



**UDZUNGWA
MOUNTAINS
NATIONAL PARK**

GENERAL



2012-2022

PREFACE

Udzungwa Mountains National Park is part of the Eastern Arc Mountains, which covers about 10,000 km² and are almost entirely in Tanzania. Udzungwa Mountains National Park is located at UTM 37 206000 E and 9109000 N and 277000 E and 9170000 N in Iringa and Morogoro regions, south-central Tanzania. The Park covers a land area of 1,990 km² and lies within Kilolo and Kilombero Districts in Iringa and Morogoro Regions respectively. The Selous Game Reserve is to the east and Mikumi National Park to the northeast. The Great Ruaha River borders the park in the north while the Ruipa and Msosa Rivers in the west. The park extends to an altitude of 200m to 2,576m above sea level.

Udzungwa Mountains National Park was gazetted in 1992 from the former Forest Reserves of Mwanihana, Iwonde, Nyanganje and parts of Matundu and the West Kilombero Forest Reserves. The park was specifically created to safeguard the mountains' water catchment and biological values.

Udzungwa Mountains National Park has different large animal species such as; elephant, buffalo, hippopotamus and leopard. The Park is also home to endangered and endemic species, such as the Iringa red colobus and Sanje crested mangabey; the Udzungwa partridge and the Rufous-winged sunbird. The discovery of new flora and fauna continues in Udzungwa Mountains, which is the only place in Tanzania where forest cover is intact from the lowland acacia and miombo forest of the Great Ruaha Valley to high montane forests and grasslands to more than 2,500m above sea level. The World Conservation Society lists the Udzungwas as one of the 25 most important areas in the world for its biodiversity.

While the park itself contains only part of the entire endemic forest of the Udzungwa Mountains, it plays a crucial role in the area's ecology. The park has several major water catchment areas that feed the surrounding river systems, which include the Great Ruaha River. A significant number of communities in the Kilombero Valley rely on rivers and streams originating from the park to get water for agriculture activities and domestic use. The rivers also contribute in production hydroelectric power at Kidatu and Kihansi stations.

Moreover, Udzungwa Mountains National Park recognizes the centuries-old traditions of the local people. Local communities will continue to get access to the park for cultural and religious reasons.

In order to address adequately all critical issues and problems identified in the process of preparing this General Management Plan, a multidisciplinary approach was used to involve different teams of experts and key stakeholders. We are convinced that while preparing this General Management Plan 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 Udzungwa Mountains National Park and his/her staff will continue with the same spirit to implement this plan by involving all key stakeholders.



.....
Allan H. Kijazi
Director General
Tanzania National Parks

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



.....
Modestus Lilungulu

Chairman, Board of Trustee
Tanzania National Parks



.....
Allan H. Kijazi

Director General
Tanzania National Parks

This 10-year (2012-2022) General Management Plan (GMP) has been produced according to the TANAPA Strategic Planning Process. This is the second plan for Udzungwa Mountains National Park (UMNP). The first GMP for UMNP was approved in September 2001. The new 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 UMNP stakeholders, Tanzania National Parks (TANAPA) Headquarters and UMNP management, Regional Natural Resources Advisors, District authorities, representatives of local communities, scientists, and Non Governmental Organisations (NGOs). 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 UMNP resources.

The GMP is organized into four major Management Programmes, each of which is aligned with different UMNP 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.

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 (AOPs) to be developed by UMNP management.

Park Purpose and 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.

UMNP's exceptional natural, scenic, cultural and social attributes were identified using the following criteria:

- i. Outstanding examples of the natural, scenic, ecological, hydrological, floral, faunal and recreational values for which the park was established.

- ii. Habitats necessary for the continued survival of globally threatened and endangered species, both flora and fauna.
- iii. Population of rare and endemic plants and animal species that are vulnerable because of small population sizes and genetic isolation.
- iv. Local cultural sites of important historic or archaeological value.
- v. Areas crucial for maintaining water flow and quality to protect the ecological integrity of the park and lowlands.

The UMNP Core Planning Team established four categories of exceptional resource values. See Table B.1 below

Table B.1: UMNP exceptional resource values

Item
<p>Natural</p> <ul style="list-style-type: none"> 1. Montane forest 2. Rare, threatened and endemic flora and fauna 3. Water 4. Wilderness character
<p>Scenic</p> <ul style="list-style-type: none"> 5. Spectacular mountain scenery 6. Kilombero valley 7. Waterfalls
<p>Cultural</p> <ul style="list-style-type: none"> 8. Historical and cultural sites
<p>Social</p> <ul style="list-style-type: none"> 9. Economic benefits to adjacent communities and the nation

UMNP Purpose Statement

The Park Purpose Statement summarizes 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 UMNP is:

Park Purpose: *to conserve and protect the Udzungwa ecosystem, enhance management of the endemic, endangered, threatened and rare species and promote tourism for the benefit of local, national and international communities.*

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:

Section C: Ecosystem Management Programme/strategy

Section D: Tourism Management Programme/strategy

Section E: Community Outreach Management Programme/strategy

Section F: Park Operations Management Programme/strategy

Park Significance

Udzungwa Mountains National Park is:

- (i) The only known National Park in Tanzania that has eleven primate species, five of which are endemic.
- (ii) An important water catchment area that provides water throughout the year for fishing and agriculture in the Kilombero Valley, and contributes to the national economy through the production of hydroelectric power at Kidatu and Kihansi.
- (iii) Rich in cultural values and contains unusual historical and religious sites, kept intact prior to gazettment due to traditional taboos and beliefs.
- (iv) Surrounded by forests with the richest bird locality in Tanzania and also support a large number of mammals.
- (v) A protected area with immense aesthetic appeal with waterfalls, tall trees, an array of wildflowers, mountain peaks and superb views of the surrounding countryside.
- (vi) Part of the Eastern Arc Mountains block in East Africa with the greatest altitudinal range and relatively undisturbed forest
- (vii) Second highest in bird diversity in Africa behind Ituri Forest in Congo

UMNP Zoning Scheme

The Udzungwa Mountains 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 UMNP covers an area of 1990 km². For this GMP, the Park has been divided into three zones: the High Use Zone (27,686.15 ha), Low Use Zone (54,925.71 ha) and the Wilderness Zone (107,842.08 ha). 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.

The zoning scheme for Udzungwa Mountains National Park is set out in Figure B.1

HIGH USE ZONE (27,686.15 ha)

Zone Description

This zone extends southwards from Kidatu to Kiberege and then westwards to include the waterfalls, sacred and ritual sites, all eastern nature trails and campsites. This zone contains montane forest that is dominated by evergreen tropical rainforest. Within this unique tropical forests are the lower, upper montane and bamboo forests.

This exceptional combination of various vegetation types within such a narrow altitudinal range provides the habitats for variety of endemic, threatened and rare species of plants and animals. It is this mosaic forest habitat that harbours endemic and rare species of primates, birds, amphibians and invertebrates. Apart from acting as a habitat for the variety of flora and fauna, the forest is one of the most important water catchment areas in Tanzania.

