the world's 25 rarest primates. Meanwhile, Abbott's Duiker (*Cephalopus spadix*) is Africa's largest and rarest forest antelope, and is a Tanzanian endemic, known from just five sites in the country. Across the vertebrates, from mammals to birds, amphibians, reptiles, and fish, there are rare and threatened species, including many that are endemic to Tanzania or the Southern Highlands.

As one example, the Rungwe-Kitulo landscape is home to seven species of chameleon (one just discovered by WCS in 2007), four of which are endemic to Tanzania, and a further two endemic to southern Tanzania and northern Malawi. Even the invertebrates show rare and endemic species. For example, one species of butterfly (*Neocoenyra petersi*), found only on a small part of Kitulo Plateau is considered to be one of the rarest in the world. Regarding the plants, as mentioned above, the plateau is of huge international importance and is home to a range of restricted-range species of mountain flower, including four species found only on Kitulo Plateau and many more found only in the Southern Highlands.

4. Important Bird Area



Photo by T. Davenport/WCS

The Kitulo Plateau has been formerly recognised as one of Tanzania's "Important Bird Areas (IBA)". This is by virtue of a range of rare and restricted-range species that include, Uhehe Fiscal, Kipengere Seed eater, Njombe Cisticola, Blue Swallow, Mountain Marsh Widowbird, Lesser Kestrel, Denham's Bustard, Black-colored Cisticola and Short-tailed Pipit. This IBA lies within a bigger "Endemic

Bird Area" that covers both the Eastern Arc and Southern Rift mountains of Kenya, Tanzania and Malawi.

Scenic Value

5. Scenic landscape (waterfalls, crater lakes, floral gardens)

The landscape that encompasses KNP exhibits considerable beauty and diversity. The unique plateau grassland rolls across dozens of square

kilometres and reaches as high as 2960 metres. In the wet season, it is responsible for one of the world's great floral spectacles when every few weeks a new suite of mountain flowers blooms across the landscape. It has been called the Serengeti of Flowers and *Bustani ya Mungu* (God's Garden). This expansive plateau sits on the Ukinga Ridge above Unyakyusa and offers stunning views of Mt Rungwe, the Kyela Valley, and even Lake Nyasa and Umalila in the distance. Malawi's Nyika Plateau can even be seen on clear days. Below the escarpment and dropping down from 2600 to 1700 metres are the rich and steep montane and bamboo forests of the former Livingstone FR. Elsewhere, there is one of the country's few remaining East African Cedar (*Juniperus procera*) forests in Numbe Forest in the northeast corner of KNP. Being a mountain landscape, and amidst Tanzania's wettest region, water is everywhere, from crystal clear rivers to deep crater lakes and stunning waterfalls.



Photo by T. Davenport/WCS

Social Value

6. Important water catchment area and carbon sink

Kitulo National Park (KNP) sits on the Southern Highlands watershed of the Uporoto-Kipengere-Ukinga Mountains. As such, its habitats feed important river catchments that flow both to the north and to the south. Kitulo's plateau grasslands contain montane marshes, which are one of the original sources of the Great Ruaha River via the Numbe Gap and the Kimani River. As a consequence, KNP is vital for all the water resources that nourish the Usangu floodplains, the rice schemes, Ruaha National Park and ultimately the Mtera Dam, responsible for the majority of the nation's electricity. Meanwhile, the montane forest of the Livingstone, now part of KNP are the source of many rivers including the Lufilyo, Ndala and Rumakali that nourish Kyela Valley and drain into Lake Nyasa. The natural forests within the ecosystem also serve as important carbon sinks. There are carbon dioxide vents near Kyejo

Mountain and are being tapped by Tanzania Oxygen Ltd. The place was known to the locals as dangerous as many dead birds and small mammals would be found near the volcanic vents.

Cultural Value

7. Natural and cultural attractions outside the park

There are many natural and cultural attractions across the Southern Highlands (and beyond) that complement KNP. These include (but are not restricted to) Mt Rungwe, Ngozi Crater, Mpanga-Kipengere Game Reserve, Kaporogwe Falls, Kimani Falls, Lake Massoko (and other crater lakes), Mbozi Meteorite, Mbeya Range with Loleza and Punguluma peaks, the World's End Viewpoint, Mt Kyejo,



Photo by T. Davenport/WCS

Usangu and Ruaha National Park. Others include the Hot Water Springs, Daraja la Mungu, Matema Beach and Lake Nyasa, the Livingstone Ranges, etc. Further, a field there is Lake Rukwa, Malawi, Zambia and Katavi NP. Some of these attractions are associated with important cultural beliefs of the local communities in the region.



Photo by E. Dembe

KNP purpose statement

Park purpose is the reason that the area was considered for protected status. It will underlie all other assumptions about the protected area and the way in which it is used.

The primary Purpose for the KNP as developed from the exceptional resource values is:

To conserve Kitulo’s montane biodiversity and ecosystem services for the heritage and development of the nation through tourism

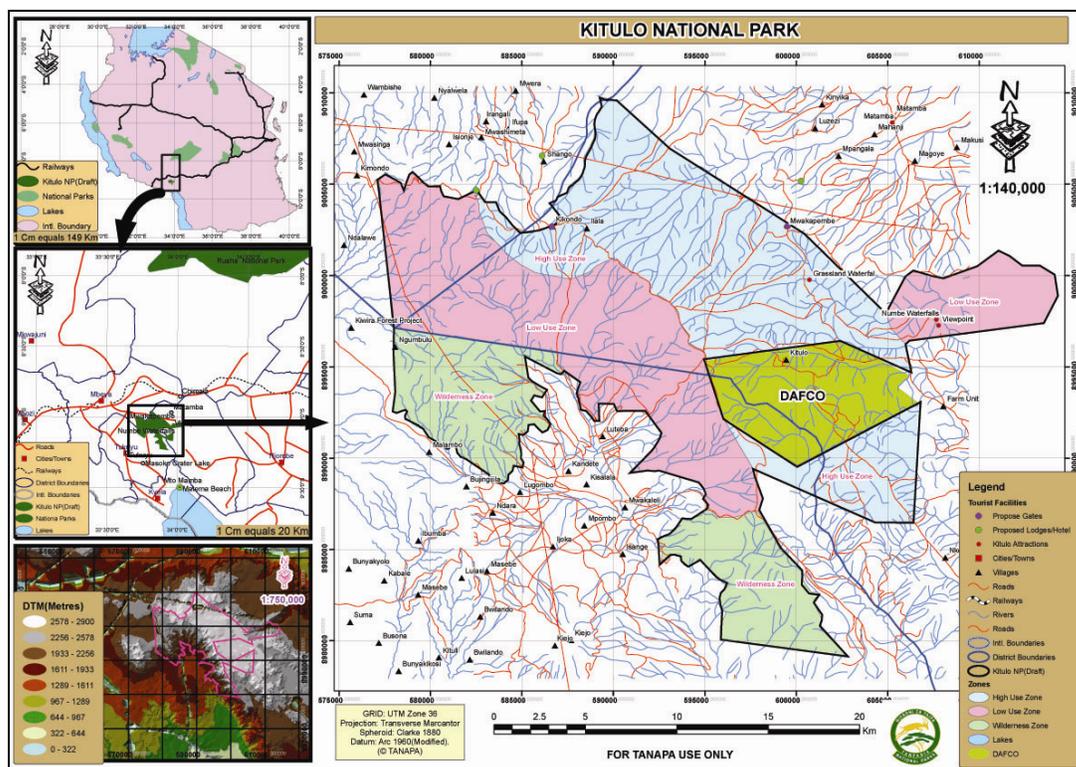
Supplemental and complimentary purposes of the Park are:

- To conserve the unique landscapes and habitats
- To protect water catchment areas
- To conserve endemic and rare flora and fauna
- To support improvement of community livelihoods.

KNP zoning scheme

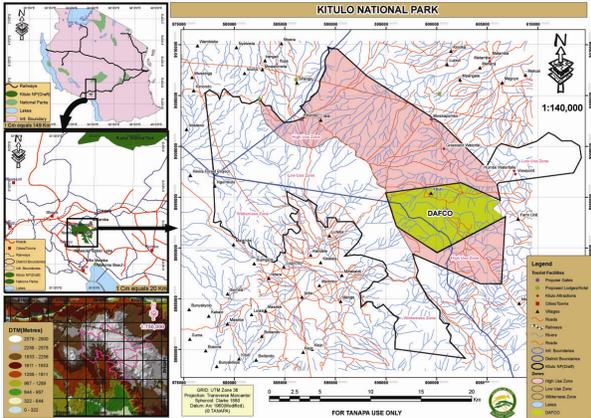
The Kitulo Zoning Scheme aims to provide a framework for achieving and reconciling the twin management needs of protecting the natural qualities and environment of the Park and regulating and promoting visitor use. The zones identify areas where similar types and levels of use and management emphases are applied; based on the Park’s Purpose, its Exceptional Resource Values, appropriate Park uses, and management objectives. The zoning scheme for Kitulo National Park is set out in the Figure B.1 below.

Figure B.1: KNP management zone plan



The whole of Kitulo National Park covers an area of 412.9 km². For this GMP, the Park has been divided into three zones: the High Use Zone (171.78km²), Low Use Zone (168.08km²) and the Wilderness Zone (88.06 km²). Where possible the zone boundaries have been designed to coincide with current uses of the area as well as physical features to aid their easy identification on the ground for management purposes.

High use zone

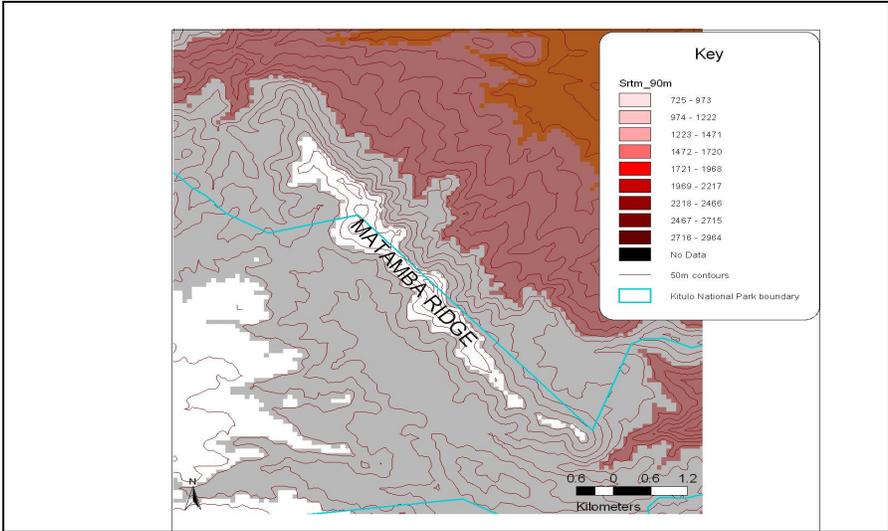


The high use zone (Figure B.2 below) covers all of the montane/plateau grassland portion of the national park from just below the Matamba Ridge (see Figure B.3 below) to the road that passes southeast from Kikondo along the escarpment (but not including the Matamba Ridge itself, Mtorwi (Mtowe) Peak or Numbe Valley).

Figure B.2: High use zone

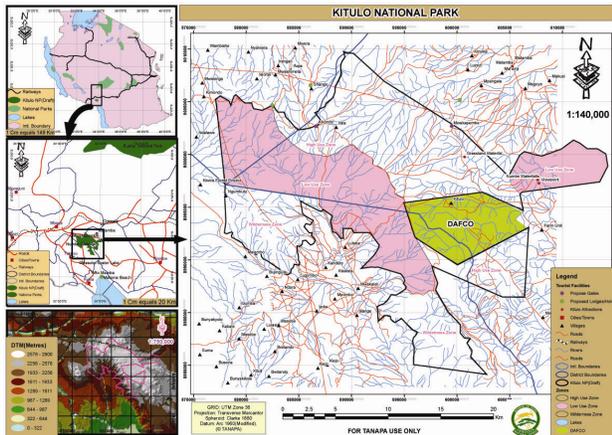
It includes the peninsular section of grassland south of the Kitulo Farm, and east of the same escarpment road. The high use zone also include a small portion of forest (in what was once the Livingstone Forest Reserve) forming a semi-circle south of Kikondo, with a radius of approximately 4 km, and includes Lake Dhambwe.

Figure B.3: Matamba Ridge



Source: Sophy Machagga/WCS

Low use zone



The low use zone (Figure B.3 below) includes the majority of the Livingstone Forest southwest of the escarpment road (but excluding two wilderness areas to the north and south).

Figure B.4: Low use zone

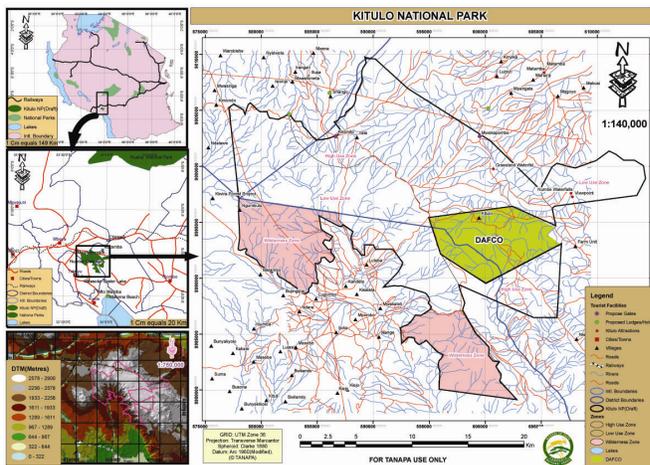
It also includes the entire Numbe Valley (which was formerly the Numbe Forest Reserve, and which itself includes Mtorwi Peak), as well

as the length of the Matamba Ridge. Numbe is of importance botanically but also is a key corridor linking KNP with the Game Reserve of Mpanga-Kipengere and the Forest Reserve of Ndakunduku. Matamba Ridge and Mtorwi are of particular significance in that the most important plant species in KNP (endemics and temperate species) mostly occupy the highest (≥ 2700 m) and rockiest parts of Kitulo, including those that most closely resemble similar southern African habitats such as the Drakensberg mountains. The ridge, therefore, is ecologically fragile.

Wilderness zone

The two wilderness areas (see Figure B.4) both occur within the Livingstone Forest; one to the extreme south of KNP due east of Kyejo, and the other adjacent to Mt Rungwe, south of the Makete-Rungwe district border. Both are sensitive areas of montane forest that need time to regenerate from years of over-harvesting.

Figure B.5: Wilderness zone



They both contain populations of Kipunji, and the northern area is a vital forest corridor with Mt Rungwe.

The Wilderness Zone covers the remaining area of Kitulo National Park. In keeping with the maintenance of KNP's wilderness character and to maintain the area in this wilderness state, no permanent structures, except ranger

outposts, will be permitted in this zone for the duration of the GMP. Trail

development will be kept to the minimum possible to facilitate wilderness hiking while protecting habitats.

The following tables (2 and 3 below) show prescriptions for each zone.

Table B.2: Tourist activities and prescriptions by zone

Activities	High Zone	Use	Low Use Zone	Wilderness Zone
Hiking/walking				
Overnight stay				
Short and half-day guided walks				
Trout fishing				
Ballooning				
Horse riding				
Golf course				
Bird watching				
Long walks				
Hiking trails				
Boardwalks				
Camping				
Fly camping				
Night walks				

Table B.3: Tourism infrastructure prescriptions by zone

Prescriptions	High Zone	Use	Low Use Zone	Wilderness Zone
Entrance gates				
Interpretation centres				
Lodges and golf course				
Campsites, picnic sites, observation points and blinds				
Exchange Information Centre				
Bandas				
Office of Tourism warden				
Shop/Gift shop (inside)				

In addition to the zonal prescriptions there are general Park-wide tourism prescriptions applying to all zones.

Park-wide tourism prescriptions:

- Activities not permitted in the park include:
- ❖ Use of deadwood for heating or cooking, rather kerosene and gas is encouraged.
 - ❖ Domestic animals and livestock
 - ❖ Off road driving

KNP management may at any time designate areas to be off limits to tourists and tour operators for reasons such as:

- Preventing disturbance to fragile habitats
- Allowing recovery of vegetation or over-used trails.
- Minimizing security risks e.g. damaged trails and boardwalks.

KNP management will make every effort where practical to give sufficient notice to tour operators of the designation of such off-limits areas, together with a clear description of the location and extent of such areas, and the expected time that the area will remain off limits. It will be necessary to make sure that all visitors of KNP are fully aware of the zonal and Park-wide prescriptions, to ensure that there are no excuses for non-compliance. Under this management action, efforts will focus on ensuring that all Park staff, researchers, tour operators and guides are made aware of the zone boundaries, and the implications for their day-to-day activities and operations. KNP management will collaborate with researchers and tour operators in training guides in the permitted activities in each zone. This training will initially focus on the Wilderness Zone, which is the most innovative of the zones and which requires a considerable level of compliance and high-levels of specialist knowledge from the researchers in the zone.



ECOSYSTEM MANAGEMENT PROGRAMME

Ecosystem Management Strategy

Program Purpose: To provide adaptive management and monitoring guidelines to Kitulo National Park (KNP) and partners, for the conservation of biodiversity and key ecological systems.

The ecosystem management strategy seeks to align the long-term management of the KNP ecosystem with the program purpose defined above and with the relevant national policies. The aim of this strategy is to provide a general statement of principles and policy to guide the ecosystem management program over the next 10 years.

The principal national policy instruments that the KNP ecosystem management strategy has been based upon are the National Policies for National Parks in Tanzania (1994) and the Wildlife Policy of Tanzania (1998).

There are five general guiding principles, drawn from National Policies for National Parks in Tanzania (1994), which provide the foundation for this Ecosystem Management Program:

- ▶ **KNP management will work to maintain all components and processes of the naturally evolving Park ecosystem**, including the natural abundance, diversity, and ecological integrity of plants and animals
- ▶ **Change is recognised as an integral part of the functioning of the KNP** and natural systems in natural zones will not be preserved as though frozen at a given point in time
- ▶ Although **a non-intervention policy will be pursued in general**, interference with natural processes may occur to maintain wildlife and plant species diversity, to preserve sensitive species to restore native ecosystem functioning that has been disrupted by past or ongoing human activities
- ▶ KNP management will influence the surrounding communities, local and district governments, and other agencies to help **ensure that activities occurring outside the Park do not impair park resources and values**, especially through district planning forums

- ▶ Research and monitoring will provide an accurate scientific basis for planning, development and management decisions in pursuit of park objectives.

Conserving ecosystem processes

In line with TANAPA policy, the Ecosystem Management Programme will seek to minimise human impacts on natural wildlife population dynamics. In particular, this will involve ensuring minimum disturbance to the Kipunji until more about its biology is known, and the preservation of migratory bird species and their habitats inside the Park. Also this will involve initiating cooperation wherever possible with others to ensure the preservation of key species populations, preferred wildlife migration corridors, and habitats outside the Park. In addition, the conservation of KNP marshes and wetlands is very important as they are critical bird habitats and Kitulo is recognised as an Important Bird Area (IBA).

Protecting genetic diversity of native wildlife and plant life

The Ecosystem Programme will endeavour to realise the TANAPA policy of “protecting the full range of genetic types native to plant and animal populations in the Park by perpetuating natural evolutionary processes and minimising human interference with evolving genetic diversity”. The need to maintain appropriate levels of genetic diversity will guide decisions on what actions to take to manage isolated populations of species or to enhance populations of *threatened, endangered, rare and endemic species* in order to perpetuate their natural distribution and abundances. KNP management will control visitor access and use of critical habitats for these species, and may close such areas to entry, except for administrative purposes.

The manipulation of native plants may be carried out in small, selected areas in a manner designed to restore or enhance the functioning of the plant and animal community of which endangered species are a natural part, provided it does not alter major processes or key park values. Conversely, the introduction of new exotic species will be prohibited and the park will institute appropriate policies to eradicate (where it is economically feasible) all exotic species within the Park, especially those that threaten park resources or public health.

Managing fire regimes

Fire plays a critical role in the shaping of the Kitulo ecosystem, with the plateau grassland being ‘fire-climax’ and naturally resistant to minimal burning (e.g. once every 5 to 10 years). Therefore KNP management will seek to bring under control and minimise the damage caused by excessive wildfires

and to promote the use of prescribed fires for management purposes. The KNP management will also ensure an appropriate grazing policy to maintain montane grassland stability and minimize fuel accumulation. The specific objectives and strategies to be pursued will be stipulated in the Fire Management Plan (Technical Detail Plan) for KNP.

Maintaining hydrological cycles

KNP management will ensure the integrity of grasslands, marshes, riverine systems, permanent water sources, springs, floodplains, wetlands, and riverine forest in the Park. Management of the Kitulo hydrological cycle will be done by involving all key stakeholders, especially in upper catchment areas and down stream and where '*vinyungu*' farming takes place.

In order to convert these guiding principles into practical actions on the ground, this GMP introduces a conservation planning technique that prioritises conservation actions and monitoring of ecosystem components, as described below.

Prioritisation of ecosystem components and threats

As stated in the ecosystem management strategy, KNP management will work to '***maintain all components and processes of the naturally evolving Park ecosystem***'. However, due to the inherent complexity of these natural systems, and the limited resources available, it is not possible for the KNP Ecology Department to monitor and manage each individual ecosystem component. In response, an ecosystem management planning process has been developed to identify representative ecosystem components and prioritise strategic decisions regarding their conservation. This approach will ensure the optimal allocation of time and resources for implementing conservation strategies to protect and monitor the long-term health and functions of the KNP ecosystem. The key features and outputs of this planning process are outlined below.

KNP conservation targets

The KNP Conservation Targets, listed in the box below, cover the various spatial scales and levels of biological organisation that the ecosystem functions at ecological systems and processes to individual species. Together the targets represent and summarize the unique biodiversity of the Kitulo ecosystem and the components that require special management actions. The underlying assumption behind establishing these Conservation Targets is that, if they are truly representative, then focusing efforts on their conservation will also ensure the conservation of all co-occurring ecosystem components and therefore the maintenance of a healthy ecosystem. The co-

occurring ecosystem species, or ‘Subsidiary Targets’, are listed alongside the eleven Conservation Targets in Table C.1 below.

Table C.1: List of KNP conservation targets

Conservation Targets	Ecosystem Level
1. Montane grasslands 2. Montane/dense bamboo forests 3. Water sources	System
4. Wild flowers	Community
5. Resident and migratory bird species 6. Primates 7. Ungulates 8. Carnivores	Species

The final column in Table C.2 lists the Key Ecological Attributes (KEAs), which are the factors that most clearly define or characterise each of the eight Conservation Targets. The KEAs include factors pertaining to the Conservation Target’s biological composition, spatial distribution, biotic and abiotic interactions, and ecological connectivity. The KEAs are sensitive to change and provide the basis for monitoring the overall health of their respective Conservation Target. The montane grassland, montane/dense bamboo forests, wildflowers and water sources Conservation Targets have been identified as requiring special management attention and specific actions are needed to bring their KEAs within their minimum threshold level.

Table C.2: KNP conservation targets and key ecological attributes

Conservation Target	Subsidiary Targets	Key Ecological Attribute
Montane grasslands	<ul style="list-style-type: none"> ▪ Matamba ridge ▪ Kitulo Plateau ▪ Open glades (Numbe, Livingstone and Kikondo) 	Unique flora
		Endemic species
		Grassland extent and size
		Species diversity and abundance
		Fire climax
Montane/dense bamboo forests	<ul style="list-style-type: none"> ▪ Montane forest ▪ Upper montane forest ▪ Bamboo forest 	Water catchment
		Converging bio-geographical unique habitat
		Habitat for key species
		Steep slopes and aspect

Wildflowers	<ul style="list-style-type: none"> ▪ Terrestrial orchids ▪ Endemic wild flowers 	Endemics and restricted range
		Fire climax
Resident and migratory bird species	<ul style="list-style-type: none"> ▪ Palaeoartic migrants ▪ Intra-Africa migrants ▪ Resident birds 	Endemic and near endemic and restricted range
		Breeding site
		Stopping area
Water sources	<ul style="list-style-type: none"> ▪ Marsh ▪ Wetlands ▪ Crater lakes ▪ Natural springs 	One of the important sources for Great Ruaha River
		One of the sources of water to L. Nyasa and basin.
Primates	<ul style="list-style-type: none"> ▪ Kipunji ▪ Rungwe galago ▪ Sharpe's black & white colobus monkey 	Endemic and critically endangered
		Seed dispersal
		Restricted range
		Very 'new' to science
Ungulates	<ul style="list-style-type: none"> ▪ Abbott's and other duikers ▪ Mountain reedbuck ▪ Klipspringers ▪ Eland ▪ Bushbuck 	'Vulnerable' and threatened
		Key grassland grazers
		Forest browsers and seed dispersers
Carnivores	<ul style="list-style-type: none"> • Leopard • Lion • Serval • Side-striped Jackal • Small carnivores • African Clawless Otter 	<ul style="list-style-type: none"> • Top of food chain • Predators • Locally rare • Ethno-zoological importance

Ecosystem threats

For this GMP, an ecosystem threat is defined as any factor, resulting either directly or indirectly from human activities, that has the potential to destroy, degrade, or impair a Conservation Target in the next 10 years. The identification of threats to the ecological viability of the Conservation Targets are ranked according to the potential level of damage (severity) and geographic extent (scope), as detailed in Tables C.2 and C.3 below. The threats identified will be monitored by the KNP Ecology Department and form the basis for the development of management actions in this Program.

Table C. 3: Threats to KNP conservation targets

Target	Threat	Severity	Scope	Ranking
Montane grasslands	Conversion to agriculture	High	High	High
	Uncontrolled fires	High	High	High
	Lack of grazing	High	High	High
	Invasion of exotic plant species	High	Medium	Medium
	Off road driving	Medium	Medium	Medium
Montane/dense bamboo forests	Building poles	High	High	High
	Souvenirs	Medium	Medium	Medium
	Logging	High	High	High
	Charcoal	High	High	High
	Agricultural encroachment	Medium	High	High
	Forest burnings	High	High	High
	Grazing	Medium	Medium	Medium
	Undesignated trails	Medium	High	Medium
Wild flowers	Chikanda harvesting	High	High	High
	Inappropriate fires	Medium	Medium	Medium
	Agricultural invasion	High	Medium	High
Water sources	'Vinyungu' farming	High	High	High
	Eucalyptus near water sources	High	Medium	High
	Sedimentation	High	Medium	Medium
	Pollution	Medium	Medium	Medium
	Fish poisoning	Medium	Medium	Medium
Primates	Poaching	High	High	High
	Forest destruction	High	High	High
	Excessive NTFP collection	Medium	Medium	Medium
	Forest fragmentation	High	High	High
Ungulates	Poaching	High	High	High
	Forest destruction	High	High	High
	Local extinction	High	Medium	High
Carnivores	Poaching	High	High	High
	Habitat destruction	High	Medium	High
	Reduction of prey species	High	High	High

	Local extinction			
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During the threat assessment, several threats were identified as affecting more than one Conservation Target. To facilitate the visualisation of the relationships between threats and the Conservation Targets, a threat analysis matrix has been developed, as shown in Table C.4 below. It shows that fire, habitat destruction, poaching and agricultural invasion are the crosscutting threats, affecting three out of the eight Conservation Targets. The remaining threats, which in cases present a very high risk, are specific to few Conservation Targets.

Table C. 4: KNP threat analysis matrix

Target	Montane grasslands	Montane /dense bamboo forests	Wild flowers	Resident and migratory bird species	Water sources	Primates	Ungulates	Carnivores
Threats								
Conversion to agriculture								
Uncontrolled fires								
Lack of grazing								
Invasion of exotic plant species								
Off road driving								
Building poles								
Souvenirs								
Logging								
Charcoal								
Agricultural invasion								
Forest burnings								
Undesignated trails								
Grazing in glades								
Chikanda harvesting								
Poaching								
Habitat destruction								
Bird flu								
Vinyungu farming								

Eucalyptus near water sources								
Sedimentation								
Pollution								
Fish poisoning								
Excessive NTFP collection								
Forest fragmentation								
Local extinction								
Reduction of prey species								

Key:

Overall Threat Level	Very High	High	Medium
Severity (level of damage)	Destroy or eliminate the Conservation Target	Seriously degrade the Conservation Target	Moderately degrade the Conservation Target
Scope (geographic extent)	Very widespread or pervasive	Widespread	Localised

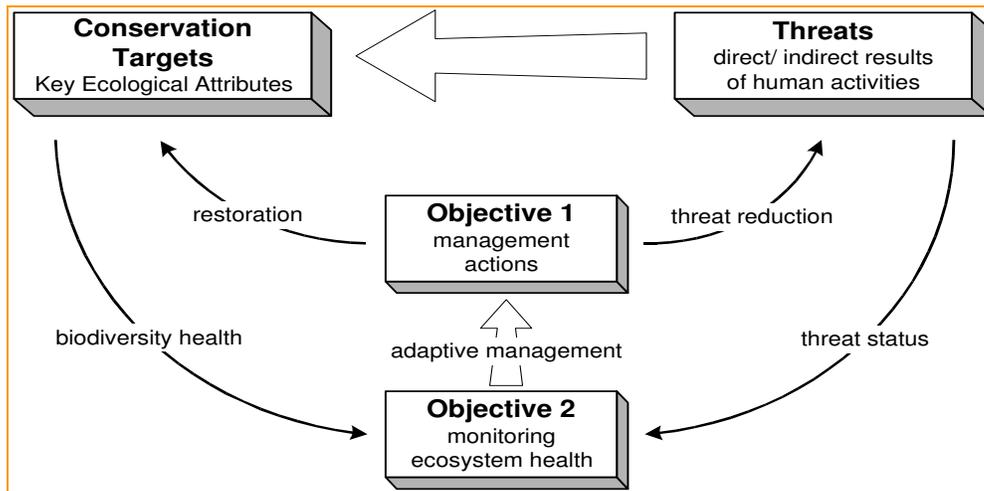
KNP Ecosystem Management Program Objectives

The prioritised Conservation Targets, Key Ecological Attributes (KEAs), and threats provide the foundation for designing management actions and a monitoring system that will best achieve the Ecosystem Management Program Purpose, set out above. The implementation of these tasks will be achieved through the two objectives of the Ecosystem Management Program, which are:

1. To enhance conservation and ecological status of **KNP Conservation Targets and to reduce threats**
2. To strengthen regular management-oriented **monitoring and assessment** of key ecosystem values and processes

Figure C.1 over page, illustrates how these two objectives address the restoration and monitoring of Conservation Targets and the reduction and monitoring of the threats.

Figure C.1: Ecosystem management program overview



In order to meet Objective 1, a series of 10-year **management targets**, with accompanying **management actions**, have been formulated. Each management target addresses a grouping of threats, as illustrated in Table C.4 above. For each management target there is a brief description of the relevant issues and opportunities, which provide the specific context and justification for the management actions. To support the implementation of these management actions, an initial 3-year Action Plan for the period 2008-2010 is provided, which lists the necessary activities, input requirements, responsibilities and timeframe (see Table G.2 in Section G).

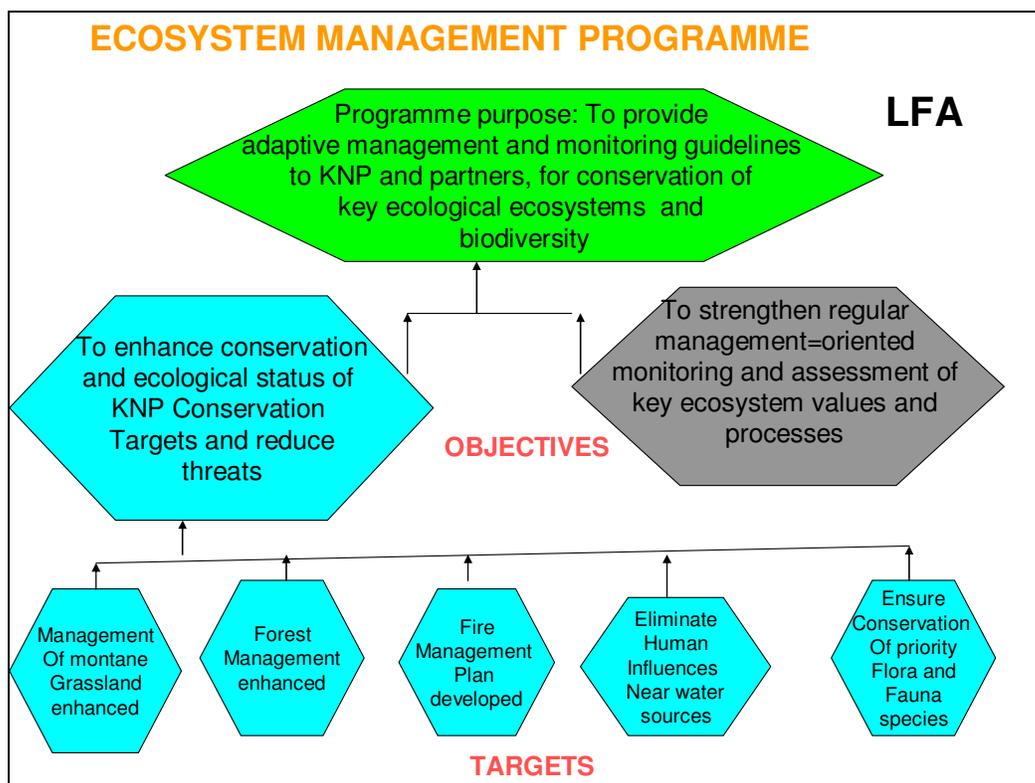
To achieve Objective 2, a framework has been provided for monitoring the health of the Kitulo ecosystem, based on measuring the Key Ecological Attributes and threats to the Conservation Targets. Figure C.2 over page shows the logical framework for the Ecosystem Management Program.

Objective 1: To enhance the conservation and ecological status of KNP Conservation Targets and to reduce threats

The desired future state of KNP is one where the threats to the functioning of the Kitulo ecosystem are eliminated and all components and processes are restored to their natural evolving levels.

To achieve this desired state, a series of management targets and associated management actions have been formulated, which adopt one of two main strategies, as illustrated in Figure C.1 above.

Figure C.2: Logical framework for the ecosystem management programme



Target 1.1: Montane grassland management enhanced

KNP was first gazetted on account of its unique montane or plateau grassland, a habitat type that is now the rarest in Tanzania. In order for the ecosystem to be conserved however, there need to be a number of key management interventions. These include ensuring that the grassland is grazed and burnt less often, and that its integrity is not harmed by the harvesting of Chikanda, conversion to agricultural land, or colonisation by invasive exotics.