This is the area which is used by most of the tourists coming to UMNP because it has diverse attractions and more tourist facilities. It is also easily accessible than other parts of the park.

LOW USE ZONE (54,925.71 ha)

Zone Description

The Low Use Zone is in the western part of the Park. It contains undisturbed open grasslands, deciduous baobabs, acacia-commiphora woodland, dry bush land as well as the dense West Scarp and Luhomero peak. The latter is the highest point in the Park.

This zone also contains significant cultural sites such as Mwanaluvele Cave, Mbatwa Ruins and Mdene. Ndundulu and Nyumbanitu Mountains are outside the Park but contain crucial habitats for rare and endemic flora and fauna. Researchers continue to make discoveries of new species in these areas. This zone has great potential for tourism but is undeveloped.

WILDERNESS ZONE (107,842.08 ha)

Zone Description

This zone is the largest in the Park and remains undeveloped and reserved for wilderness experiences. All permanent facilities will be prohibited. There will be designated fly camping sites, nature trails, viewpoints, resting and picnic sites and no camping will be allowed within 50 metres from the water sources. However, water may be used for drinking, cooking, and bathing. This zone encompasses the fragile habitats of the Park, its forests, mountains and high moorlands.

Management Programmes

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

1. **Ecosystem Management Programme** (Ecological Monitoring Department)
2. **Tourism Management Programme** (Tourism Department)
3. **Community Outreach Programme** (Outreach Department)
4. **Park Operations Programme** (Protection, Finance, Works, Human Resources and Administration Departments)

The key features of these Programmes are described below:

Ecosystem Management Programme

The Ecosystem Management Programme identifies seven UMNP **Conservation Targets**; the ecological components that capture the unique biodiversity of the Park. The Conservation Targets identified for UMNP are:

Conservation Targets	Ecosystem Level
1. Water sources/catchment 2. Migratory corridors and dispersal areas 3. Cultural/Historical resources	System
4. Montane forest 5. Acacia-Commiphora and miombo woodlands 6. Riverine vegetation	Community
7. Endemic, rare, threatened and endangered species	Species

The Ecosystem Management Programme aims at ensuring that all UMNP 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 key species and their habitats.

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

Tourism Management Programme

The Tourism Management Programme 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.

UMNP contains exceptional biodiversity and many endemic, endangered, threatened and rare species of great interest to visitors. Researchers have made significant contributions to the global knowledge of Udzungwa Mountains biodiversity and its habitats.

Visitor activities will be diversified in order to enhance visitor experience and generate more revenue. In addition, efforts to mitigate visitor impacts will be improved through dissemination and enforcement of the Code of Conduct for visitors (guidelines), which summarize the Park rules and regulations.

Community Outreach Programme

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 UMNP'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, relations and co-operation. Implementation of this Programme will focus on improving the Support to Community Initiated Projects (SCIPs) scheme and Income Generating Projects (IGPs).

Park Operations Programme

The Park Operations Programme aims to enhance the efficiency and effectiveness of UMNP park operations. The GMP problem analysis identified selective logging, poaching, wildfires and encroachment as the priority management issues to be addressed by this Programme. In response, UMNP management will investigate and pilot modern **anti-poaching** techniques; strengthen the Protection Department with the necessary modern equipments and build ranger-local community cooperation and anti-poaching reward in line with TANAPA scheme. The GMP proposes improvement of the existing and provision of more offices, staff houses, recreational and social welfare facilities.

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 staff.

Three 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.

ABBREVIATIONS AND ACRONYMS

AOP	Annual Operation Plan
CBO	Community Based Organization
CSP	Corporate Strategic Plan
CPW	Chief Park Warden
DALP	Development Action and Lease/License Procedures
DC	District Commissioner
DNRO	District Natural Resource Officer
DPDPTS	Director for Planning, Development Projects and Tourism Services
EIA	Environmental Impact Assessment
ERVs	Exceptional Resource Values
FBD	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 Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HQ	Headquarters
IBA	Important Bird Areas
IUCN	International Union for Conservation of Nature
KEAs	Key Ecological Attributes
UMNP	Udzungwa Mountains National Park
LFA	Logical Framework Approach
MNRT	Ministry of Natural Resources and Tourism
MoU	Memorandum of Understanding
MPDP	Manager of Planning and Development Projects
MTEF	Medium Term Expenditure Framework
MTS	Manager Tourism Services
NEMC	National Environmental Management Council
NGOs	Non Governmental Organizations
NTFP	Non Timber Forest Product
OPM	Outreach Programme Manager
OPW	Outreach Programme Warden
PA	Park Accountant
PE	Park Ecologist
PEA	Programmatic Environmental Assessment
POS	Point of Sale
PO	Procurement Officer
PW	Park Warden
PWP	Park Warden Protection
PWT	Park Warden Tourism
RUNAPA	Ruaha National Park
SCIP	Support for Community Initiated Projects
SHCP	Southern Highland Conservation Programme

TAFIRI	Tanzania Fisheries Research Institute
TANAPA	Tanzania National Parks
TANROAD	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

TABLE OF CONTENTS

PREFACE	ii
APPROVAL PAGE.....	iv
EXECUTIVE SUMMARY	v
ABBREVIATIONS AND ACRONYMS	xiii
THE PLANNING PROCESS.....	1
Introduction	1
GMP structure.....	1
Integrating the GMP with the TANAPA Corporate Strategic Plan	2
Alignment of GMP with Park departments.....	2
Ten-year strategic and 3-year action plan structure	3
Logical Framework Approach	3
Stakeholders Analysis	4
EXCEPTIONAL RESOURCE VALUES	5
Exceptional Resource Values.....	5
Natural values.....	6
<i>Montane Forest</i>	6
<i>Rare, Threatened and Endemic Flora and Fauna</i>	6
<i>Water</i>	7
<i>Wilderness Character</i>	7
Scenic Values.....	7
Spectacular Mountain Scenery	7
Cultural Value.....	9
<i>Historical and Cultural Sites</i>	9
Social Values	9
Economic benefits to adjacent communities and the nation.....	9
UMNP Purpose Statement	10

Park Significance	10
UMNP Zoning Scheme	11
HUZ Description	11
LUZ Description	14
LUZ Limits of Acceptable Use	14
WILDERNESS ZONE (WZ)	15
WZ Description	15
Limits of Acceptable Use	15
Wilderness Zone	15
Facilities and Infrastructure	15
Accommodation.....	15
Number of visitors	15
Activities	15
ECOSYSTEM MANAGEMENT PROGRAMME	18
Ecosystem Management Strategy	18
Conserving ecosystem processes.....	19
Protecting genetic diversity of native wildlife and plant life	19
Managing fire regimes	19
Maintaining hydrological cycles	20
Prioritisation of ecosystem components and threats	20
UMNP conservation targets	20
Objective 1: TO ENHANCE THE CONSERVATION AND ECOLOGICAL VALUES OF UMNP CONSERVATION TARGETS AND TO MINIMIZE THREATS.....	30
Target 1.1: Human impacts threatening water sources in UMNP minimized ..	30
Target 1.2: Secure regular payment to UMNP for ecosystem services from large scale water users.	32
Management Target 1.4: Incidences and effects of wildfires in the park minimized	34
Target 1.6: Compatible land uses are practised around the park boundary	36
The management actions designed to address these threats are as follows:	36