Action 1.1.1: Ensure suitable grazing policy to maintain montane grassland stability

Currently, there is a great change in vegetation cover in the montane grassland probably due to the cattle having been removed. If no suitable grazing policy is adopted then the sustainability of the open montane grassland will be in question. This action is necessary to provide guidance to policy and decision makers on how best to sustainably manage the grassland. This management action will advocate a grazing policy that will ensure the growth rate and vegetation changes of the montane grassland are sustained. The introduction of grazers is an important aspect that needs to be implemented as soon as possible. The park used to have elands and zebra as grazers and a study for their re-introduction to Kitulo grassland will be

conducted. The ideal long-term solution is to have indigenous grazing wildlife back on Kitulo Plateau. This may occur either by migration up from Mpanga/Kipengere Game Reserve or by reintroduction (or a combination of both). In the immediate term however, a modest number of appropriately managed cattle will ensure grassland integrity.

Action 1.1.2: Support the Protection department to restrict Chikanda harvesting

Chikanda harvesting in KNP plateau has been a long-term problem due to its growing market, especially in Zambia. Harvesting will be restricted through anti-poaching patrols.

Action 1.1.3: Institute appropriate removal of exotic plant species

The Park currently faces a problem of exotic plant species including eucalyptus and pines. However, no research has been done on these exotics on the montane grassland and the park as a whole to document their distribution, rate of expansion and ecological effects. WCS have carried out such research on Mt Rungwe and continue to monitor the problem there via remote sensing, and will now also include KNP.

Eucalyptus species were introduced to the Park for reducing water from the sources and some areas to demarcate the boundaries before the Park was established. Pine species are highly invasive and detrimental to montane grassland integrity. They invade and spread widely and restrict all other indigenous plant growth, ultimately killing grassland communities.

Elimination of exotic plant species will minimize the risks of local extinction of indigenous species. Research and monitoring will provide adequate management information for biodiversity conservation.

Action 1.1.4: Restore degraded areas

Traditionally, KNP was a ranch under Government management. The ranch was invaded by potato farmers. Chikanda harvesting was also widely practised. Some areas were planted with exotic species. Therefore, since some areas of the montane grassland were highly degraded, restoration of these sites is needed.

Target 1.2: Forest management enhanced

The true value of the montane forest within KNP is only now being learned. It contains two of the World's rarest primates and a unique flora and fauna that have biogeographical links to both the Eastern Arcs and the Southern Rift. However, the forest is severely threatened by logging, charcoal burning, fires, hunting and wildlife collection for trade. Such activities need to be minimised

and forest enrichment activities carried out, especially in the sensitive forest corridors.

Action 1.2.1: Support the Protection department to eliminate logging and charcoal burning activities and their impacts

KNP will collaborate with partners and local communities to ensure elimination of logging and charcoal burning activities in the park. Involvement of local government and local communities will be emphasized.

Action 1.2.2: Support the Protection department to eliminate hunting and collection of wildlife

Studies by WCS indicate that wildlife numbers in KNP are rapidly decreasing. This is confirmed by the direct observations of park staff during patrols. The reason is attributed to illegal hunting by people, with snares and traps still widely found, especially in the forest. KNP Protection department in collaboration with village governments will enforce laws and patrols to eliminate hunting and collection of wildlife.

Action 1.2.3: Ensure forest enrichment especially in corridors

KNP in collaboration with partners will ensure forest conservation with an emphasis on reducing fragmentation and ensuring the integrity of forest corridors, especially the Bujingijila Corridor linking KNP to Mt Rungwe. Efforts will be made to ensure that this corridor is not blocked by human activities including settlement and farming.

Target 1.3: Fire management plan developed and implemented

KNP will need a fire management plan that is unique to TANAPA. This is so because the park is home to two quite distinct habitats that have differing amounts of tolerance to fire. The montane grassland is fire-climax vegetation that should, ideally, be burnt, but no more than once every five years. The increasingly fragmented montane forest however cannot tolerate burning and is being increasingly degraded by it.

Action 1.3.1: Implement appropriate fire management regimes in the montane grasslands

In line with the GMP, the KNP Fire Management Plan (Technical Detail Plan) will be developed and implemented in collaboration with key stakeholders. The plan will set the objectives for fire management within the KNP and surrounding areas, and will outline how these actions will be achieved. Fire management methods will include firebreaks and fire beating. These methods will be implemented for specific areas through strategic fire burning regimes.

The Fire Management Plan will include provisions for the enhancement of anti-poaching efforts within the Park. This will be addressed in collaboration with the Resource Protection Department.

Action 1.3.2: Restrict fires in the forest

Man made fires as a result of land clearing for farms is the one of the problems around Livingstone and Numbe forests. KNP will ensure sustainability of these forests by restricting fires in collaboration with other partners, especially the local communities in protection of the forest.

Action 1.3.3: Collaborate with adjacent communities in controlling unwanted fires

KNP through the Outreach programme department will collaborate with adjacent communities in controlling of fires. Conservation education will be emphasized to the areas which are prone to fires. Ecological monitoring department will use remote sensing and ground truthing to monitor fire outbreak within the area.

Action 1.3.4: Implement fire monitoring system

Within the KNP Fire Management Plan (Technical Detail Plan) a fire monitoring system will be developed and implemented in collaboration with key stakeholders.

Target 1.4: Human influences on water sources minimized

KNP provides extremely important ecosystem services, not only to the area but also to the nation. It is one of the key sources of water to the Great Ruaha River and to Lake Nyasa. All water sources are extremely fragile and threatened by inappropriate agriculture and invasive species. They will need priority attention and monitoring to ensure their integrity is maintained and water continues to flow.

Action 1.4.1: Sensitize the local communities on the impacts of ‘vinyungu’ farming and inappropriate chemical use to water regimes

‘Vinyungu’¹ farming is a long traditional practice in the Southern Highlands. The farming is conducted all year round and normally takes place in wetlands and marshes that are the sources of water. Additionally, farming in general is associated with inappropriate chemical use for fertilizers and pest control agents.

¹ “Vinyungu” is a traditional farming practice in Southern Highland areas, where farming takes place on wetlands and marshes. This activity affects the water sources.

The soils are in reality very fertile due to the volcanic nature of the underlying rock, however most farmers practice inappropriate farming regimes and need better agricultural advice. These activities have serious consequences to water regimes. KNP through the Outreach department will make efforts to sensitize the local communities on the impact of '*vinyungu*' farming and inappropriate chemical uses in relation to water quantity and quality.

Action 1.4.2: Eliminate undesirable plant species near water sources

The introduction of undesirable exotic plant species especially some of the Eucalyptus species near water sources have had an impact on the availability of water in these areas. Due to this situation, undesirable plant species will be prohibited and efforts will be taken to eradicate all invasive species within the Park, especially those that threaten the Park's indigenous resources.

Target 1.5: Ensure conservation of priority flora and fauna species

The entire Mt Rungwe-Kitulo landscape is proving to be of considerable biological importance and global significance, with key species being present and new species still being discovered such as the Kipunji and Rungwe Galago. Continuing research will further add to our knowledge of the unique flora and fauna of the ecosystem. It will also be essential in supporting conservation management, guiding tourism activities and ensuring appropriate monitoring can be carried out.

Action 1.5.1: Ensure appropriate knowledge of all priority species is determined

The KNP and partners, especially WCS will co-ordinate and implement studies that will determine the status and ecology of all priority species in the ecosystem.

Studies will also continue to identify and assess endemic and rare species found in the ecosystem and this knowledge will be used to ensure their protection.

Action 1.5.2: Annex Mt Rungwe Forest Reserve to Kitulo National Park

Due to biological importance of Mt. Rungwe Forest Reserve in the ecosystem, efforts will be made to annex the reserve to Kitulo for the protection of endemic and rare species such as the Kipunji and Rungwe galago. Mt Rungwe is also a tourist attraction for visitors interested in hiking.

Objective 2: To strengthen regular, management-oriented monitoring and assessment of key ecosystem values and processes

The desired future state of KNP is one where the evolving ecosystem function and status are understood and where this knowledge is used to make informed management decisions to achieve the Park's objectives. To achieve this desired state, a framework has been developed in this GMP for future monitoring of the health of the Kitulo ecosystem, and to provide the basis for the development of a comprehensive KNP Ecological Monitoring Plan (Technical Detail Plan).

The KNP Ecological Monitoring Plan will monitor the health of the Kitulo ecosystem; i.e. the sustained maintenance or enhancement of the viability of the Conservation Targets. The plan will also monitor both the threats to the Conservation Targets as well as the Key Ecological Attributes of the Conservation Targets, as illustrated in Figure C.1 above. The objective will be not simply to focus on monitoring *per se*, but also on analysing and using the information collected to better inform management decisions. As the Kitulo ecosystem is broader than the boundaries of KNP, it is important that the monitoring include areas outside KNP wherever possible. These activities will be coordinated with natural resource managers and researchers from the Kitulo ecosystem.

The framework for the Monitoring Plan is set out in Table C.5 over page. The indicators provide the measurable entities for assessing the status and trends of the KEAs or threats to each Conservation Target. The indicators are designed to be easy to measure and to provide an early warning to serious threats that require mitigating actions. Included in the plan framework is the data collection methodology, which identifies how, when, where and who will collect the data for the indicators.

Development of the Ecological Monitoring Plan firstly requires a baseline to be established not only for future comparisons but also to enable the establishment of clearly defined indicators and, where appropriate, the limits of acceptable change. The limits of acceptable change will take into account natural variability in key ecological attributes and guide conservation action aimed at managing a target's attributes within this natural variability. Once the baseline and specific indicators are established, it will be possible to periodically collect, analyse, and integrate monitoring information into management decision-making and practice.

Mitigation of environmental impacts of major Ecosystem Program actions

This section does not have actions with potential environmental impacts.

Table C.5: Framework for the KNP ecological monitoring plan (Technical Detail Plan)

Key Ecological Attribute/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
Conservation Target 1: Montane grasslands						
<u>KEA</u> : Unique and endemic flora	Abundance and distribution	Plot work	Once a year	Research in the field	Ecologist and WCS	Yes
<u>KEA</u> : Grassland extent and size	Size, structure and cover, biomass	Remote sensing and ground truthing	Once a year (wet and dry season)	Research in the field and satellite images	Ecologist and WCS	No
<u>KEA</u> : Species diversity and abundance	Loss or gain of species	Inventory	Once in every five years	Research in the field	Ecologist, WCS and higher learning institutions	Partially collected
<u>Threat</u> : Conversion to agriculture	Size, structure and cover	Remote sensing and ground truthing	Twice a year	Research in the field and satellite images	Ecologist, Protection and WCS	Partially collected
<u>Threat</u> : Uncontrolled fires	Frequency, source and extent	Remote sensing and ground truthing	Daily	Research in the field and satellite images	Ecologist and WCS	No
<u>Threat</u> : Lack of grazing	Structure and composition	Presence or absence of grazers	Every six months	Monitoring reports	Ecologist and Protection	Yes
<u>Threat</u> : Invasion of exotic plant species	Presence and extent	Pines with remote sensing, the rest by monitoring	Once every two years following removal by management	Monitoring reports	Ecologist and WCS	No
<u>Threat</u> : Off road driving	Presence and extent of tracks	Ranger patrols	Daily	Patrol reports	Protection and Tourism	Yes
Conservation Target 2: Montane/dense bamboo forests						
<u>KEA</u> : Water catchment	Forest cover	Remote sensing and ground truthing	Once a year during the dry season	Satellite image and patrol reports	Ecologist, Protection and WCS	Yes
<u>KEA</u> : Converging bio-geographical unique habitat	Biodiversity loss	Inventory	Every five years	Research	Ecologist, WCS and partners	Partially collected
<u>KEA</u> : Habitat for key species	Forest cover and structure	Remote sensing and ranger patrols	Daily	Satellite images and ranger patrol reports	Ecologist, Protection Dept, WCS	Partially
<u>KEA</u> : Steep slopes and aspect	Unmonitorable!!					
<u>Threat</u> : Building poles	Changes of village construction materials	Direct observation	Once a year	Monitoring report	CCS	No
<u>Threat</u> : Souvenirs	Market presence	Direct observation	Once a year	Monitoring report	TANAPA & FBD	No

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<u>Threat:</u> Logging	Number of stems leaving forest	Ranger patrols, road checkpoints, saw pits, convictions	Quarterly	Monitoring Report	Protection Dept	Partially
<u>Threat:</u> Charcoal	Number of charcoal sites	Ranger Patrols	Daily	Ranger patrol report	Protection Dept	Partially
<u>Threat:</u> Agricultural encroachment	Number of new shambas	Ranger patrols	Daily	Ranger patrol report	Protection Dept	Partially
<u>Threat:</u> Forest burnings	Frequency and extent	Remote sensing and ground truthing	Dry season	Satellite imagery	Ecologist and WCS	Yes
<u>Threat:</u> Grazing	Livestock numbers and frequency	Ranger patrols	Daily	Ranger patrol report	Protection Dept	No
<u>Threat:</u> Undesignated trails	Trail use	Ranger patrols	Daily	Ranger patrol report	Protection Dept	Yes
Conservation Targets 3: Wild flowers						
<u>KEA:</u> Endemics and restricted range	Abundance and distribution	Plot work	Once a year	Research in the field	Ecologist and WCS	Yes
<u>KEA:</u> Fire climax	Species composition	Plot work	Once a year	Research in the field	Ecologist and WCS	No
<u>Threat:</u> Chikanda harvesting	Number of holes, arrests, orchid abundance and composition	Plot work	Once a year	Research in the field and Protection Dept reports	Protection, Ecologist and WCS	Partially
<u>Threat:</u> Inappropriate fires	Frequency, source and extent	Remote sensing and ground truthing	Daily (dry season)	Research in the field and satellite images	Ecologist and WCS	No
<u>Threat:</u> Agricultural invasion	Size, structure and cover	Remote sensing and ground truthing	Twice a year	Research in the field and satellite images	Ecologist, Protection and WCS	Partially collected
Conservation Target 4: Resident and migratory bird species						
<u>KEA:</u> Endemic, and restricted range	Abundance	Counts	Once a year	Research in the field	Ecologist and partners	Yes
<u>KEA:</u> Breeding site	Abundance	Counts	Once a year	Research in the field	Ecologist, WCS and partners	Yes
<u>KEA:</u> Stopping area	Abundance	Counts	Once a year	Research in the field	Ecologist, WCS and partners	Yes
<u>Threat:</u> Hunted by people	No of incidences	Ranger patrols	Daily	Ranger patrol report	Protection Dept	No
<u>Threat:</u> Change of habitats	Size, structure and composition	Plot work	Once a year	Research in the field	Ecologist and WCS	No
<u>Threat:</u> Bird flu	Incidences	Bird deaths	Daily	Ranger patrol report	Protection Dept	No
Conservation Target 5: Water sources						
<u>KEA:</u> Source for Great Ruaha River	Flow rates	Physical flow rate and pressure/	Monthly (flow rate) as frequently as	Research	Ecologist, RUBADA,	Partially

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
		temperature recorded at strategic locations	required depending on the equipment to be used			
<u>KEA</u> : Source of water to Lake Nyasa and basin	Flow rates	Physical flow rate and pressure/ temperature recorded at strategic locations	Monthly (flow rate) as frequently as required depending on the equipment to be used	Research	Ecologist, Nyasa Basin, TAFIRI?	Partially
<u>Threat</u> : Vinyungu farming	Extent and number of water sources	Direct observation	Opportunistic	Monitoring Report	KNP	No
<u>Threat</u> : Eucalyptus near water sources	Number of trees (with a certain radius)	Direct observation	Yearly	Monitoring Report	Ecologist	No
<u>Threat</u> : Sedimentation	Water quality	Sedimentation rate (To be discussed)	Yearly	Monitoring Report	Ecologist	No
<u>Threat</u> : Pollution	Water quality	To be discussed	Yearly	Monitoring Report	Ecologist	No
<u>Threat</u> : Fish poisoning	Water quality	To be discussed	Yearly	Monitoring Report	Ecologist	No
Conservation Target 6: Primates						
<u>KEA</u> : Endemic and critically endangered	Population dynamics	Census	Every 3 years	Research	WCS, Ecologist	Yes
<u>KEA</u> : Restricted range	Distribution	Census	Every 3 years	Research	WCS, Ecologist	Yes
<u>Threat</u> : Hunted by people	Incidences and population structure	Interview and observations	Opportunistic and yearly	Research	WCS, Protection, Ecologist	Yes
<u>Threat</u> : Forest destruction	Forest cover and structure	Remote sensing and ranger patrols	Daily	Satellite images and ranger patrol reports	Ecologist, Protection Dept, WCS	Partially
<u>Threat</u> : Excessive NTFP collection	Fruit sales in villages	Direct observation, interviews, economics	To be discussed	To be discussed	Ecologist, WCS,	Partially
<u>Threat</u> : Forest fragmentation	Forest cover and structure	Remote sensing	Yearly	Satellite images	Ecologist, WCS	Yes

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
Conservation Target 7: Ungulates						
<u>KEA</u> : Vulnerable and threatened	Population size	Census	Every 3 years	Research	Ecologist, WCS	Yes
<u>KEA</u> : Key grassland grazers	Population size	Census	Every 3 years	Research	Ecologist, WCS	Partially
<u>KEA</u> : Forest browsers	Population size	Census	Every 3 years	Research	Ecologist, WCS	Yes
<u>Threat</u> : Hunted by people	Incidences and population structure	Interview and observations	Opportunistic and yearly	Research	WCS, Protection, Ecologist	Yes
<u>Threat</u> : Forest destruction	Forest cover and structure	Remote sensing and ranger patrols	Daily	Satellite images and ranger patrol reports	Ecologist, Protection Dept, WCS	Partially
<u>Threat</u> : Local extinction	Population size	Census	Every 3 years	Research	Ecologist, WCS	Partially
Conservation Target 8: Carnivores						
<u>KEA</u> : Locally rare	Relative population size	Census	Every 3 years	Research	Ecologist, WCS	Partially
<u>KEA</u> : Ethno – zoological importance	Amount of use in the villages	Village interview	Every 5 years	Research	Ecologist, WCS	Yes
<u>Threat</u> : Hunted by people	Incidences and population structure	Interview and observations	Opportunistic and yearly	Research	WCS, Protection, Ecologist	Yes
<u>Threat</u> : Habitat destruction	Forest cover and structure	Remote sensing and ranger patrols	Daily	Satellite images and ranger patrol reports	Ecologist, Protection Dept, WCS	Partially
<u>Threat</u> : Reduction of prey species	Relative abundance	Live (Sherman) trap lines	Every 3 years	Research	Ecologist, WCS	Partially
<u>Threat</u> : Local extinction	Population size	Census	Every 3 years	Research	Ecologist, WCS	Partially

Tourism management strategy***Programme Purpose:***

To develop and promote the unique tourism potential of KNP and surrounding areas for sustainable tourism management, and local and National development

The Kitulo National Park tourism strategy seeks to align the long-term development of tourism in Kitulo with the programme purpose described above, and with national tourism policies and action plans. The aim of this strategy is to provide a general statement of principles and policy to guide the Tourism Programme over the next 10 years. The principal national policy-level instruments that the Kitulo National Park tourism strategy has been based on are; the National Policies for National Parks in Tanzania (1994), the Wildlife Policy of Tanzania (1998), the revised National Tourism Policy (1999), and the Integrated Tourism Master Plan (2002). The main objective of the National Tourism Policy that underpins the development of all tourism in Tanzania is; *'to promote the economy and livelihood of the people ... through encouraging the development of sustainable and quality tourism that is culturally and socially acceptable, ecologically friendly, environmentally sustainable and economically viable'*. The Integrated Tourism Master Plan was formulated to implement this policy, with its core strategy being to develop *'an integrated tourism product that is capable of attracting a low volume, high yield segment of the international tourism market'*. In conjunction with this strategy, and in compliance with the National Tourism Policy, *'deliberate plans will be put in place to promote domestic tourism'*.

In response to these national policies, tourism at Kitulo National Park will be specialized in order to maintain low visitor numbers per year and optimize revenue; whilst at the same time reducing visitor density, and limiting numbers per day, so as to maintain the wilderness character of Kitulo National Park and its low density tourism opportunities. To be able to achieve an outstanding visitor experience with minimal impacts, all tourism facilities and activities must be compatible with Kitulo National Park's conservation objectives and regularly monitored to ensure that environmental quality is maintained. In this respect, only those types of tourism activities that contribute to the understanding and appreciation of Park resources and minimize impact on natural, cultural, aesthetic and scenic values will be allowed. In essence, it is intended that tourism will be seen as a conservation tool that proactively assists the Kitulo National Park management.

The Kitulo National Park tourism strategy incorporates a set of principles designed to promote the achievement of the tourism programme purpose and to ensure alignment with national policies and strategies, as described below:

Limits of acceptable change

The National Tourism Policy recognizes that in order to ensure the continued satisfaction of visitors, it is essential to *'put into place mechanisms that will ensure tourist activities respect the use of biodiversity and wildlife conservation'*. The types and levels of appropriate recreational use are described below (see Section B) and the associated tourism prescriptions and limits of acceptable change. This scheme will restrict and sympathetically locate recreation activities to those directly associated with the park's resources and consistent with their protection. In keeping with the wilderness character of the Park, "high profile" activities will continue to be prohibited (e.g. water-skiing and hang gliding). In addition, tourist use may be further restricted and controlled in areas encompassing endangered wildlife and habitats.

Appropriate facilities

Within Kitulo National Park, no development can happen unless it is in accordance with the Park's zonation scheme, or fits within the overall strategy of the GMP. According to the management zone, the Tourism Programme will determine the number, type, location and size of all tourism facilities located in the Park. No designated camping will be permitted in the wilderness zone. Fly camping will be permitted for tourists in search of solitude after signing of indemnity forms at the entry point. All tourists entering the wilderness zone will be accompanied by a ranger and a professional guide.

A learning experience for visitors

Tourism in Kitulo National Park will offer interpretative and educational services and facilities to visitors who wish to learn about the resources within the Park that contribute to its role in national conservation and environmental strategies. Kitulo National Park contains exceptional biodiversity and many charismatic species of great interest to visitors. Researchers have made significant contributions to the global knowledge of Kitulo biodiversity and its habitats.

Partnerships and cooperation

Opportunities will be developed to improve the interactions between Kitulo National Park management; researchers, visitors and the tourism industry, in order to enhance visitor experience through quality of products offered and

improved services. KNP management will regulate, promote and facilitate tourism development based on set standards. In this respect, KNP management will facilitate appropriate meetings with WCS, tour operators and other stakeholders on the management of tourism activities. Through the Outreach Programme, KNP will promote community-based tourism in the three villages over the escarpment. These guiding principles of the KNP tourism strategy provide the basis for the **objectives** of the Tourism Programme that define the future desirable state at KNP, and address the relevant problems and issues facing the KNP management. The four objectives are:

1. To **adequately brand the** unique attractions of KNP
2. To develop infrastructure and quality facilities and services
3. To **aggressively** promote tourism potential of the park and its surroundings
4. To **develop and strengthen** tourism management in collaboration with tourism industry partners

In order to meet these objectives for the Tourism Programme, a series of 10-year **management targets**, with accompanying **management actions**, have been formulated, as described in the following sections. For each management target there is a brief description of the relevant management issues and opportunities, which provide the specific context and justification for the management actions. Table G.2 in Section G contains the **3-Year Action Plan** for the Tourism Programme for the period 2008-2017, which lists the activities, responsibilities, timeframe and input requirements necessary for the completion of the management actions. The logical frame work for the tourism programme is shown in Figure D.1 over page.

Objective 1: To adequately brand the unique attractions of KNP

KNP's tourism programme aims at adequately brand the unique attractions that will be different from other parks.

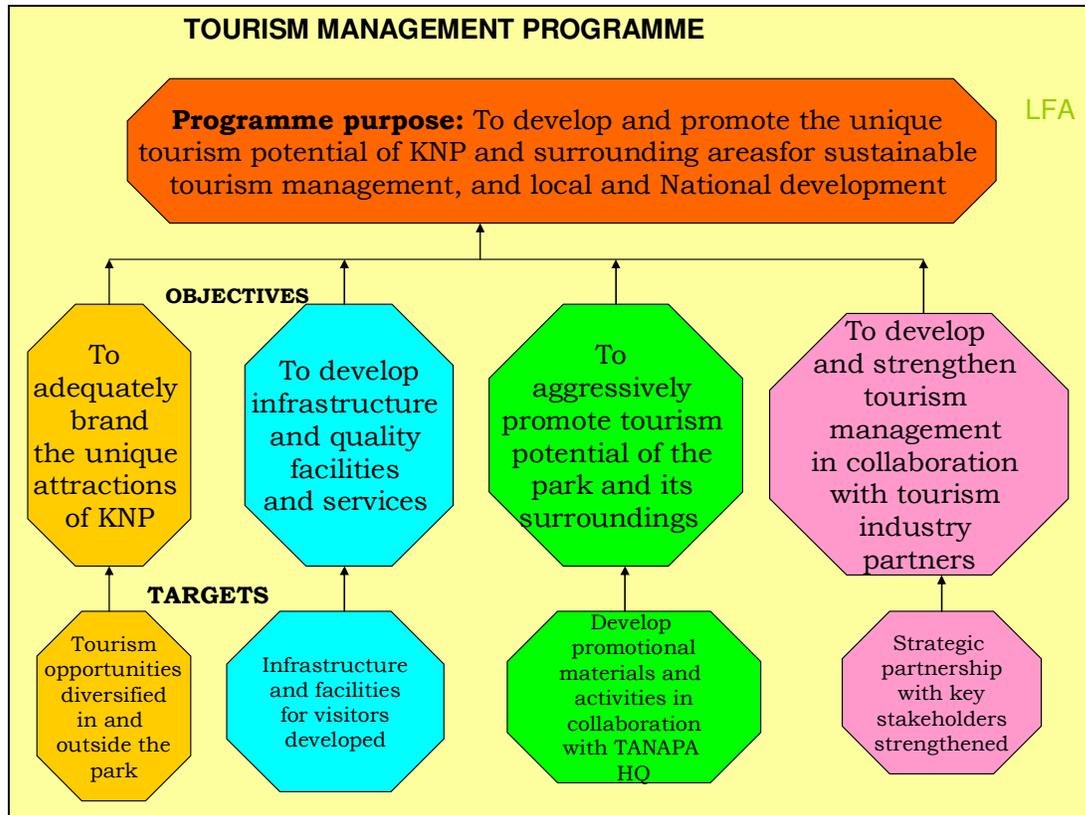
Currently, the Park receives few visitors for game drives and short walks. The management will diversify the attractions/products to attract both local and international visitors.

Target 1.1: Tourism opportunities diversified in and outside the park

Since Kitulo is a new park, tourism opportunities and potentials within and outside the park have to be identified and documented. KNP will identify and document attractions within the park and spearhead the identification and

documentation to those attractions that are outside the park in collaboration with communities and partners around the park.

Figure D.1: Logical framework for the tourism management program



Action 1.1.1: Identify tourist attractions within the park

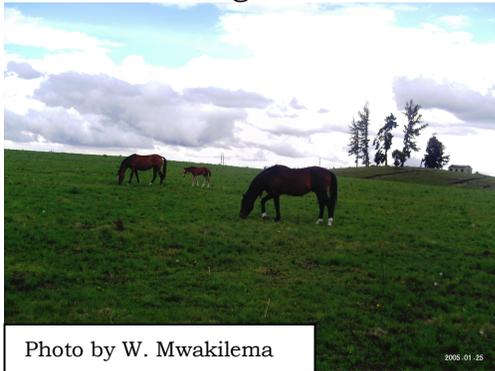
The Park management, supported by research partners, will conduct surveys to identify tourist attractions within the Park. The Tourism department in collaboration with Ecological monitoring department will physically identify and document the attractions and ensure they are accessible by tourist all year round. The experience gained will help the management to improve visitor satisfaction and experience.

Action 1.1.2: Tourist attractions outside the park are identified in collaboration with local communities

Kitulo management in collaboration with local communities around the park will spearhead the identification of attractions outside the Park. This will encourage cultural tourism that will provide tangible benefit to the communities around the Park and will help people to value the existence of the Park.

Action 1.1.3: Investigate horse management and riding options

The Park management will investigate introduction of new products in the Park in collaboration with TANAPA HQ. One of the products under consideration is horse riding.



Action 1.1.4: Survey potential areas for hiking and trails

The Park management will identify areas for both short and long walks. The trails will be permanently constructed and hardened to ensure visitor safety and enjoyment. This will be carried out in the high use zone to access the Numbwe waterfall and Dhambwe Crater Lake as well as in the grassland where boardwalks will be used. Long and short walks in the wilderness and low use zones will not have permanent trails except where necessary.

Action 1.1.5: Investigate possibilities of conducting balloon safaris

The park management in collaboration with TANAPA HQ will carry out feasibility study to look into possibilities of conducting ballooning safaris in the high use zone. An investor will be invited to conduct test flights. If the activity will be found feasible, the product will be introduced.

Action 1.1.6: Investigate potential sites for sport fishing

The Park management will investigate introduction of trout fishing as one of new product in the high use zone of the Park while first considering the potential ecological impacts on local fish species and ecology, in collaboration with biologists/researchers.

Objective 2: To develop infrastructure and quality facilities and services

Currently, the park has no basic tourist facilities and services which are important for attracting and enhancing the visitor's experience. This plan will provide programs for development of standardize facilities and infrastructure services e.g., gates, campsite and trails.

Target 2.1: Infrastructure and facilities for visitors developed

This plan will provide guidance for infrastructure and facilities for visitors to be developed and improved to suit visitors' needs and satisfaction, whilst

having a minimal impact on the environment. Visitor facilities such as gates, campsites, trails and lodge/hotel will be constructed in respective zones to cater for visitor services.

Action 2.1.1: Construct visitor information centre

The visitor information centre will be constructed at the entrance gate at Mwakipembo. The centre will provide information about the park and its resources and attractions which are very important for visitors.

Action 2.1.2: Identify sites for construction of lodges in high use zone

This plan will provide guidance for provision of tourist accommodation in the park. The proposed sites for lodges will be in the high use zone close to Kikondo along Mbeya – Makete road and the degraded sites north of Kikondo area. The proposed lodges will have the capacity of 50 beds each with adequate spaces for the development of golf courses on old agricultural land. Discussions will be made with DAFCO to allow one lodge in their area of the same capacity. DAFCO will also be encouraged to provide the lodges with dairy products.

Action 2.1.3: Construct and improve road network, trails, boardwalks and signposts

The existing road network through the park (Mbeya – Makete, Matamba – Mbeya – Makete, Kinyika – Kikondo and Mwakipembo gate – Ujuni) will be improved by TANROADS. Existing trails (Numbe waterfall) will be rehabilitated and new trails (Dhambwe crater lakes) will be constructed. Trails in high and wilderness zone will not be permanently constructed. Boardwalks will be developed across streams, rivers, marshes and wetland crossings to facilitate movement of tourists.

Action 2.1.4: Identify and develop picnic sites and observation points

Park management will identify and develop picnic sites in the high use zone and observation points along Matamba Ridge and Mount Livingstone.

Objective 3: To aggressively promote tourism potential of the park and its surroundings

Tourism potentials within the park and surroundings will be proactively promoted to enable visitors easy access relevant high quality information that will enhance the understanding of the park resources. The park management in collaboration with TANAPA HQ and research partners will develop various information materials aiming at promoting the park's exceptional resources. Currently there is an inadequate promotional material for the park.

Target 3.1: Develop promotional materials and activities in collaboration with TANAPA HQ

The park management will develop promotional materials and activities for the purpose of promoting tourist to visit the area. Promotional materials of the park will be in form of print and written materials, such as a brochure, guide books, T – shirts, leaflets, caps, tyre covers, badges, news letters and stickers.

Action 3.1.1: Develop TV and radio programmes in the local media

Park programs to be broadcasted in TV and radio will be developed in collaboration with local and international media.

Action 3.1.2: Develop and maintain Kitulo National Park website

The park management in collaboration with TANAPA HQ and WCS will develop and maintain a website as part of e-marketing of the park. The website will be linked to TANAPA main website.

Action 3.1.3: Develop and distribute promotional materials

The park management will collect, organize, develop and distribute adequate promotional materials for the park to all relevant stakeholders.

Objective 4: To develop and strengthen tourism management in collaboration with tourism industry partners

The park will work closely with tour operators and other partners working in the tourism industry by promoting tourism and generating revenue without adversely affecting the environment. Permanent campsites and hotels will be owned by other tour operators who will pay concession fees to the park. Collaborative promotion of the park will be carried out.

Target 4.1: Strategic partnership with key stakeholders strengthened

Park management will strategically involve key stakeholders in promotion of the parks resources and collaboratively identify appropriate sites for tourism activities. Tourism department will collaborate with tour operators from different regions on the possibilities of investing in tourism in Mbeya city.

Action 4.1.1: Explore and pursue partnerships that can promote KNP

Kitulo management in collaboration with TANAPA HQ will budget for trade fairs both locally and internationally to promote the park. Through

Community Conservation Services department, the park will collaborate with local government and traditional leaders to identify traditional groups for cultural tourism.

Action 4.1.2: Establish Memorandum of Understanding (MoU) with tourism partners

Park management will work in collaboration with TANAPA HQ to identify potential tourism partners in order to create synergy among and between different stakeholders. This partnership is important for coordination of various tourism activities conducted by different operators to avoid duplication of efforts and waste of resources.

Action 4.1.3: Initiate competitive certification program for the best tour operators and all stakeholders based on ethic and compliance.

Park management will conduct a survey and collect data from tourists through questionnaire for the purpose of initiating a competitive certification program for the best tour operators based on the set criteria. The exercise will aim at ensuring that the services provided to visitors are of high quality.

The Kitulo Park code of conduct (guidelines) for visitors

Welcome to Kitulo National Park. The support that you are giving through your park fees provides the Park with the means to conserve and protect this unique landscape and plateau. However, we do need your further help to ensure the health and wellbeing, as well as your personal safety, by observing this Code of Conduct. These are most important precautions that you are asked to follow while you are here. Please read them carefully, then print and sign your name to show that you understand your responsibilities. If you have any questions, please ask. These are simple conditions, but if you do not follow them, you may be putting the park, or yourselves, at risk.