Action 1.6.1: Facilitate appropriate land use practises that are compatible to conservation.....	36
Target 1.8: Conservation of endemic and rare species improved	37
Action 1.8.6: Improve park veterinary services	38
Objective 2: TO STRENGTHEN REGULAR, MANAGEMENT-ORIENTED MONITORING AND ASSESSMENT OF KEY ECOSYSTEM VALUES AND PROCESSES	38
TOURISM MANAGEMENT PROGRAMME.....	1
Tourism management strategy.....	1
Limits of acceptable Use (LAU).....	2
Appropriate facilities	2
A learning experience for visitors	2
Partnerships and cooperation	3
Objective 1: TO ADEQUATELY BRAND THE UNIQUE ATTRACTIONS OF UMNP.....	4
Target 1.1: Tourism opportunities diversified in and outside the park	4
Objective 2: TO PROVIDE ADEQUATE AND HIGH QUALITY INFRASTRUCTURE, FACILITIES AND SERVICES	6
Target 2.1: Tourist infrastructure and facilities improved and developed.....	6
Action 2.1.5: Construct rest house at Mang’ula	7
Objective 3: TO PROMOTE TOURIST ATTRACTIONS OF THE PARK AND ITS SURROUNDINGS	8
Target 3.1: Develop park promotional materials in collaboration with TANAPA HQ	8
Objective 4: To strengthen UMNP tourism management in collaboration with tourism industry partners	8
Target 4.1: Strategic partnership with key stakeholders strengthened	9
The Udzungwa Mountains Park code of conduct (guidelines) for visitors.....	10
Mitigation of environmental impacts of major Tourism Programme actions ...	12
Community outreach strategy.....	13
Good relations between UMNP and local communities or their government..	14

Benefits sharing with local communities	14
Conservation and environmental education	15
To improve and maintain park-people relations, Edit objective 1 from the LFA	16
Objective 1: TO IMPROVE AND MAINTAIN PARK-PEOPLE RELATIONS ..	16
Target 1.1: Park-people problem solving mechanisms improved.....	16
Target 1.2: Incidences of human-wildlife conflicts reduced.....	17
Objectives 2: TO IMPROVE AND MAINTAIN LOCAL COMMUNITIES LIVELIHOODS	18
Target 2.1: Benefit sharing with local communities improved	18
Objectives 3: TO REDUCE THREATS TO UMNP RESOURCE VALUES.....	18
Target 3.1: Natural resources outside UMNP sustainably managed	19
Target 3.2: Conservation awareness in local communities enhanced	20
PARK OPERATIONS PROGRAMME.....	22
Park operations strategy	22
Protection of resources and use.....	22
Visitor safety in the Park	23
Staff motivation.....	23
Maximization of park revenues and supplies.....	23
Improved park infrastructure and services	23
Collaboration with other stakeholders	24
Objective 1: TO EFFECTIVELY AND EFFICIENTLY PROTECT NATURAL RESOURCE VALUES, HUMAN LIFE AND PROPERTY.....	25
Target 1.1: Resource protection operations strengthened in collaboration with stakeholders	25
Target 1.2: Safety of park visitors, personnel and property enhanced	27
Objective 2: TO STRENGTHEN EFFICIENCY OF UMNP PARK OPERATIONS.....	28
Target 2.1: Staff welfare improved	28
Target 2.2: Performance and professionalism of UMNP staff improved	28

Target 2.3: UMNP staff establishment strengthened to meet GMP implementation needs.....	29
Target 2.4: UMNP revenue generation improved	29
Objective 3: To develop and improve UMNP infrastructure and initiate maintenance programs.....	30
Target 3.2: Park roads, trails and buildings are improved and equipment serviced	31
Target 3.3: Park infrastructure developed and environmental impacts minimised	31
Objective 4: To enhance collaboration with relevant stakeholders in the long-term conservation and management of UMNP.....	32
Target 4.1: Collaboration and partnerships with stakeholders enhanced	32
Mitigation of environmental impacts of major Park Operations Program actions	33
THREE-YEAR OPERATION PLANS.....	35

LIST OF TABLES

<i>TABLE B -1 UMNP MANAGEMENT ZONES</i>	<i>IX</i>
<i>TABLE A-2: THE 10-YEAR STRATEGIC AND 3-YEAR ACTION PLAN COMPONENTS OF THE GMP, AND THE LINK TO ANNUAL OPERATING PLANNING</i>	<i>3</i>
<i>TABLE A- 3: UMNP GMP PLANNING PROCESS COMMUNICATIONS STRATEGY ...</i>	<i>4</i>
<i>TABLE B-4: UMNP EXCEPTIONAL RESOURCE VALUES.....</i>	<i>5</i>
<i>TABLE B-5: HUZ PROPOSED LIMITED OF ACCEPTABLE USE</i>	<i>13</i>
<i>TABLE B-6: LUZ PROPOSED LIMITED OF ACCEPTABLE USE</i>	<i>14</i>
<i>TABLE B-7: WZ PROPOSED LIMITED OF ACCEPTABLE USE</i>	<i>15</i>
<i>TABLE B-8: LAU FOR ADMINISTRATIVE AND TOURIST FACILITIES AND INFRASTRUCTURE</i>	<i>16</i>
<i>TABLE C-9: LIST OF UMNP CONSERVATION TARGETS</i>	<i>20</i>
<i>TABLE C-10: UMNP CONSERVATION TARGETS AND KEY ECOLOGICAL ATTRIBUTES</i>	<i>21</i>
<i>TABLE C-11: THREATS TO UMNP CONSERVATION TARGETS.....</i>	<i>23</i>
<i>TABLE C-12: UMNP THREAT ANALYSIS MATRIX</i>	<i>27</i>
<i>TABLE F-13: MITIGATION MEASURES FOR MAJOR PARK OPERATIONS PROGRAM ACTIONS</i>	<i>33</i>

LIST OF FIGURES

FIGURE A-1 THE GMP STRUCTURE..... 1
FIGURE B-2 INTEGRATING THE GMP WITH THE TANAPA CORPORATE STRATEGIC PLAN.....2
FIGURE B -4: UMNP RIVERS8
FIGURE B-5: UMNP MANAGEMENT ZONES.....12