1. Familiarize yourself with the trails systems and select routes within your ability level. Follow prescribed guidelines for various products offered in the park.
2. Hikers attempting to visit Numbe waterfalls and Livingstone Mountains should be physically fit.
3. Obey all trail signs and markings and hike and camp at the designated trail and campsites only. Camouflaged camping is mandatory in grasslands.
4. You should not pick any flowers or plants at all in the park.
5. No swimming in the rivers and waterfalls as water is used downstream.
6. If you are sick or injured, you are not allowed to enter the forest.
7. A park guide must accompany you at all times in the forest and during horse riding. While hiking in the forest, your group size must never exceed

- six (6) people, including your guide during the day and 4 during the night walks except in specific occasions such as fly camping.
8. It is very important that you stay together in your group. Never spread out or surround animals you are observing. When you come across primates in the forest, it is best that you keep quiet. If you must talk in the forest, speak quietly. If you are quiet, you are likely to see more natural behaviour and will avoid disturbing the wildlife.
 9. For night forest walks, you must be accompanied by a guide and use designated trails. You must also keep quiet and close to each other.
 10. Never feed primates or other wildlife.
 11. You are responsible for digging a 1ft deep hole in the forest for burying faeces when a latrine is not available.
 12. Littering of any kind is forbidden anywhere in the park. Never throw food, chewing gum, sweet/candy wrappers, cigarette butts, or any other man-made product onto the ground. Remove all litter outside the park.
 13. The opportunity to view the primates at close range is a result of painstaking efforts by researchers over many years to habituate the primates to human presence. Please respect any scientific teams and the rules and regulations that protect you and the primates.

NO PETS ARE ALLOWED IN THE PARK. PLEASE RESPECT THE ENVIRONMENT.

I, _____, have read the above conditions carefully. I understand that failure to comply with these, or any Park regulations (as listed in the National Parks Guide), or the directions of the Park Guide in the forest, may result in my having to leave the forest or even the Park. Furthermore, by signing this memorandum, I understand that Tanzania National Parks accepts no liability (or: 'I am entering the Park entirely at my own risk and will hold no other persons or organizations responsible') for any injury to myself or other members of my party, or damage or loss of our possessions.

SIGNATURE(S): _____

DATE: _____

Enjoy your stay, and we hope you have a good visit with the beautiful landscapes!

Mitigation of environmental impacts of major Tourism Programme actions

This section evaluates the potential environmental impacts of the major tourism Management Programme actions and identifies mitigation measures to reduce, eliminate or offset adverse affects, which will be incorporated into the implementation of the Action. The major programme actions included in this assessment were selected because they were either potentially controversial, represented a major capital expenditure and/or required significant expenditure of TANAPA funding/staff resources.

The table over page highlights the environmental aspects that are likely to be negatively affected by the major actions of this programme and the proposed mitigation measures and recommendations. It will be the responsibility of KNP management to ensure that the proposed measures are implemented.

Table D.1: Mitigation measures for major tourism programme actions

Major action	Potential negative impact	Mitigation measure
2.1.1 Construct visitor information centre	Pollution and waste will be generated at the site	Area site planning should be done in such a way that avoids cutting down trees.
2.1.2 Identify sites for construction of lodges in the high use zone	Pollution and soil degradation during construction.	Consideration should be given during construction phase
	Waste will be generated in operational phase.	Mechanism for waste disposal should be in place e.g. trashing out.
2.1.3 Identify and develop picnic sites and observation points.	Pollution and waste/litter at sites degrading park's natural resources	<ul style="list-style-type: none"> ➤ No litter disposal facilities will be established. ➤ Trash In Trash Out method will be applied ➤ Area site markings should be placed



COMMUNITY OUTREACH PROGRAMME

Community outreach strategy

Programme Purpose: To raise awareness to communities, capacity building, reduce threats to conservation and improve community livelihoods

The KNP outreach strategy strives to align the long-term development of community outreach in KNP with the program purpose as defined above, and the organisational goals of TANAPA. The aim of the strategy is to provide a general statement of principles and policy to guide the Community Outreach Program over the next 10 years.

The principle national policy-level instruments that form the basis for the KNP outreach strategy are the National Policies for National Parks in Tanzania (1994), the Wildlife Policy of Tanzania (1998), National Environmental Management Act (2004) and the TANAPA Strategic Action Plan for Outreach Program (2007).

The mission statement of TANAPA's Outreach Program Strategic Action Plan for 2001-2004 is of particular relevance to the outreach strategy, which states:

“Outreach Program is a field program supported by a Department in TANAPA headquarters, which aims to identify and implement opportunities for sharing parks’ benefits with adjacent communities. Outreach Program seeks to protect the integrity of National Parks by reducing conflicts between wildlife and surrounding communities, by improving relations with those communities and by helping to solve problems of mutual concern”.

The importance of increasing the value of the national parks to local people is recognised in the National Policies for National Parks in Tanzania. This policy states that TANAPA will extend its activities “into surrounding human communities with a focus on the local people living adjacent to the park and village governments up to the district level. This outreach programme will be accompanied by mechanisms to ensure that the benefits of conservation are shared with local communities in appropriate ways”. The policy encourages “compromise and flexibility” in order to meet the needs of both the park and local communities.

KNP community outreach program strategy has recognised the limitations of the resources available and consequently concentrates on a few key aspects of the above national policies in order to guide the implementation of this program and the achievement of the program purpose, as described below:

Good relations between KNP and local communities or their government

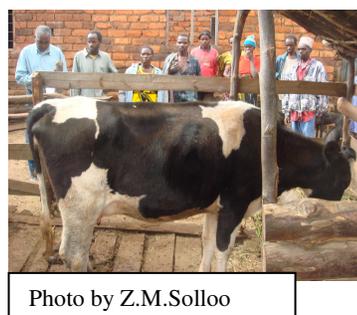
KNP is intricately linked and affected by the incompatible human activities and land-uses occurring on its boundaries and *vice versa*. Poor park-community relationships that has been noted since inception of the park in 2005, have both fuelled resentments and has led to the escalation of conflicts over access to land and natural resources utilisation. Therefore, KNP management will develop and elaborate mechanisms to promote dialogue and improved communication with local communities and government in order to enable conflicts to be amicably resolved and to develop modes of cooperation for mutual benefits.

Benefits sharing with local communities



KNP management recognises that park-adjacent human communities bear direct and indirect costs of wildlife conservation. This is done through human-wildlife conflicts and the loss of access to land and natural resources utilisation. If these costs are not partly compensated, then the necessary community support for conservation will not be sustainable.

Consequently, KNP management will ensure that the surrounding human communities are receiving benefits from the Park to help counter the costs they incur, and increase community support for the continued conservation of the KNP. This is in line with national policy, which states, *‘TANAPA will seek ways to share the benefits of conservation with local communities in ways that are sustainable and promote sound development’* (TANAPA Policy, 1994).



Conservation and environmental education

Conflict and disputes between KNP and adjacent human communities have often arisen from misunderstandings and a lack of communication about park regulations and boundaries. This lack of knowledge results in

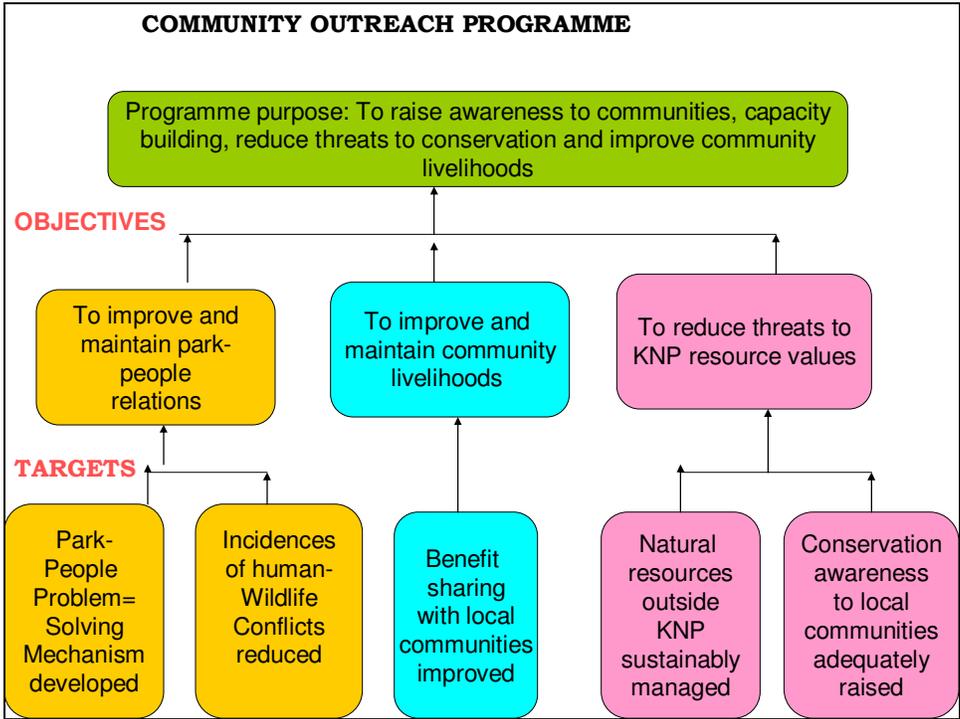
communities feeling distrustful of the Park, dis-empowered and unsure of their rights. To address these issues, KNP management will raise conservation education and awareness in the surrounding communities (e.g. villages, schools and other institutions); in particular KNP will clarify park rules, regulations and boundaries, through a well-structured education program.

The guiding principles of the above strategy provide the basis for the three objectives of the Community Outreach Program that define the future desirable state of KNP and address the relevant problems and issues facing KNP management. The three objectives are:

1. To improve and maintain park-people relations
2. To improve and maintain local community livelihoods
3. To reduce threats to KNP resource values

In order to meet these objectives for the Community Outreach Program, a series of 10-years **management targets**, with accompanying **management actions**, have been formulated, as described in the following sections. For each management target there is a brief description of the relevant management issues and opportunities, which provide the specific context and justification for the management actions. Table E.4 in Section E contains the **3-Year Action Plan** for the Community Outreach Program for the period 2008-2010, which lists the activities, responsibilities, timeframe, and input requirements necessary for the completion of the management actions.

Figure E.1: Logical framework for the community outreach program



Objective 1: To improve and maintain park-people relations

The desired future state of KNP is one where the neighbouring communities and local government are fully aware and supportive of the aims and objectives of KNP in terms of natural resources conservation and development. The two management targets to achieve this desired state involve enhancing park-community communication mechanisms, readdressing the imbalance between conservation costs and benefits for neighbouring communities, and improving the educational program. KNP is one of the youngest parks and needs a good strategy to gain community support including the government leaders and politicians.

In order to implement this management objective, three management targets are formulated:

Target 1.1: Park-people problems amicably solved

KNP has not developed a conflict resolution mechanism. However, through dialogue some activities targeted at solving problems for mutual benefits have been undertaken.

In order to implement this management target, the following management actions are formulated:

Action 1.1.1: Develop a mechanism to address park- people problems

KNP management and the adjacent villages have a number of conflicts that need to be solved through different mechanisms. The identification exercise of all key conflicts is paramount to the future of the park and development of the adjacent communities. Once all the issues have been identified KNP, village governments and key stakeholders will plan a schedule of meetings to share experiences and improve relations. The Park management will also conduct seminars and study tours targeted at creating awareness to village leaders and other various community organized groups on the potential dangers of prolonged conflicts.

KNP will continue to collaborate with WCS and other players to strengthen the environmental committees. Guidelines will be updated to improve the functions of the committees from village to district levels.

Action 1.1.2: Collaborate with other stakeholders in reaching out to local communities on issues related to conservation and development

KNP management will enhance collaboration with other stakeholders to sensitize local communities on the importance of the park and its contribution to the development of the people. There has been a tendency among partners to send conflicting messages to communities. This action will

strive to make the difference by encouraging using the same language and the similar approaches. KNP management will also facilitate biannual stakeholders meetings aimed at building trust, ownership and commitment to support the park and development of the adjacent communities. The meetings will serve as mechanisms to provide feedback on the conservation of the ecosystem.



Target 1.2: Incidences of human-wildlife conflicts reduced

The human-wildlife conflicts are also reported, sometimes with disastrous effects to relations. Problem animal control and wildlife-livestock disease transmissions are very common. The management actions are formulated to address this management target:

Action 1.2.1: Park rangers to support villages to control problem animals in collaboration with VGS

Crop raiding by vermin is not serious in Kitulo ecosystem. Primates are known to invade shambas and many of them end up being killed by the villagers. Side striped jackals around Ngumbulu are also known to kill livestock. The Park Management will sensitize the local communities to participate and use traditional ways to scare animals away and plant crops not favoured by wildlife near the buffer zones.

Action 1.2.2: Encourage tolerance to wildlife related conflicts through dialogue

Human-wildlife conflicts call for understanding and tolerance as human presence and activities tend to expand into wildlife areas and buffer zones. The wildlife has no boundaries and tends to forage on any suitable fodder that is found in their way. Discussions with local communities will be encouraged to develop a positive attitude to wildlife.

Action 1.2.3: Report to park ecologist incidences on wildlife-livestock related diseases

The Outreach department will collaborate with the ecologist by reporting to him/her any wildlife-livestock related diseases suspected in any specific areas.

Objectives 2: To improve and maintain local community livelihoods

Poverty is rampant in the adjacent villages that it is difficult for them to understand the protection of natural resources for future generations. Efforts are required to ensure that the livelihoods of the present generation are equally known and supported. This calls for diversification of livelihood sources for all the people. One target is identified to address this objective.

Target 2.1: Benefit sharing with local communities improved

Through the Support for Community Initiated Projects (SCIP), the Park has worked with surrounding villages in contributing to village development projects. The sensitive areas are in school improvement, environmental conservation projects, and income generating projects. However, the current problems include a high demand for benefits from the park to local community, lack of mechanisms to create markets for local products, low community morale regarding project implementation, insufficient obvious benefits from community tourism and insufficient commitment to local training and employment.

In order to address these issues and meet this management target, the following management actions have been formulated:

Action 2.1.1: Support priority community initiated projects

The park management will enhance support to community initiated projects that have been identified and prioritized by the communities through known institutional arrangements. The park management will work within the

criteria accepted by the district standards and procedures for all social projects.

Action 2.1.2: Support conservation friendly income generating projects

The KNP will collaborate with other stakeholders to facilitate and promote alternative livelihood related projects aimed at eradication/elimination of poverty at household level. This will include assisting in identifying markets for community products in the tourism industry. This management action will strive to share these benefits in a more transparent and realistic manner that addresses actual priority community needs. This will be achieved by ensuring that the procedures developed by TANAPA for SCIP, which are clearly laid out, are strictly adhered to. The Outreach Department will disseminate these SCIP guidelines and educate communities in both the wide range of projects that may be implemented (not just big building projects) and by canvassing the opinions and concerns of less vocal sectors of communities.

To promote eco-tourism in local community's land is very important to increase income to the community. Communities are encouraged to start tourism related activities such as campsites, curio shops, etc. KNP in collaboration with other stakeholders will help to create employment opportunities among communities living adjacent the national park. KNP will introduce the idea of self-employment to villagers and encourage them to do so (such as handicraft making and selling, producing good quality agricultural products preferred by tourists).

The Outreach Department will assist in facilitating and liaising with other tour operators and other stakeholders to create mechanisms of promoting employment to the local people living adjacent to the park.

The Outreach Department will encourage investors from inside and outside the park (such as tourist hotel and lodge owners) to provide markets for local community products. This will encourage self-employment and create a situation that will enhance income generation to the local communities.

Objectives 3: To reduce threats to KNP resource values

The desired future state of KNP is one where surrounding areas are sustainably managed in a manner that supports the maintenance of biodiversity in the park. The management target to achieve this desired state seeks to improve the community management of natural resources in the adjoining land, as described below.

Target 3.1: Natural resources outside KNP sustainably managed

Not all the ecological zones that comprise the core of Kitulo ecosystem are contained within the park boundary. The ecosystem includes Mount Rungwe Forest Reserve and other ecological important areas where many problems are noticed in the management and protection of the forest reserve, including illegal hunting endemic species, honey gathering, logging, fuel wood collection, grass burning, and incursions by domestic livestock. In order to better protect and manage the fragile Kitulo ecosystem, the plan strongly recommends adequate protection of important ecological zones.

In order to meet this management target, the following management actions have been formulated:

Action 3.1.1: Collaborate with relevant stakeholders to support village game scouts (VGS) in conservation of natural resources

KNP will collaborate with relevant stakeholders to provide training for village game scouts on natural resources protection, utilisation, and basic field gears in order to facilitate smooth operations. The Resource Protection Department in collaboration with the outreach Department will conduct training to the selected village game scouts in the identified areas.

Action 3.1.2: Encourage use of indigenous knowledge to protect the indigenous forests in the villages

KNP will encourage traditional leaders and influential leaders to enhance the use of indigenous knowledge to protect natural forest and wild animals in community forests that are being fast degraded.

Action 3.1.3: Support initiatives by the private sector and the civil society in conserving the biodiversity

KNP will not be able to cover all the villages with the current staffing levels and capacity. Where necessary, resources allowing, some activities will be outsourced to relevant community-based organizations (CBOs) and NGOs.

Action 3.1.4: Influence development of village land use plans

Lack of village land use plans has contributed to serious environmental degradation. Development of these plans is a mandate of the district councils. However, as a development stakeholder will influence the implementation of this mandate to improve the environmental conservation in all the villages.

Target 3.2: Conservation awareness in local communities adequately enhanced

Conservation education in KNP is still in its infancy as they started only in 2005 when extension programs were initiated. Conservation education activities in neighbouring villages involve the showing of conservation films to schools, developing nursery beds and tree planting program in various schools. Not much of these activities have been done.

KNP will strive to improve conservation education in various schools, by distributing conservation education materials and equipment for the program. In addition, the Outreach Program Department would include conservation education needs in its annual budget to cater for the planned activities. The Department will expand the conservation education activities to other schools in all the 24 villages adjacent to KNP.

Action 3.2.1: Improve and maintain conservation and environmental education to local communities

Conservation education has been part of TANAPA's community outreach activities since 1991, when extension programs were initiated. Conservation education activities in neighbouring villages involve the showing of conservation films to schools, developing nursery beds and tree planting program in various schools.

At the same time, KNP will improve conservation education in various schools, by distributing conservation education materials and equipment for the program. In addition, the Outreach Program Department would include conservation education needs in its annual budget to cater for the planned activities. The Department will expand the conservation education activities to other schools in villages adjacent to KNP.

Visits by community groups such as schools, village leaders, traditional leaders, women groups, political leaders have been a regular feature of the Outreach Department's activities for many years. The Department in collaboration with relevant stakeholders will organise park visits to targeted communities. Additionally, the Department will budget for such visits in order to instil knowledge and understanding of the wildlife populations to the community visiting the park.

It is mandatory that the Protection and Outreach departments compliment each other. Therefore it is important that rangers should be trained on the role of outreach to conservation and development of the local communities living adjacent villages. The change in attitude by rangers is very important for improved relations and support from stakeholders.

Action 3.2.2: Incorporate the promotion of family planning and HIV/AIDS preventions into the education programme

Family planning is a very important issue to the community living adjacent to KNP; this is due to human population increase every year. The population increase creates pressure towards natural resources adjacent to villages bordering KNP. HIV/AIDS being a disease of the World concern, its awareness should be incorporated in conservation education programme.

The Department in collaboration with relevant stakeholders and other institutions will work together during HIV/AIDS awareness programme in the villages.

Action 3.2.3: Develop appropriate conservation education materials and distribute them accordingly

KNP will work with the Desktop Publishing Unit at TANAPA HQs and other relevant stakeholders in developing conservation education materials. This will enable local newsletters and educational materials such as leaflets, posters, written, published and disseminated to the public in general around the park.

KNP will be budget and procure appropriate conservation education materials to be used by the Outreach Department. KNP in collaboration with other stakeholders will be involved in updating the existing educational materials and look for modern ways to promote conservation education in schools.

Action 3.2.4: Use local media to enhance conservation awareness to local communities and other stakeholders

KNP will endeavour to utilize the local media to advertise the park and raise awareness to government officials, adults and children in the surrounding districts. The park will continue being promoted by the TANAPA HQ nationally, regionally and internationally.



Park operations strategy

Programme purpose: Results oriented performance of Kitulo National Park's operations strategy enhanced such that the fragile ecosystem is well maintained

The KNP Park operations strategy seeks to align the park infrastructure, services and operations with the program purpose described above and with relevant national policies. The aim of this strategy is to provide a general statement of principles and policy to guide the Park Operations Program over the next 10 years. The principal national policy-level instruments that the KNP park operations strategy needs to take into account are the National Policies for National Parks in Tanzania (TANAPA, 1994); the Development-Action-Lease Procedures (DALP, TANAPA 1995b), the Environmental Impact Assessment (EIA) and the Pragmatic Environmental Assessment (PEA) guidelines. Other instruments include NEMC EIA guidelines (1997), Wildlife Policy (1998), Code of Conduct for rangers and the Financial Regulations and Procurement Act of 2001. The Park Operations strategy incorporates a set of principles designed to achieve the program purpose and to ensure alignment with national policies and strategies, as described below:

Protection of resources and use

Kitulo National Park is famous for its unique biodiversity in southern Tanzania. The park is surrounded by local communities, who are mainly farmers and livestock keepers. Some of them are involved in the illegal and unsustainable extraction of these wild resources such as Chikanda harvesting, logging, hunting and felling of building poles. In response, KNP management will protect these resources for present and future generations, by supporting non-consumptive activities in the park, strengthening law enforcement, and influencing conservation of natural resources in the surrounding protected areas and community lands.

Visitor safety in the Park

KNP management appreciates the importance of visitors and recognizes that if their safety is not assured, visitor numbers and the revenue needed to maintain the Park would fall. Therefore, ensuring the security for visitors in the Park, whether they are in a lodge, campsite or natural trail is a high priority to KNP management in their day-to-day operations. Appropriate

information will be provided to visitors in the park to guide them and ensure they gain maximum experience.



Photo by W. Mwakilema

Staff motivation

KNP management appreciates the fact the effectiveness and efficiency of park operations is related to individual and group commitments to perform to a high standard and to work in tough and at times risky situations. Therefore, KNP management will provide incentives in the form of good work facilities, equipment, salaries, housing, training and social amenities to assist staff in better undertaking their assignments. KNP management will use all means possible to develop a dedicated, committed, and disciplined workforce to achieve the Park Operations Program purpose.

Maximization of park revenues and supplies

Adequate funds are needed to manage the Park as it is currently subsidized by other parks. Conceited efforts are need to encourage investors to develop visitor facilities and activities to generate revenue from tourists that annually visit KNP to experience the Park's resources and beautiful landscapes. KNP management will endeavour to diversify tourism activities, which are a major source of revenue in the Park. The objective is to collect adequate revenues from entrance gates, concessions, sale of guidebooks, ballooning, walking safaris, sport fishing and golf course to fund the park operational costs. These operational costs include administration, field patrols, nature trails and building works, equipment, uniforms, and maintenance.

Improved park infrastructure and services

For the past two years, there has not been considerable investment in the park infrastructure because of the resentments by the local communities, something which is still being resolved. The park does not have staff quarters, nature trails in the park and provision of other important services.



Photo by W. Mwakilema

Most of the staff welfare is provided at Matamba village which is growing fast due to the presence of the park office and staff.

In addition, the park buildings especially the entrance gates are under construction at the moment (Figure F.1 above). The Mwakipembo entrance gate is nearly completed while the construction of Kikondo entrance gate was halted due to community resentments lately. KNP management will ensure that natural trails are constructed as well as the park headquarters outside the park. Services to visitors and staff will also be improved, in particular the accommodation facilities and public toilets in appropriate places.

Collaboration with other stakeholders

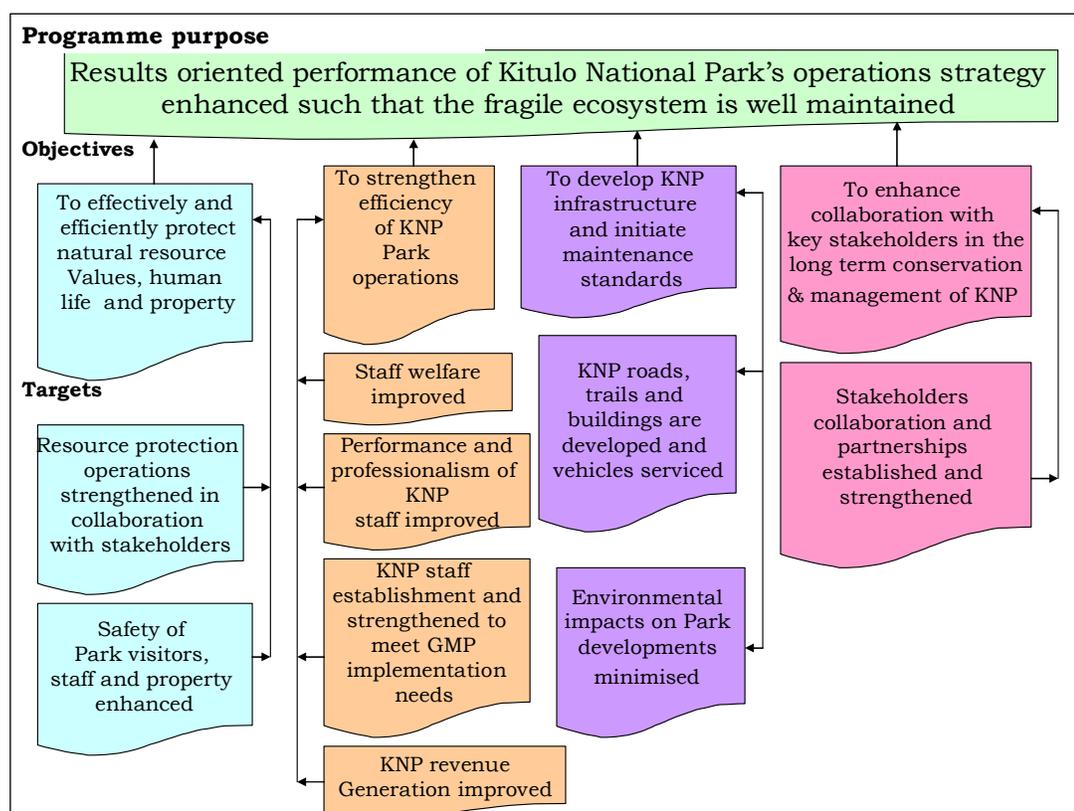
KNP is surrounded by many neighbouring land-users that are affected by the presence of the Park and other stakeholders interested in the development of the Park. Therefore, KNP will cooperate and collaborate with others in order to understand their perspectives, expand KNP's sphere of influence and to ensure that the survival of the Park within the Kitulo ecosystem is maintained.

These guiding principles of the KNP park operations strategy provide the basis for the **objectives** of the Park Operations Program that define the future desirable state at KNP and address the relevant problems and issues facing the KNP management. The four objectives are:

1. To effectively and efficiently protect **natural resource values, human life and property**
2. **To strengthen** efficiency of KNP **park operations**
3. **To develop** KNP **infrastructure and initiate maintenance standards**
4. To enhance **collaboration** with relevant stakeholders in the long-term conservation and management of KNP.

In order to meet these objectives for the Park Operations Programme, a series of 10-year **management targets**, with accompanying **management actions**, have been formulated, as described in the following sections. For each management target there is a brief description of the relevant management issues and opportunities, which provide the specific context and justification for the management actions. Section G contains the **3-Year Action Plan** for the Park Operations Program for the period 2008-2010, which lists the activities, responsibilities, timeframe, and input requirements necessary for the completion of the management actions.

Figure F.1: Park operations program logical framework



Objective 1: To effectively and efficiently protect natural resource values, human life and property

The desired future state of KNP is one where natural resources are protected and the safety to park visitors, personnel and their property is ensured by a well-coordinated and committed ranger force. The two management targets to achieve this desired state are firstly to strengthen resource protection operations and secondly to improve security and communication networks.

Target 1.1: Resource protection operations strengthened in collaboration with stakeholders

The Resource Protection Department is the largest Department in the Park, employing 11 out of the 18 park staff, and has the responsibility for addressing this target. To effectively manage the spatially extensive resources at KNP, one additional resource protection zone will be established at Bujingijila area to the existing park headquarters zone. Two Zonal Wardens will head each of the resource protection zones.

In order to cope up with the increasing challenges for resource protection, KNP management will revise its strategies to take on board new innovative ways that will strike a proper balance between the needs of adjacent communities and other stakeholders and the preservation of park resources. In order to meet this target, seven management actions have been formulated and are described below.

Action 1.1.1: Provide sufficient equipment for anti-poaching unit

Anti-poaching operations are of high risk and dangerous, therefore it is critical that the rangers are properly equipped to maximize their safety as well as their effectiveness. The resources available at certain ranger posts are insufficient for effective anti-poaching operations. This action will ensure that all the three park ranger posts are properly supplied with the working equipment needed to conduct their law enforcement activities and that this equipment is maintained to a high standard.

Action 1.1.2: Assess and adopt new anti-poaching techniques

In recent years, a great deal of progress has been made to develop techniques in conservation that utilize emerging technologies, such as GPS and night vision goggles. This action will assess these techniques in order to see how they can best support the Park anti-poaching efforts; including the special needs of species protection. Promising new or improved technologies will be tested through a rigorous piloting, before scaling up for adoption across the Park.

Action 1.1.3: Enhance cooperation with village leaders in raising local community awareness

Enlisting the cooperation and support of local communities will be an important preventative approach that the Resource Protection Department will adopt in tackling the threat of poaching. By forming better relationships with the local communities, it is hoped that progress will be made to change the attitudes that lead to poaching practices. This action will concentrate on building awareness amongst the neighbouring communities on the national and international conservation importance of the park resources and establishing a sense of ownership for their conservation. This will principally be achieved by strengthening the relationship and trust with the village

leaders and encouraging them to instil discipline and responsibility in their young members towards conservation of park resources within the ecosystem.

Action 1.1.4: Liaise with Community Outreach Department in building ranger - local community cooperation and reward schemes regarding anti-poaching activities

Building on the relationships and trust established between the local communities and the rangers, this management action will seek innovative ways to encourage and reward communities who support the anti-poaching efforts of the Resource Protection Department. This action will be done in close collaboration with the Community Outreach Department.

Action 1.1.5: Provide support to village governments in training VGS for protection of community areas

It is recognised that the Resource Protection Department, at its current size and with the existing poaching levels, will never be able to adequately protect all the resources under its responsibility. In fact, it is unlikely that there will ever be sufficient resources to achieve this mandate, until the root causes of poaching are addressed. Therefore, this management action will concentrate on enlisting community members residing within the Kitulo ecosystem to enforce natural resource bylaws and regulations. The Community Outreach Department will facilitate the Resource Protection Department to provide support in developing and conducting the Village Game Scouts training programs.

Action 1.1.6: Demarcate park boundary

KNP will collaborate with key stakeholders to demarcate the legal park boundary as per government notice of 16th September 2005 (GN 279). Key stakeholders include representatives from the Ministry of Lands and Urban Development (Survey and Mapping Division), land officers from relevant districts and village government representatives.

Action 1.1.7: Collaborate with other law enforcement agencies

This action will seek to increase the spatial extent and effectiveness of anti-poaching operations by improving collaboration with neighbouring protected area law enforcement agencies such as Iringa anti poaching unit, police force, judiciary etc. Joint operations will be undertaken whenever necessary, depending on the magnitude of the problem and availability of funds. In addition, efforts will be made to follow-up any arrested persons, to ensure that the legal procedures are satisfactorily completed.

Target 1.2: Safety of park visitors, personnel, and property enhanced

Due to increase in the number of visitors in the park, it is important for the Park Management to ensure that the issue of safety is given necessary attention. As stated in the Park Operations Strategy above, the security to visitors and staff is a high priority to KNP management. Another aspect of security around KNP that will be addressed by this GMP is encroachment, conversion of forests and grassland to agriculture and grazing.

During the implementation of the GMP, KNP management will enhance the existing initiatives to ensure that the achievements in security are sustained and improved upon. The management actions to achieve this target are described below.

Action 1.2.1: Strengthen surveillance patrols in prone areas

To ensure park resources and visitors' safety, the surveillance patrols will be frequently conducted, and special attention will be given to ensuring that the patrols are properly equipped. The surveillance operations in general will also adopt better screening processes for people entering the Park as well as monitoring suspicious actions in the surrounding communities and tourist facilities.

Action 1.2.2: Improve communication network

A good communications network is one of the key foundations for the KNP security operation. Rapid and appropriate responses to illegal activities are only possible when information of incidences can be communicated immediately throughout the Park and the surrounding area to a coordinating centralized system.

Action 1.2.3: Install radio secrecy and minimise frequency interference

Radios are a major form of communication for the security operations and to ensure the success and safety of these operations, it is essential that unauthorized persons cannot access this communication channels. This action will ensure that all park radio communication is properly protected from outside interference and unauthorized access.

Action 1.2.4: Collaborate with other law enforcement agencies and local communities

To ensure success of the security operations, KNP management will collaborate with other law enforcement agencies and local communities neighbouring the Park, in identifying and dealing with law-breakers. This will be achieved through meetings, seminars, and workshops.

Objective 2: To strengthen efficiency of KNP park operations

The desired future state of KNP is one where there are optimal numbers of well-trained and motivated personnel, who are performing their functions to a high standard and have the necessary facilities and management systems in place to achieve this. Below are described the three management targets to achieve this desired state.

Target 2.1: Staff welfare improved

KNP management will establish the park headquarters at Mahanji/Mpangala villages. Currently, the park headquarters is temporarily housed in HIMA building at Matamba village, some 12 km from Mwakipembo entrance gate. The new park headquarters will be 8 km from the gate. The proposal to construct the headquarters in the villages; aims at improving staff welfare - in terms of having better housing, services, improves work coordination, education for staff children, social interaction, food supplies, access to public transport and expanded health facilities. The three management actions to achieve this target are described below.

Action 2.1.1: Develop site plan for the new park headquarters

KNP management recognizes that a well-motivated staff force is likely to be more committed and accountable in carrying out its obligations to a high standard. To achieve this KNP staff will develop a site plan that will describe areas for senior and junior staff housing, staff recreation areas, office, rest house and utilities. The construction will abide to quality standards and environmental protection.

Action 2.1.2: Improve awareness to staff on health issues

KNP management is particularly aware of the importance of undertaking measures to protect staff from diseases prevalent in the area, such as malaria, HIV/AIDS, typhoid, tuberculosis, etc. KNP management will ensure that all personnel are properly informed on how best to protect themselves against these diseases, and that the appropriate supplies and equipment are available in collaboration with relevant health institutions.

Action 2.1.3: Encourage staff to acquire relevant knowledge and skills

KNP management will encourage staff to read, use of new technologies and participate in sharing knowledge for the development of the park and the surrounding neighbours. Staff will be encouraged to attend evening classes and undertake distance learning.

Target 2.2: Performance and professionalism of KNP staff improved

KNP management recognizes that offering incentives to improve staff morale is only one side of the equation. To complement this, there is a need for an established and enforceable system that will enhance performance and professionalism in various cadres through capacity building as per the corporate training programme. A Code of conduct for rangers will be adopted and enforced.