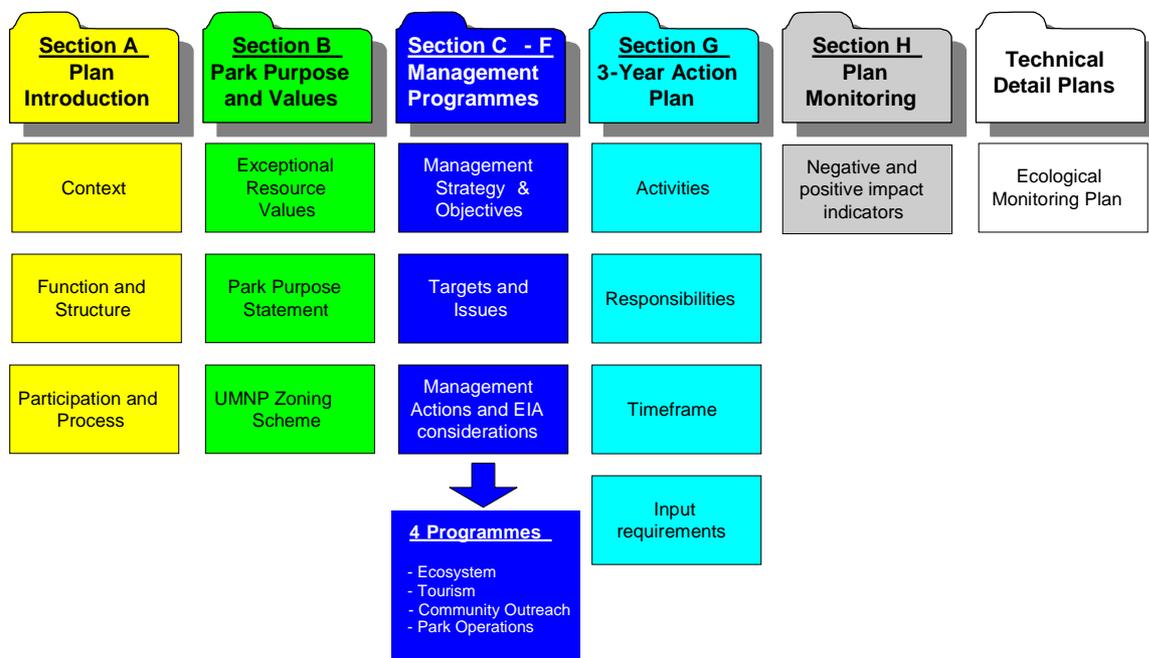
Introduction

This General Management Plan (GMP) is a 10 years strategic plan for Udzungwa Mountains National Park (UMNP) for the period from 2012 to 2022. It is intended to guide and facilitate the management of Park resources, the uses permitted within the area, and the infrastructure development needed to support that management and use. An important underpinning of the GMP is the establishment of medium-term strategies (management objectives) for addressing UMNP's management problems and issues, and for achieving a desired future over 10 years period. These objectives in turn provide the framework for determining what activities need to be implemented to develop tourism, when to take them and the human and other resource requirements needed to implement them. These detailed management activities will be implemented through the park Annual Operation Plans (AOPs).

GMP structure

The Udzungwa Mountains National Park GMP follows the adjustment 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 the Park. The plan structure, as illustrated in Figure A.2, defines the main sections of the plan.

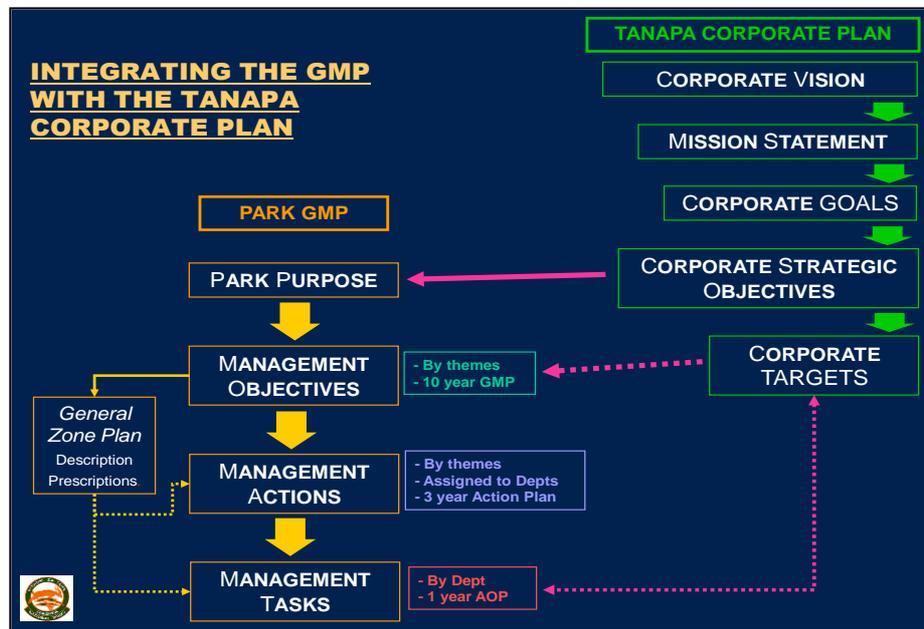
Figure A-1 The GMP Structure



Integrating the GMP with the TANAPA Corporate Strategic Plan

The linkage between the Corporate Strategic Plan (CSP) and the GMP starts at the corporate strategic objectives, which are related to the park purpose. The park purpose leads to development of management objectives that have a link to the corporate targets. The management objectives are achieved through a series of management actions and tasks that are generated through zone schemes and prescriptions. The actions are at the level of Medium Term Expenditure Framework (MTEF) that is implemented annually through annual operation plans. The annual plans are indirectly related to corporate targets that have to be achieved in management objectives at the park level (see figure B-2).

Figure B-2 Integrating the GMP with the TANAPA Corporate Strategic Plan



Alignment of GMP with Park departments

The GMP 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 for UMNP are:

- (i) Ecosystem Management
- (ii) Tourism Management
- (iii) Community Outreach
- (iv) Park Operations

Structuring the GMP into these four discrete programmes will facilitate understanding and subsequent implementation. This is achieved through the programmes that are aligned with different departments in UMNP. Management Programmes also complement the Logical Framework Approach (LFA) to Park planning (see Figure A.3).