This target will be addressed by the following two management actions, as described below.

Action 2.2.1: Adopt and disseminate TANAPA Code of Conduct for rangers and ensure compliance

TANAPA headquarters will be responsible for updating and issuing the latest version of the rangers' Code of Conduct. However, the subsequent day-to-day enforcement of this professional code of conduct for rangers will be the responsibility of KNP management.

Action 2.2.2: Participate in updating and disseminate the TANAPA staff regulations

KNP management will provide inputs to update TANAPA staff regulations and, once approved, will be adopted, disseminated to all staff and enforced.

Target 2.3: KNP staff establishment strengthened to meet GMP implementation needs

KNP will ensure that staffing levels, as per the scheme of service, are established and gaps are filled to effectively implement this GMP. The provisional assessment of these staffing needs will be presented to the TANAPA headquarters for implementation.

Action 2.3.1: KNP staff establishment strengthened

Additional KNP staff establishment priorities to enable GMP implementation will be agreed upon during the development of Annual Operation Plans and budgets.

Target 2.4: KNP revenue generation improved

The sustainable conservation of KNP depends largely on the revenues generated from tourism, which are then ploughed back into undertaking the necessary conservation and development activities. Currently, the park revenues do not meet the park operational costs and has to be subsidized by other parks. In view of this, the optimization of economic benefits is crucial and a priority for this GMP. Maximization of revenue collection from different sources will also be promoted through tourism diversification. The KNP management will endeavour to improve collection and controls as described in the following management actions:

Action 2.4.1: Minimise loss of revenues by improving internal controls

To ensure that revenues accrued from tourism are properly collected, recorded, and stored, KNP management will review its current financial management practices and control systems and staff training requirements, with the view to minimize revenue losses.

Action 2.4.2: Computerise financial accounts, with back-up written records

TANAPA has introduced a point of sale (POS) system using local banks. The electronic system is being tested in northern Parks. This management action will adopt and install this electronic accounting system at the Park headquarters and all collection centres when the time is right. All revenues will be collected through closer cooperation with tour and hotel operators.

Objective 3: To develop KNP infrastructure and initiate maintenance standards

The desired future state of KNP is one where appropriate and well-maintained infrastructure supports and enables a high standard of services within the Park without impairing park resources and values. These high standards will provide an improved tourism experience and enable increased visitor numbers, whilst not compromising the status of the Park resources and values. The three management targets to achieve this desired state focus on the road network, nature trails, water supplies, and buildings.

Target 3.1: KNP roads, trails and buildings are improved and vehicles serviced

KNP management will keep new roads, trails and buildings to a minimum in order to maintain the wilderness characteristics of the Park. The main

management focus for this target is therefore to ensure that maintenance of the existing trails in line with the GMP zoning scheme outlined in Section B. In order to meet this management target, the following management actions have been formulated, as described below.

Action 3.1.1: Monitor road/trails and buildings wear and tear and carry out necessary maintenance and construction

It is critically important that roads, trails and building be routinely maintained, because once the condition of these items deteriorates beyond a certain point, restoration becomes extremely costly and labour intensive. The routine maintenance of infrastructure will require regular monitoring.

Action 3.1.2: Design and implement new trails construction program

The KNP management will ensure that appropriate development of tracks and trails that support the diversification and dispersed use within the Park is in place. In the Wilderness Zone, the maintenance and construction of trails would be required. In the Low and High Use Zones, trails, board walks and crossings will be developed as appropriate for tourist use.

In order to guide this development, a comprehensive trail construction program will be designed and established based on the assessment of the environmental impact and minimum requirements for implementing the Tourism Management Program and anti-poaching activities.

Action 3.1.3: To ensure regular maintenance of vehicles and equipment

Park management will endeavour to recommend purchase of vehicles, equipment and light plants with specific requirements of the harsh terrain and environment. KNP has steep slopes and extreme cold conditions. KNP will also develop a maintenance program for equipment and vehicles, light plants in the park.

Target 3.2: Park development environmental impacts minimised

Non-compliance with Tanzanian Environmental Standards and any unplanned developments will not be permitted under this GMP. Based on the Development-Action-Lease Procedures (TANAPA, 1995b) all developments that involve the construction of buildings or roads must be carried out after a report has been made available on the site-specific environmental impact assessment (EIA) and Pragmatic Environmental Assessment (PEA). The EIA/PEA will follow the criteria and guidelines established by the National Environment Management Council (NEMC, 1997).

Emphasis on proper waste and pollution management systems will be adhered to in the fragile Kitulo ecosystem. KNP management will assess all planned infrastructure and ensure that proper waste and pollution management systems are installed throughout the Park.

In order to meet this management target, the following management actions have been formulated, as described below.

Action 3.2.1: Institute waste and pollution management systems

KNP management will ensure that all buildings adopt French drain/soak away pits for hygienic disposal of waste. Moreover, the park will commission a study on the effects of agrochemicals pollution in rivers and streams and the impacts on natural resources.

Action 3.3.3: Carry out site specific EIA/PEA for planned infrastructures

No development in the Park, by either KNP management or private investors, will be carried out without these studies. Once provisional approval has been given for the construction of tourist or staff accommodation facilities, further actions will need to be taken; including, hydrological surveys and the inclusion of water harvesting mechanisms in all buildings.

Objective 4: To enhance collaboration with relevant stakeholders in the long-term conservation and management of KNP

The desired future state of KNP is one where the full spectrum of stakeholders within the ecosystem are coordinated and effectively working together to ensure the long-term conservation of KNP. The KNP management will play a central role in coordinating this cooperation. The management target to achieve this desired state will focus on forming national and international partnerships and exchange programs.

Target 4.1: Stakeholders collaboration and partnerships established and strengthened

A healthy and sustainable KNP is very much dependent on coordinated collaboration and management with relevant stakeholders within the ecosystem. Therefore, KNP management will work to establish and strengthen collaboration and partnerships between and among key stakeholders such as the local communities, government authorities, private sector and institutions.

KNP management already has a good history of forming partnerships with local and regional institutions. For instance, KNP management collaborates closely with the Zonal Anti-poaching Unit from Iringa, district authorities, local communities, private initiatives, and researchers.

In order to achieve the target, two management actions have been formulated and are described below.

Action 4.1.1: Build stakeholders collaboration both within and outside the country

This GMP encourages the involvement of different stakeholders from the local, national, regional, and international levels. This management action will focus on strengthening the existing collaborative mechanisms and establishing new partnerships in order to create synergies in the sustainable management of the ecosystem.

Action 4.1.2: Develop exchange programs with other protected areas

The need to share knowledge and experiences to better understand and apply global best practices for addressing conservation challenges currently facing protected areas will also be an important focus of this management action. To achieve this, exchange programs will be established and developed with other protected areas in the world. The detailed 3-Year Action Plan addressing these four objectives is outlined in Table F.5 of Section G.

Mitigation of environmental impacts of major Park Operations Program actions

The potential negative environmental influences of the major Park Operations Program actions and proposed mitigating measures to reduce; eliminate, or offset adverse affects are highlighted in Table F.4 over page.

Table F.1: Mitigation measures for major park operations program actions

Major action	Potential negative impact	Mitigation measure
1.1.6: Demarcate park boundary	<ul style="list-style-type: none"> ▶ Disturbance of wildlife due to clearance and construction of beacons ▶ Resistance of communities in demarcating the boundary at the annexed areas to the park 	<ul style="list-style-type: none"> ▶ Demarcate using beacons that blend with the park environment ▶ Collaborate with all key relevant stakeholders in carrying out the exercise to avoid any misunderstanding while demarcating the park boundary
1.2.2: Improve communication network	<p>Noise from use of generators</p> <p>Destruction of habitat</p> <p>Visual Impact from the communication towers</p> <p>Uncontrolled use mobile phone may disturb visitors</p>	<ul style="list-style-type: none"> ▶ Solar should be used as a source of power ▶ Sensitive habitats should be avoided ▶ The communication towers should blend with the surrounding environment. ▶ The park in collaboration with the tour operators should design a system of regulating use of mobile phones in the park.
3.1.1: Monitor road/trails and buildings wear and tear and carry out necessary maintenance and construction	Noise pollution from construction work disturbing animals, birds or insects	<ul style="list-style-type: none"> ▶ All construction road works should be done during the normal working hours of the day
	Contamination of soils and river systems from oil and diesel spills	<ul style="list-style-type: none"> ▶ Oils should be properly stored and safely disposed of outside of the Park
3.2.1: Institute waste and pollution management systems	Use chemicals in the flush toilets may pollute the soils and streams.	<ul style="list-style-type: none"> ▶ Bio-degradable chemicals should be used
	Improper disposal of solid waste may pollute the	<ul style="list-style-type: none"> ▶ Proper solid waste disposal system should be designed

	soils and streams, as well as cause adverse effect on wildlife health	and implemented
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The specific program actions that will require a detailed Action/ Development Site Specific EIA¹ prior to implementation are:

- Design and implement new trails construction program

¹ Guidelines and document format are provided in the TANAPA policy (1994b) as well as the TANAPA Strategic Planning Manual (1995a)



3 - YEAR ACTION PLAN

General Management Plans typically define the long-term vision for a national park but often fail to provide practical and concrete actions to undertake in the short-term to achieve this vision. To address this need, a 3-year Action Plan has been established for the Tourism Management Programme to provide a guide for those who manage KNP on a daily basis.

This section provides the initial a 3-year Action Plan for the Tourism management programme with the timeframe on which Management actions and activities will occur, the necessary input requirements and the allocation of responsibility for implementation. For abbreviations and acronyms, refer to the section after Table of Contents.

Table G.1: 3- Year Ecosystem Program Action Plan

Conservation Targets	Management Actions/ Activities	Inputs required	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
Objective 1: To enhance the conservation and ecological status of KNP Conservation Targets and reduce threats															
1.1: Montane grassland management enhanced	1.1.1: Ensure suitable grazing policy to maintain montane grassland stability														
	1.1.1.1. Prepare and produce scientific-based grazing policy document	Transport, stationeries, research document, man days, allowance	MEM, PE,												
	1.1.1.2. Secure approval for policy from TANAPA HQ	Transport, communication, allowance	PE												
	1.1.1.3. Reintroduce wild herbivore herds	Man days, funds, allowances	MEM, PE												
	1.1.1.4 Monitor grassland succession and restoration	Funds, man days, transport,	PE												

		allowances																	
	1.1.2: Support the Protection Department to restrict Chikanda harvesting																		
	1.1.2.1. Identify and map main Chikanda areas on plateau in wet season	GPS, funds, man days, allowance	PE, GIS specialist																
	1.1.2.2 Institute daily ranger patrols in main Chikanda areas	Transport, allowances	PE, PWP																
	1.1.3: Institute appropriate removal of exotic plant species																		
	1.1.3.1 Identify main exotic species and their distribution in KNP	Man days, stationeries, GPS	PE																
	1.1.3.2 Determine appropriate control methods for each species	Man days, stationery	PE																
	1.1.3.3 Initiate removal of exotic species over time	Man days, allowances	MEM, PE																
	1.1.3.4 Monitor exotic species removal and regeneration	Man days, transport	PE																

	1.1.4: Restore degraded areas																	
	1.1.4.1 Identify and classify all degraded areas by remote sensing and ground-truthing	Satellite images, GPS, transport, man days.	PE, GIS specialist															
	1.1.4.2 Determine appropriate restoration methods for each area	Man days, stationery	PE															
	1.1.4.3 Ensure all areas have restricted access	Man days, allowances	PE, PWP, PWT															
1.2:Forest management enhanced	1.2.1: Support the Protection department to eliminate logging and charcoal burning activities and their impacts																	
	1.2.1.1 Identify key areas for logging and charcoal burning	Transport, man day allowances,	PWP, PE,															
	1.2.1.2 Organise and initiate ranger patrols targeting sensitive	Transport, allowances	PWP															

	forest areas																		
	1.2.1.3 Target key villages for outreach programme	Transport, communication	OPW																
	1.2.1.4 Ensure prosecutions for transgressors	Transport, man days	PWP																
	1.2.2: Support the Protection department to eliminate hunting and collection of wildlife																		
	1.2.2.1: Identify main hunting areas and methods	Transport, man days, allowances	PWP																
	1.2.2.2: Conduct patrols to targeted areas	Transport, man days, allowances,	PWP																
	1.2.2.3: Conduct Outreach programs to targeted areas	Communication, Transport, man days, allowances	PWP, OPW																

	1.2.2.4:Ensure prosecutions for illegal wildlife trades	Man days, allowances, transport	PWP															
	1.2.3: Ensure forest enrichment especially in corridors																	
	1.2.3.1 Identify all key, fragile and sensitive forest areas	Satellite images, ground truthing, transport, man days	PE															
	1.2.3.2 Identify all major and vulnerable forest corridors	Transport, man days, stationeries	PE															
	1.2.3.3 Determine appropriate forest enrichment protocols	Transport, field equipments, man days, allowance	PE															
	1.2.3.5 Monitor aforestation progress	Transport, field equipments, man days, allowance	PE															
1.3: Fire management plan developed and implemented	1.3.1: Develop appropriate fire management regimes in the montane																	

	grasslands																	
	1.3.1.1 Determine appropriate fire management policy based on science and other fire-climax montane grassland areas in Africa	Surveillance , satellite images, staff, communication	MEM, PE															
	1.3.1.2 Produce KNP Fire Management Plan	Funds, man days, stationeries	CPW, PE															
	1.3.1.3 Secure approval from TANAPA HQ	Communication, transport	PE															
	1.3.2: Restrict fires in the forest																	
	1.3.2.1 Design forest fire management strategy	Survey, transport	PE															
	1.3.2.2 Provide forest fire training to TANAPA staff and village 'fire teams' across the area	Training, man days, fund, fire fighting equipments	CPW, PE, OPW															

	1.3.2.3 Monitor forest fires	Transport, man days, allowances	PE															
	1.3.3: Collaborate with adjacent communities in controlling unwanted fires																	
	1.3.3.1 Train communities on fire control measures	Communication, transport	PE, OPW															
	1.3.3.2 Carry out fire fighting exercises with adjacent communities	Communication, transport, funds	PE, OPW															
	1.3.4: Implement fire monitoring system																	
	1.3.4.1 Establish monitoring baseline	Funds, man days, transport	PE															
	1.3.4.2 Set up appropriate remote sensing fire monitoring system (e.g. Modus)	Man days, satellite images,	PE, GIS Specialist															
	1.3.4.3 Ensure appropriate training and data collection	Transport, fund, field equipments	PE															

	procedures.																	
1.4: Human influences on water sources minimized	1.4.1: Sensitize the local communities on the impacts of 'vinyungu' farming and inappropriate chemical use to water regimes																	
	1.4.1.1 Identify main water sources	Transport, man days	PE															
	1.4.1.2 Identify main threats to water sources and villages linked to those threats integrity and value	Transport, man days	PE															
	1.4.1.3 Implement training through the outreach programmes on water source	Transport, stationeries, fund, allowances	PE, OPW															
	1.4.2: Eliminate undesirable plant species near water sources																	
	1.4.2.1 Develop a plan for appropriate elimination of	Man days, stationeries	PE															

	undesirable species																	
	1.4.2.2 Seek partners and initiate elimination plan	Communication, transport	PE															
	1.4.2.3 Continue to monitor water sources	Transport, man days stationeries	PE, OPW															
1.5: Ensure conservation of priority flora and fauna species	1.5.1: Ensure appropriate knowledge of all priority species is determined																	
	1.5.1.1 Work with WCS to identify priority species across the landscape	Transport, communication, man days, allowance,	PE															
	1.5.1.2 Set up priority species database at KNP HQ	Stationeries , man days, funds	PE, GIS specialist															
	1.5.1.3 Determine distribution of priority species (with WCS) across KNP	Transport, field equipment, allowance,	PE, GIS Specialist															
	1.5.1.4 Determine specific threats to each priority species (with WCS)	Man days, transport	PE															

	1.5.1.5: Determine (where appropriate) abundance of priority species area (with WCS)	Man days, transport	PE																
	1.5.1.6: Provide training through WCS for specific training to TANAPA staff	Stationeries , funds, allowances	PE																
	1.5.1.7: Assist WCS where appropriate to carry out research on priority species	Transport, man days	PE																
	1.5.2: Annex Mt. Rungwe Forest Reserve to KNP																		
	1.5.2.1: Negotiate with district authorities on annexation	Transport, allowances	CPW, PE																
	1.5.2.2: Facilitate regional consultative committee meeting	Transport, allowances	CPW																
	1.5.2.3: Prepare cabinet paper on annexation	Transport, allowance	CPW																