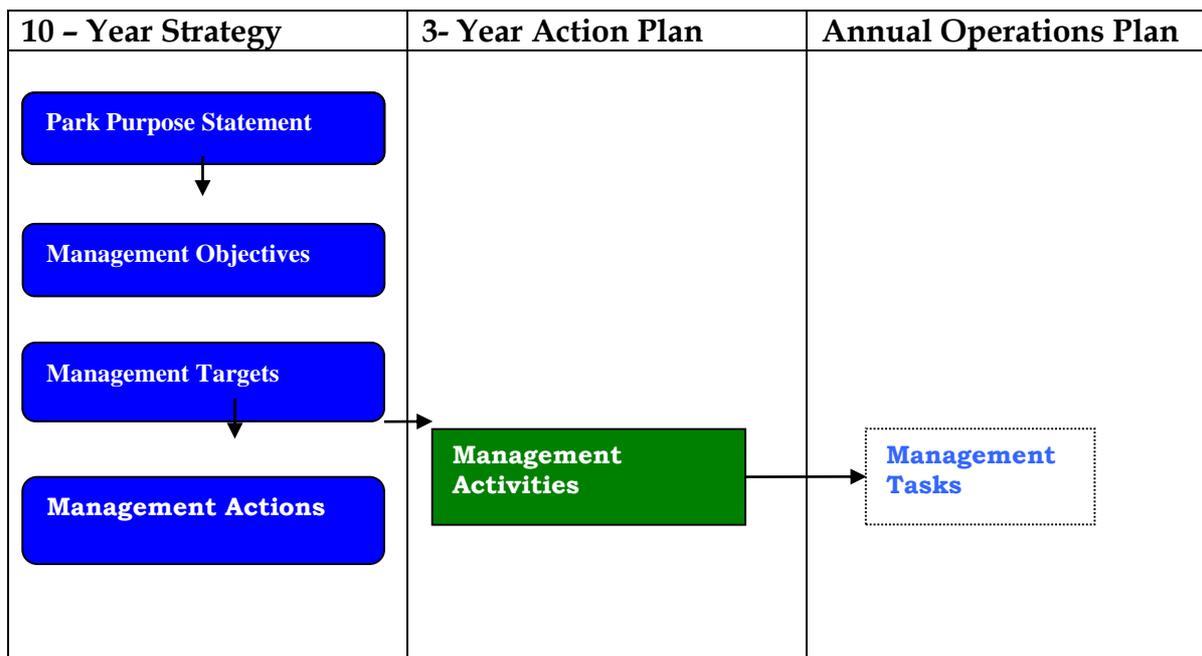
Ten-year strategic and 3-year action plan structure

General management plans typically have a 10-year planning horizon and incorporate a 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 Park and TANAPA corporate management needs and priorities. Specifically, the approach aims to ensure that there is a strong link between the actions prescribed by the GMP and the annual operations planning to the TANAPA corporate annual budgeting cycle.

Logical Framework Approach

Logical Framework Approach (LFA) is one of the planning techniques adopted in this GMP. The LFA technique illustrates logical linkages 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.

Table A-2: The 10-year strategic and 3-year action plan components of the GMP, and the link to annual operating planning



Stakeholders Analysis

The TANAPA strategic planning process aims to ensure that all National Parks' stakeholders are given an appropriate opportunity to contribute and participate in the preparation of the GMP. At an early stage, the UMNP Park Core Planning Team carried out stakeholders analysis as a basis for developing a simple participation and communications strategy for the planning process (Table A.1). Stakeholders were assigned to categories according to their anticipated degree of participation in the planning process as listed hereunder;

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

Consult – important stakeholders were actively consulted during the planning process and their inputs were directly incorporated into the planning process.

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

No Action – stakeholders who had no immediate benefit that require involvement in the planning process.

Table A- 3: UMNP GMP Planning Process Communications Strategy

Involve	Consult	Raise awareness	No action
Regional and district government authorities	District government authorities	General public	Business enterprises
Tour operators	Ministry of Natural Resources and Tourism	Film makers	Individuals
Local communities	Local communities around the Park	International communities	International organizations
NGOs (WWF, WCS)	Kilombero Nature Reserve	Tourists	Suppliers
Udzungwa Mountains National Park Management	Kilombero Valley Teak Company		Tanzania government
Kilombero Nature Reserve	TANESCO - (Kidatu Hydropower plant)		Tanzania Treasury
Selous Game Reserve	Tour operators, hotel/ camps operators		
TANAPA HQ	Tourists		

	Researchers		
TANESCO - (Kidatu Hydropower Plant)			

B
D

EXCEPTIONAL RESOURCE VALUES

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.

UMNP’s exceptional natural, scenic, cultural and social attributes were identified using the following criteria:

- (i) Outstanding examples of the natural, scenic, ecological, hydrological, floral, faunal and recreational values for which the park was established.
- (ii) Habitats necessary for the continued survival of globally threatened and endangered species, both floral and faunal.
- (iii) Population of rare and endemic plants and animals that is especially vulnerable because of small population sizes and genetic isolation.
- (iv) Local cultural sites of important historical and archaeological value.
- (v) Areas crucial for maintaining water flow and quality to protect the ecological integrity of the park and lowlands.

The UMNP Core Planning Team established four categories of exceptional resource values as shown in Table B.1.

Table B-4: UMNP exceptional resource values

Item
Natural
1. Montane forest
2. Rare, threatened and endemic flora and fauna
3. Water
4. Wilderness character
Scenic
5. Spectacular mountain scenery
6. Kilombero valley
7. Waterfalls
Cultural
8. Historical and cultural sites
Social
9. Economic benefits to adjacent communities and the nation

Natural values

Montane Forest

UMNP's montane forest contains species of plants ranging from the tiny African violet to the 30 metres high *Drypetes gerradinioides* trees. Within this unique tropical forest are the lower montane forest, the upper montane forest and the bamboo forest. It is this exceptional combination of the various vegetation types within such a narrow altitudinal range that provides important habitat for different species of flora and fauna some of which are found nowhere else in the world.

The montane forest also plays important role in preventing soil erosion and floods. Other important roles include moderating temperatures, serving as a windbreaker, preventing drought and improving soil quality.

Rare, Threatened and Endemic Flora and Fauna

The Udzungwa Mountains range is part of the Eastern Arc Mountains which are renowned for their high levels of flora and fauna endemism. The Udzungwa forests contain five endangered and endemic primate species (Iringa Red Colobus, Kipunji, Sanje Crested Mangabey, Matundu dwarf galago and Mountain dwarf galago), as well as major populations of several animal species considered threatened or vulnerable to extinction. Such animals include: the Abbott's duiker (found only in five sites within Tanzania); the Orinus bush baby; and at least nine bird species. Numerous plant species are also rare and/or endemic. It has been established that most of these rare, threatened and endemic plant and animal species are found in the forests outside the existing park boundary.

The forest is important for conservation of the black and white colobus monkey, the Sykes monkey, the Vervet monkey and the yellow baboon. Two lesser-known galagos (bush babies) are also present: the Large-eared greater galago and Senegal galago.

More than 250 bird species occupy the exceptional range and integrity of habitats within the Park, and it is acknowledged as one of the best birding sites in Tanzania. The Eastern Arc Mountains are core areas for at least 25 bird species found only in Tanzania. About half of these occur only in the Udzungwa Mountains, giving it the highest number of endemic and rare bird species in the country as well as the highest densities of specific rare birds. Endemic and rare birds found in the Udzungwas include: the Scarce swift, Dappled mountain robin, White-chested alethe, Sharpe's alcat, the Olive-flanked ground robin, the Spot-throat, the Black-backed cisticola and the Red-capped forest warbler. Two endemics, the Udzungwa partridge and the Rufous-winged sunbird, are mainly found in the forests of Nyumbanitu Mountain, just outside the park's western boundary.

There are also hundreds of species of trees, shrubs, climbers and herbs of which around 50 are endemic. These include the tree, *Drypetes gerrardii nioidides*, and the shrub *Zimmermanniopsis*, while the delicate *Saint paullia* is endemic to the Eastern Arc Mountains.

As new species continue to be identified, an adequate research and monitoring programme is crucial.

Water

Water is an essential component of the fragile mountain ecosystem and one of the most important natural resources. The area's hydrological systems are critical to the existence of the park's resources and natural processes within and outside the park. The Park has a significant number of rivers, which flow, down stream to the Kilombero Valley (Figure B-1).

Wilderness Character

A vast portion of UMNP remains a pristine area undisturbed by man. As the world's population increases, purely wild places will dwindle. The preservation of what little remains will play an increasing role in the management of parks in Tanzania and worldwide. This unique park, with its mountains, the dense green mantle of its forests, its mists, glades, open grasslands and all manner of natural communities, demands protection. Wilderness has an inherent aesthetic value for its own end, but also for those of us who seek contemplation and solitude away from the crowded world.

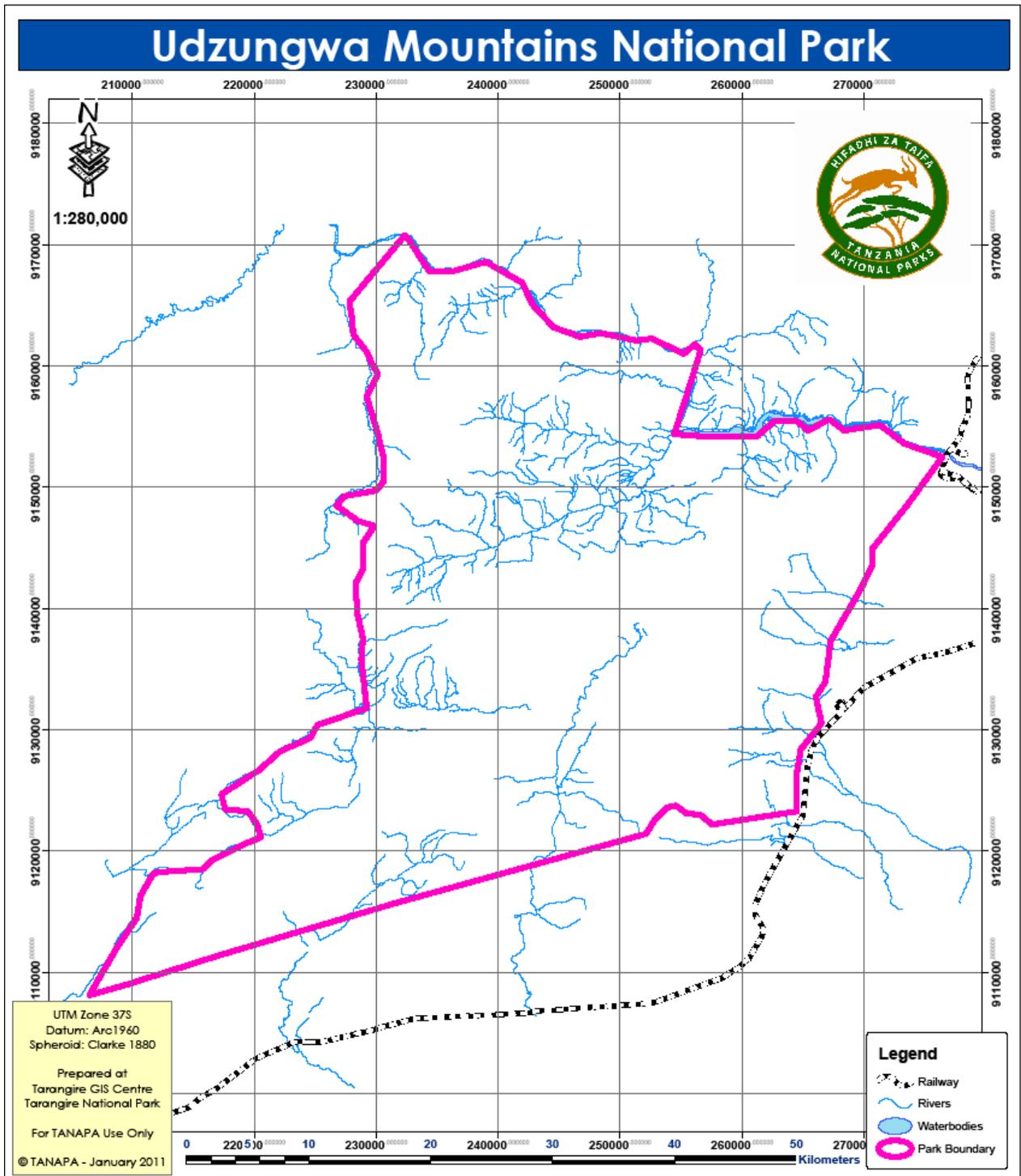
Wild places such as UMNP also provide us with an ecological baseline on which to gauge mankind's impact on the environment.

Scenic Values

Spectacular Mountain Scenery

A combination and variety of landforms, valleys, forests and the geology makes UMNP a unique beauty. The mountains rear steeply from the surrounding plains, rising to lush peaks, severed in places by escarpments of sheer rock. From the top of Mwanihana Peak, visitors are rewarded with views of the vibrant forest below and of the lowlands of Kilombero Valley that spread toward the Selous.

Figure B -3: UMNP Rivers



Kilombero Valley

The Kilombero Valley is an exceptional resource found outside the park. It covers the entire area immediately east of the park and is drained by Kilombero River whose tributaries originate in the UMNP. The valley has great aesthetic appeal when viewed

from certain points in the park. It also serves as a potential tourist attraction as it provides a variety of potential visitor opportunities including hunting in the Kilombero Game Controlled Area, fishing, canoeing, rafting and other water sports on the Kilombero River.

Waterfalls

UMNP has several rivers that cascade into breath taking waterfalls and give superb and panoramic view as they wind over undulating landscapes. The magnificent Sanje Waterfalls; the largest waterfalls in the national park system in Tanzania with three stages; first with 170m, second with 30m and third with 70m; descending down to views of sugar cane plantations. Other waterfalls include Prince Bernhard, Njokamoni, Sonjo, Msolwa and Mwaya. These waterfalls provide potential attractions to tourists with a unique experience for close observations.

Cultural Value

Historical and Cultural Sites

For many years people on the eastern side of Udzungwa Mountains have used the area as a sacred place for worship. They believe in *Bokela* (i.e the Mountain of God) to whom they offer sacrifices in times of drought, disease and famine. It is believed that *Bokela* is pleased that TANAPA is using the area for conservation and preservation rather than for farming or logging. Mwanaluvele Cave is a historical site found near the former village of Mbatwa in the west of the park. The cave was a refuge during famine and tribal wars and could accommodate up to 200 people. The cave has salt deposits, which are believed to be of medicinal value. These caves are occupied by species of bats and porcupines.