Table G.2: 3 – Year Tourism Management Action Plan															
Management Targets	Management Actions/Activities	Input Required	Responsibility	Time Frame											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
Objective 1: To adequately brand the unique attractions of KNP															
1.1: Tourism opportunities diversified in and outside the Park by June 2009	1.1.1: Identify tourist attractions within the park														
	1.1.1.1: Conduct survey to identify tourist attractions within the park	Transport, man days, allowances	PWT, PE												
	1.1.1.2: Document and publish the identified attractions	Stationeries, funds	PWT, MPDP, MTS												
	1.1.2 Identify tourist attractions outside the Park in collaboration with local communities														
	1.1.2.1: Conduct survey to identify tourist attractions outside the park	Transport, man days, allowances	OPW, PWT												
	1.1.2.2: Document and publish the identified attractions	Allowances, transport, communication	OPW, PWT												
	1.1.3: Investigate														

	horse management and riding options																		
	1.1.3.1: Liaise with DAFCO on the use of the available horses for tourism	Stationery	CPW, PWT,																
	1.1.4 Survey potential areas for hiking and trails options																		
	1.1.4.1: Identify and document areas for short and long walks	Transport, man days, allowances, stationery	PE, PWT, Works																
	1.1.5 Investigate possibilities of conducting balloon safaris																		
	1.1.5.1: Allow balloon safari operators to investigate potential sites	Man days	CPW, PWT, PE, Investors																
	1.1.5.4: Identify a willing and suitable operator	Bidding	DPDPTS																
	1.1.6 Introduce trout fishing																		
	1.1.6.1: Develop	Man days, fund,	Works, PE																

	artificial small dams and plant trout fish	inventory, monitoring																	
Objective 2: To develop infrastructure and quality facilities and services																			
2.1 Infrastructure and facilities for visitors are developed	2.1.1 Construct visitor information centre																		
	2.1.1.1 Seek for architectural designs suitable for the park	Bidding	CPW																
	2.1.1.1: Contract out the construction of the Visitor Information Centre at Mwakipembo entrance gate	Tender	CPW																
	2.1.2: Identify site for construction of lodges in high use zone																		
	2.1.2.1: Identify two areas/sites suitable for lodge development in the park	Transport, man days and allowances	PWP, PWT, PE																
	2.1.2.3: Encourage DAFCO to invest on accommodation facilities in their area and avail dairy products to visitors	Meetings	CPW, PWT																

	2.1.3: Construct and improve road network, trails, board walks and sign posts																		
	2.1.3.1: Influence TANROADS to continuously improve the public access road across the park	Consultation	CPW, Works																
	2.1.3.2: Maintain the available trails and construct new ones in the designated areas	Man days, funds, allowances, fuel, equipment	PWT, Works																
	2.1.3.3: Survey and identify areas suitable for boardwalks	Man days, funds, allowances, fuel, equipment	PWT, PE,																
	2.1.5 Develop picnic sites and observation points																		
	2.1.5.1: Identify and construct picnic areas in the high use zone	Man days, funds, allowances, fuel, equipment	PE, PWT, Works																
	2.1.5.2: Identify and construct	Man days, funds,	PE, PWT, Works																

	observation points around Matamba ridge and Mount Livingstone	allowances, fuel, equipment																		
Objective 3: To aggressively promote tourism potential of the Park and its surroundings																				
3.1 Develop promotional material and activities in collaboration with TANAPA HQ	3.1.1 Develop TV and radio programme in the local media																			
	3.1.1.1: Develop themes and topics to be broadcasted	Fund, theme, man days, allowance	CPW, PWT, OPW																	
	3.1.1.2: Communicate with local media on the appropriate time for broadcasting	Funds, man days and allowance	CPW, PWT, OPW																	
	3.1.2: Develop and maintain KNP website																			
	3.1.2.1: Collaborate with TANAPA HQ and WCS on the development and maintenance of KNP website	Stationary, funds, transport, man days, allowances	CPW, PE, PWT, IT																	
	3.1.2.2: Use the website as a promotional tool by	Data, man days, allowances, funds	PE, PWT, IT																	

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
	1.1.1.7: Educate local communities on how to deal with human-wildlife conflicts	Fuel, allowances, stationeries	OPW												
	1.1.2: Collaborate with other stakeholders in reaching out to local communities on issues related to conservation and development														
	1.1.2.1: Conduct biannual stakeholders meetings	Fuel, allowances, stationeries	CPW, OPW												
1.2 Incidences of human-wildlife conflicts reduced	1.2.1: Park rangers to support villages to control problem animals in collaboration with VGS														
	1.2.1.1: Carry out joint patrols	Fuel, allowances,	OPW												
	1.2.1.2: Provide field equipment to VGS	Funds	CPW, OPW												
	1.2.1.3: Train VGS on problem animal control	Fuel, allowances, stationeries	OPW PW-PR,												

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
	1.2.2: Encourage tolerance to wildlife related conflicts through dialogue														
	1.2.2.1: Conduct seminars to local communities on problem animal control	Fuel, allowances, stationeries	OPW												
	1.2.3: Report to Park Ecologist incidences on human-wildlife-livestock related diseases														
	1.2.3.1: Collaborate with Ecology Department in implementing veterinary outreach activities in local communities	Fuel, allowances, stationeries	OPW, PE												
Objective 2: Local community livelihoods improved and maintained															
2.1 Benefit sharing with local communities	2.1.1: Support priority community initiated projects														

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
improve	2.1.1.1: Agree with relevant communities on projects to be implemented, division of responsibilities, and timeframes	Fuel, allowances, stationeries	OPW												
	2.1.1.2: Liaison with and involve district authorities in project implementation as appropriate	Fuel, allowances, stationeries	OPW												
	2.1.1.3: Implement SCIP projects in targeted villages	Funds	OPW												
	2.1.2: Support conservation friendly income generating projects														
	2.1.2.1: Develop socio-economic profiles of the communities	Fuel, allowances, stationeries	OPW												

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
	2.1.2.2: Identify and where appropriate help establish community self-help groups for undertaking income generating activities	Fuel, allowances, stationeries	OPW												
	2.1.2.3: Facilitate groups to identify small-scale conservation-compatible income-generating opportunities	Fuel, allowances, stationeries	OPW												
	2.1.2.4: Provide relevant training and support for IGPs	Fuel, allowances, stationeries	CPW, OPW												
Objective 3: To reduce threats to KNP resource values															
3.1: Natural resources outside KNP sustainably managed	3.1.1: Collaborate with relevant stakeholders to support VGS in conservation of natural resources														

Table G.3: 3 - Year Community Outreach Action Plan															
Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
	3.1.1.1: Provide training for village game scouts and village environmental committee members	Fuel, allowances, stationeries	OPW												
	3.1.2: Encourage use of indigenous knowledge to protect the indigenous forests in the villages														
	3.1.2.1: carry out a study on indigenous knowledge which is conservation friendly	Fuel, allowances, stationeries	OPW, PE												
	3.1.2.2: Organize meetings to discuss the findings with local communities	Fuel, allowances, stationeries	OPW, PE												
	3.1.2.3: facilitate the use of indigenous knowledge	Fuel, allowances,	OPW												

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe															
				Year 1				Year 2				Year 3							
				1	2	3	4	1	2	3	4	1	2	3	4				
	3.1.3: Support initiatives by the private sector and the civil society in conserving the biodiversity																		
	3.1.3.1: Identify relevant private sector and civil societies	Fuel, allowances, stationeries	OPW																
	3.1.3.2: Facilitate private sector and civil society in conserving natural resources	Fuel, allowances, stationeries																	
	3.1.4: Influence development of village land use plans																		
	3.1.4.1: Facilitate development of village land use in collaboration with other stakeholders	Fuel, allowances, stationeries	CPW, OPW																

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe																			
				Year 1				Year 2				Year 3											
				1	2	3	4	1	2	3	4	1	2	3	4								
3.2: Conservation awareness in local communities adequately enhanced	3.2.1: Improve and maintain conservation and environmental education to local communities																						
	3.2.1.1:Conduct training to park rangers on outreach role to conservation	Fuel, allowances, stationeries	CPW, OPW																				
	3.2.1.2: Conduct study tours, park visits and trade fairs to village leaders and various community groups on conservation and environment	Fuel, allowances, stationeries	OPW																				
	3.2.2.3:Conduct conservation and environmental awareness week campaign	Fuel, allowances, stationeries	CPW, OPW																				
	3.2.2: Incorporate the promotion of family planning and HIV prevention																						

Table G.3: 3 - Year Community Outreach Action Plan															
Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
	3.2.2.1: Conduct awareness campaign in collaboration with relevant stakeholders on family planning including HIV/AIDS	Fuel, allowances, stationeries	OPW												
	3.2.3: Develop conservation education materials and distribute them accordingly														
	3.2.3.1: Liaise with relevant conservation organisations to identify sources of already-available and appropriate educational materials	Fuel, allowances, stationeries	OPW												
	3.2.3.2: Prepare new materials and adapt existing materials	stationeries	OPW												
	3.2.3.3: Purchase audio-visual equipment	Funds	CPW,OPW												
	3.2.3.4: Disseminate conservation materials to local communities	Fuel, allowances	OPW												

Table G.3: 3 - Year Community Outreach Action Plan

Management Targets	Management Actions/ Activities	Input requirements	Responsibility	Timeframe															
				Year 1				Year 2				Year 3							
				1	2	3	4	1	2	3	4	1	2	3	4				
	3.2.4: Use local media to enhance conservation awareness to local communities and other stakeholders																		
	3.2.4.1: Advertise the park through radio	Funds	OPW																

Table G.4: 3 – Year Park Operations Action Plan															
Management Targets	Management Actions/Activities	Input Required	Responsibility	Time Frame											
				Year 1				Year 2				Year 3			
				1	2	3	4	1	2	3	4	1	2	3	4
<i>Objective 1: To effectively and efficiently protect natural resource values, human life and property</i>															
1.1 Resource protection operations strengthened in collaboration with stakeholders	1.1.1 Provide sufficient equipment for anti-poaching unit														
	1.1.1.1 Procure radio calls for all ranger posts	Specifications, number, funds	Procurement officer, Park Accountant												
	1.1.1.2 Procure and install solar panels and lights	Specifications, number, funds	Procurement officer, Park Accountant												
	1.1.1.3 Procure a vehicle for anti-poaching activities	Specifications, number, funds	Procurement officer, PWP, Park Accountant												
	1.1.2 Assess and adopt new anti-poaching techniques														
	1.1.2.1 Procure GPS for all ranger posts	Specifications, number, funds	Procurement officer, PWP, Park Accountant												
	1.1.2.2 Procure night vision goggles for use in the grasslands	Specifications, number, funds	Procurement officer, PWP, Park Accountant												
	1.1.3 Enhance cooperation with village leaders in														

	raising local community awareness																	
	1.1.3.1 Collaborate with Community Outreach Department to arrange for meetings with traditional leaders and visit the park	Man days, allowances	CPW, OPW, PWP															
	1.1.3.2 Involve the traditional leaders and influential people to control poaching	Man days, allowances	CPW, OPW, PWP															
	1.1.4 Liaise with Community Outreach Department in building ranger - local community cooperation and reward schemes regarding anti-poaching activities																	
	1.1.4.1 Arrange training for rangers on community issues	Man days, stationery and allowances	OPW, PWP															
	1.1.4.2 Provide rewards to rangers for anti-poaching activities	Types of rewards, transparency	PWP															

	1.1.5 Provide support to village governments in training VGS for protection of community areas																		
	1.1.5.1 Provide training to VGS and necessary services	Man days, stationery and allowances	PWP																
	1.1.5.2 Conduct joint patrols with VGS	Man days, stationery and allowances	PWP																
	1.1.6 Demarcate park boundary																		
	1.1.6.1 Involve the Maps Division to ascertain the status of the GN in the presence of District Lands Officer	Man days, allowances, GPS, stationery	CPW																
	1.1.6.2 Collaborate with the Works department to clear and mark the park boundary	Man days, allowances	PWP and Works																
	1.1.6.3 Monitor encroachment along the park boundary	Man days, allowances	PWP																
	1.1.7 Collaborate with other law enforcement																		

	agencies																		
	1.1.7.1 Conduct joint patrols with Iringa KDU and nearby parks	Man days, fuel, allowances	PWP, KDU																
	1.1.7.2 Liaise with the police and magistrates on the protection of the park as a national heritage	Man days, fuel, allowances	CPW and PWP																
1.2 Safety of park visitors, personnel, and property enhanced	1.2.1 Strengthen surveillance patrols in prone areas																		
	1.2.1.1 Intensify patrols in areas with rampant illegal activities	Man days, allowances	PWP																
	1.2.1.2 Sensitize communities on the impact of illegal activities	Man days, allowances	PWP, OPW																
	1.2.1.3 Involve the communities to control poaching	Man days, allowances	PWP, OPW																
	1.2.2 Improve communication network																		
	1.2.2.1 Develop rapid communication and response system with all key areas	Man days, allowance	PWT, OPW																

	1.2.3: Install radio secrecy and minimise frequency interference																		
	1.2.3.1 Restrict use of park frequencies by other entities	Radio calls	PWP																
	1.2.3.2 Observe radio frequency interferences and resolve accordingly	Radio calls	PWP																
	1.2.3.3 Sensitize radio users on proper use of codes for communication	Radio calls	PWP																
Objective 2: To strengthen efficiency of KNP park operations																			
2.1 Staff welfare improved	2.1.1 Develop site plan for the new park headquarters																		
	2.1.1.1 Outsource site planning activity	Tender	Procurement Officer, Works																
	2.1.1.2 Develop architectural designs	Tender	Procurement Officer, Works																
	2.1.1.3 Conduct EIA	Consultants	PE																
	2.1.1.4 Construct the park headquarters based on the above and tendering procedures	Tender	Procurement Officer, Works																
	2.1.2 Improve																		

	awareness to staff on health issues																		
	2.1.2.1 Liaise with Health officers to sensitise staff on good health	Man days, allowances	CPW, PAO																
	2.1.2.2 Encourage staff to freely check their health status	Man days, stationery, local media	CPW, PAO																
	2.1.3 Encourage staff to acquire relevant knowledge and skills																		
	2.1.3.1 Sensitise staff on the power of knowledge	Man days, stationery	CPW, PAO																
	2.1.3.2 Provide means to acquire knowledge while working hard and encourage sharing of the same	Library, local media, specifications, funds	Procurement Officer, PAO																
2.2: Performance and professionalism of KNP staff improved	2.2.1: Adopt and disseminate TANAPA Code of Conduct for rangers and ensure compliance																		
	2.2.1.1 Ensure that rangers are well disciplined among	Enforcement	CPW, PWP																

	themselves and to others																	
	2.2.2: Participate in updating and disseminate the TANAPA staff regulations																	
	2.2.2.1 Encourage staff to contribute to improved working regulations	Regulations	CPW, PAO															
	2.2.2.2 Avail staff regulations to all	Regulations	CPW, PAO															
2.3: KNP staff establishment strengthened to meet GMP implementation needs	2.3.1: KNP staff establishment strengthened																	
	2.3.1.1 Identify staffing levels to implement the GMP	Positions to be filled	CPW, PAO															
	2.3.1.2 Budget annually for filling the gaps after liaising with TANAPA HQ	Salaries, working equipment	Park Accountant, Procurement Officer															
2.4: KNP revenue generation improved	2.4.1: Minimise loss of revenues by improving internal controls																	
	2.4.1.1 Identify sources of revenue losses	Man days, allowances	CPW, Park Accountant, PWT, Auditors															

	2.4.1.2 Institute internal control mechanisms	Man days, allowances	Auditors																
	2.4.2: Computerise financial accounts, with back-up written records																		
	2.4.2.1 Liaise with TANAPA HQ on the computerisation of financial accounts in the park	Follow up	CPW, Park Accountant																
Objective 3: To develop KNP infrastructure and initiate maintenance standards																			
3.1: KNP roads, trails and buildings are improved and vehicles serviced	3.1.1: Monitor road/trails and buildings wear and tear and carry out necessary maintenance and construction																		
	3.1.1.1 Quarterly examine roads, trails and buildings	Transport, man days	Works																
	3.1.1.2 Carry out maintenance work as necessary	Transport, man days, allowances	Works																
	3.1.2: Design and implement new trails construction program																		

	3.1.2.1 Identify areas for new trails and design them	Transport, man days, allowances	Works, Procurement officer															
	3.1.2.2 Conduct EIA study	Transport, man days, allowances	CPW, Heads of Department															
	3.1.2.3 Construct new trails	Transport, man days, allowances	Works															
	3.1.3: To ensure regular maintenance of vehicles and equipment																	
	3.1.3.1 Carry out timely maintenance and service for all vehicles and equipment	Maintenance and service program, funds	Works															
	3.1.3.2 Timely replace aging vehicles and equipment	Log books, funds	CPW, Works, Procurement officer															
3.2: Environmental impacts of Park developments minimised	3.2.1: Institute waste and pollution management systems																	
	3.2.1.1 Identify sources of waste and pollution	Transport, man days, allowances	PE, Works, PAO															

	3.2.1.2 Ensure all buildings have proper waste disposal systems through EIA studies	Architectural designs, EIA studies	PE, Works, PAO																
	3.2.1.3 Monitor pollution in all relevant areas	Transport, man days, allowances	PE, Works, PAO																
Objective 4: To enhance collaboration with relevant stakeholders in the long-term conservation and management of KNP																			
4.4.1: Stakeholders collaboration and partnerships established and strengthened	4.1.1: Build stakeholders collaboration both within and outside the country																		
	4.1.1.1 Strengthen collaboration with Kyosato, Japan and develop an MoU	MoU	CPW, KEEP																
	4.1.1.2 Construct an international exchange centre at Mwakipembo in collaboration with Kyosato, Japan	Tender	CPW, KEEP																
	4.1.1.3 Develop an MoU for continued collaboration with WCS	MoU	CPW, WCS																
	4.1.1.4 Develop MoUs	MoUs	CPW, Districts																

	with surrounding districts and local groups			[Redacted]															
	4.1.2: Develop exchange programs with other protected areas																		
	4.4.2.1 Develop working exchange arrangements with Ruaha National Park and Mpanga/Kipengere Game Reserve	Man days, transport, allowances	CPW																