Mwanihana Peak, Nyumbanitu and Mdene are other known cultural sites of exceptional value in the park and the surrounding environment. The sites, which are believed to be home for traditional Gods, are sacred places and must be respected. Local people offer caches of pounded grain to their God in times of difficulty and use the caves during rain making ceremonies. The forests of the Udzungwa Mountains have so far been left unexploited as local communities fear annoying the Gods who inhabit the thick forest cover; the thicker the forest, the more the blessings from their Gods.

Social Values

Economic benefits to adjacent communities and the nation

Community Benefits

The communities neighbouring the Park receive direct and indirect economic benefit predominantly through employment within UMNP and tourist facilities; both within the Park and the neighbouring community areas. Another area of community benefit is through TANAPA Support to Community Initiated Projects (SCIP).

National economic benefits

UMNP contains important watersheds for rivers providing energy production at Kidatu and Kihansi hydroelectric dams. The watershed also provides water all year round for domestic use and small and large-scale farming. Major types of large-scale farming include rice farms and sugar cane plantations.

UMNP Purpose Statement

The Park Purpose Statement summarizes the importance of the Park based on the Exceptional Resource Values (ERVs), historical considerations, and prevailing national and TANAPA policies. In this context, the primary purpose of the Udzungwa Mountains National Park is:

Park Purpose: To conserve and protect the Udzungwa ecosystem, enhance management of endemic, endangered, threatened and rare species and promote tourism for the benefit of local, national and international communities.

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:

- Section C: Ecosystem Management Programme
- Section D: Tourism Management Programme
- Section E: Community Outreach Management Programme
- Section F: Park Operations Management Programme

Park Significance

Udzungwa Mountains National Park is;

- The only known National Park in Tanzania that has eleven primate species, five of which are endemic.
- An important water catchment area that provides water throughout the year for fishing and agriculture in the Kilombero Valley and contributes to the national economy through the production of hydroelectric power at Kidatu and Kihansi.
- Rich in cultural values and contains unusual historical and religious sites, kept intact prior to gazettement due to traditional taboos and beliefs.
- Surrounded by forests with the richest bird locality in Tanzania and also support a large number of mammals.
- A protected area with immense aesthetic appeal with waterfalls, tall trees, an array of wildflowers, mountain peaks and superb views of the surrounding countryside.

- Part of the Eastern Arc Mountains block in East Africa with the greatest altitudinal range and relatively undisturbed forest.

UMNP Zoning Scheme

The UMNP Zoning Scheme aims to provide a framework for achieving and reconciling the twin management needs of protecting the natural qualities, 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 UMNP is set out in the Figure B.2

High Use Zone (HUZ)

HUZ Description

This zone extends southwards from Kidatu to Kiberege and then westwards to include the waterfalls, sacred and ritual sites, all eastern nature trails and campsites. This zone contains Montane forest that is dominated by evergreen tropical rainforest. Within this unique tropical forests are the lower, upper montane and Bamboo forests. This exceptional combination of various vegetation types within such a narrow altitudinal range provides the habitats for variety of endemic, threatened and rare species of plants and animals. It is this mosaic forest habitat that harbours endemic and rare species of primates, birds, amphibians and invertebrates. Apart from acting as a habitat for the variety of flora and fauna, the forest is one of the most important water catchment areas in Tanzania.

This is the area which is used by most of the tourists coming to UMNP because it has diverse attractions and more tourist facilities. It is also easily accessible than other parts of the park.

HUZ Proposed LAU is shown in table B -2:

Table B-5: HUZ Proposed Limited of Acceptable Use

<i>High Use Zone</i>	<i>Facilities and Infrastructure</i>
	<ul style="list-style-type: none"> (i) Canopy walkway (ii) 2 Ranger Posts (Sanje and Kidatu) (iii) Entrance Gates (Main - Park HQ, Mini - Sanje) (iv) Visitor Information Centre at Park HQ (50 visitors at a time) (v) Nature trails totalling (200 kms) (vi) 7 Picnic sites (Sanje Waterfalls-2, Mizimu-1, Sonjo-1, Njokamoni-1, Mwaya river-1, Prince Bernhard-1) (vii) View points (Sanje-3, Njokamoni-1, Mwaya river-2) (viii) Hanging bridges (Sanje, Njokamoni and Sonjo)
	<i>Accommodation</i>
	<ul style="list-style-type: none"> (i) Campsite No. 1 (20 beds) (ii) Campsite No. 2 (20 beds) (iii) Campsite No. 3 (50 beds) (iv) Mizimu Campsite (20 beds) (v) Njia Panda Junction (GMP) (30 beds) (vi) Mwaya river (10 beds) (vii) Njokamoni Campsite (20 beds) (viii) Kiberege Campsite (30 beds) (ix) PTC Sanje (30 beds)
<i>Number of vehicle and visitors</i>	<i>Activities</i>
<ul style="list-style-type: none"> (i) Use of vehicles will be permitted for users of campsite number 1, 2 and 3. (ii) 4-10 visitors per group, plus ranger/guides and porters (<i>future restrictions or limits may be determined by monitoring</i>) (iii) Bokela and Mizimu ritual sites – 20 visitors per site per day 	<ul style="list-style-type: none"> (i) Hiking (ii) Camping (iii) Short and long walks (iv) Bird watching (v) Filming (vi) Canopy walking (vii) Mangabey guided tours (viii) Game viewing (ix) Cultural and ritual tours

LOW USE ZONE (LUZ)

LUZ Description

The Low Use Zone is in the western part of the Park. The zone contains undisturbed open grasslands, deciduous baobabs, acacia-commiphora woodlands and dry bush land as well as the dense West Scarp and Luhomero peak which is the highest point in the park. This zone also contains significant cultural sites such as Mwanaluvele Cave, Mbatwa Ruins, and Mdene. Ndundulu and Nyumbanitu Mountains are outside the park but contain crucial habitats for rare and endemic flora and fauna. Researchers continue to make discoveries of new species in these areas. This zone has great potential for tourism but lacks the necessary tourism infrastructure.

LUZ Limits of Acceptable Use

Table B-6: LUZ Proposed Limited of Acceptable Use

<i>Low Use Zone</i>	<i>Facilities and Infrastructure</i>
	<ul style="list-style-type: none"> (i) Entrance Gate and Ranger post at Msosa (ii) Ranger post at Udekwa (iii) All-weather track from Msosa to Mbatwa (iv) Nature trails (v) 4 Picnic sites (Mwanaluvele cave, Ipulilo River, Ibito, Luhomero) (vi) 4 View points (Ibito - Mdene 2, Ipulilo - Mwanaluvele 2,
	<i>Accommodation</i>
	<ul style="list-style-type: none"> (i) Mwanaluvele Cave Campsite (10 pax) (ii) Mbatwa Ruins Campsite (20 pax) (iii) Ibito Campsite (20 pax) (iv) Ipulilo River Campsite (20 pax)
<i>Number of vehicles and visitors</i>	<i>Activities</i>
<ul style="list-style-type: none"> (i) Maximum number of vehicle should be an average of 1 vehicle per 2 kilometres (ii) Mwanaluvele Cave - 10 visitors per 20 minute tour 	<ul style="list-style-type: none"> (i) Camping (ii) Hiking (iii) Short and long walks (iv) Picnicking (v) Bird watching

(iii) Mbatwa Ruins – 50 visitors max per day	(vi) Game viewing
(iv) Mdene ritual and sacred site – 20 visitors per site per day	(vii) Filming
	(viii) Cultural and ritual tours
	(ix) Cultural and ritual tours

WILDERNESS ZONE (WZ)

WZ Description

This zone, the largest in the park, is reserved for wilderness experiences. All permanent facilities will be prohibited. There will be designated fly camping sites, nature trails, view points, resting and picnic sites and no camping will be allowed within 50 metres from water sources. However, water may be used for drinking, cooking, and bathing. This zone encompasses the physical heart of the park, its forests, mountains and high moorlands.

Limits of Acceptable Use

Table B-7: WZ Proposed Limited of Acceptable Use

<i>Wilderness Zone</i>	<i>Facilities and Infrastructure</i>
	(i) Nature trails (150 km all) (ii) 2 Picnic sites (to be re-surveyed) (iii) 3 Resting places (to be re-surveyed) (iv) 1 View point (to be re-surveyed) (v) Game drive circuit (to be resurveyed)
	<i>Accommodation</i>
	(i) Fly camping sites (20 pax)
<i>Number of visitors</i>	<i>Activities</i>
(i) 4-10 visitors per group, plus ranger/guides and porters (future restrictions or limits may be determined by monitoring)	(i) Hiking (ii) Fly camping (iii) Bird watching, (iv) Game viewing (v) Filming

Table B-8: LAU for Administrative and Tourist Facilities and Infrastructure

S/No.	Type of facility		Location
	Existing	Proposed	
1	Research centre (Office)		Park HQ- Mang'ula site
2	Conference facility		Park HQ - Mang'ula site
3		Library	Park HQ - Mang'ula site
4		Herbarium	Park HQ - Mang'ula site
5	UMNP Office buildings		Park HQ - Mang'ula site
6	Staff houses	More houses to be built	Park HQ - Mang'ula site
7	Gates		Main gate Park HQ - Mang'ula site Msosa
		Sanje Mini gate	Sanje
8	Garage and Store		Park HQ - Mang'ula Site
9	Hostel		Park HQ - Mang'ula (max. 50 pax)
10	Rest house		Park HQ - Mang'ula (max. 10 pax)
11	Twiga Hotel		Mang'ula
12		Staff welfare centre	Park HQ - Mang'ula site

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

Park-wide tourism prescriptions:

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

- (i) Preventing disturbance to fragile habitats
- (ii) Allowing recovery of vegetation or over-used trails.
- (iii) Minimizing security risks e.g. damaged trails and board walks.

UMNP management will make sure that all visitors, guides and all park staff especially those dealing with visitors and resource protection are fully aware of the zonal and Park-wide prescriptions in order to ensure that there are no excuses for non-compliance.



Ecosystem Management Strategy

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

The ecosystem management strategy seeks to align the long-term management of the UMNP 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 key national policy instruments that the UMNP ecosystem management strategy has been based upon are the:

- National Policies for National Parks in Tanzania (1994),
- Revised National Wildlife Policy (2007),
- Revised National Tourism Policy (1999),
- National Land Policy (1999),
- National Forest Policy (1999),
- National Environmental Policy (1997),
- National Mining Policy (1997)
- National Water Policy (2002)

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:

- (i) **UMNP management will work to maintain all components and processes of naturally evolving Park ecosystem**, including the natural abundance, diversity, and ecological integrity of plants and animals.
- (ii) **Change is recognised as an integral part of the functioning of the UMNP** and natural systems in natural zones will not be preserved as though frozen at a given point in time.
- (iii) Although a **non-intervention policy will be pursued in general**, interference with natural processes may occur to maintain wildlife species diversity, to preserve sensitive species to restore native ecosystem functioning that has been disrupted by past or ongoing human activities.

- (iv) UMNP 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.
- (v) 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 endemic, threatened and endangered species of primates and birds inside and areas adjacent to the Park. This will involve initiating collaboration wherever possible with partners to ensure the preservation of key species populations, wildlife migration corridors, and habitats outside the Park. In addition, the conservation of UMNP is vital for its catchment values and critical bird habitats, which are 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. UMNP 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 and ecologically 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 ecosystems; however this is not always the case for forest parks like UMNP. The UMNP management will seek to bring under control and minimise the damage caused by wildfires and promote a No Fire Policy at all times. The specific objectives and strategies to be pursued will be stipulated in the Fire Management Plan (Technical Detail Plan) for UMNP.

Maintaining hydrological cycles

UMNP management will ensure the integrity of forests and riverine systems, permanent water sources, springs, marshes and natural glades in the Park. Management of the Udzungwa Mountains hydrological cycle will be carried out by involving all key stakeholders especially downstream users where human activities take 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, UMNP 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 UMNP 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 UMNP ecosystem. The key features and outputs of this planning process are outlined below.

UMNP conservation targets

The UMNP 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 Udzungwa 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 nine Conservation Targets in Table C.1.

Table C-9: List of UMNP conservation targets

Conservation Targets	Ecosystem Level
1. Water sources	System
2. Migratory corridors and dispersal areas	
3. Geology	

4. Cultural/Historical resources	
5. Montane forest 6. Montane grassland and heath 7. <i>Acacia-Commiphora</i> and miombo woodlands 8. Riverine vegetation	Community
9. Endemic, rare, threatened and endangered species	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.

Table C-10: UMNP conservation targets and key ecological attributes

Conservation Targets	Subsidiary Targets	Key Ecological Attribute
1. Water sources	<ul style="list-style-type: none"> ▪ Marshes ▪ Rivers ▪ Natural springs ▪ Forests 	One of the important watersheds for Great Ruaha River and Kilombero Valley
2. Migratory corridors and dispersal areas	<u>Corridors:</u> <ul style="list-style-type: none"> • Udzungwa-Lofya-Mikumi • Udzungwa-Selous (Ruipa-Namawala Forest-Kilombero Game Controlled Area) • Udzungwa-Mtandika-Rubeho-Ruaha • Udzungwa-Nyanganje-Selous <u>Dispersal Areas</u> <ul style="list-style-type: none"> • Kilombero Game Controlled Area • Mtandika • Ilole forest • Image 	Traditional migratory routes and access to critical areas
		Population size of key species
		Productivity of key species
		Forage quality and spatial availability
		Soil and rock properties
		Scenery properties
		Water quality and quantity

3. Geology	<ul style="list-style-type: none"> • Rivers and springs • Soils and rock types • Landscapes 	Physical and biological characteristics
		Soil and rock properties
		Scenery properties
		Water quality and quantity
4. Cultural and Historical resources	<ul style="list-style-type: none"> • <i>Bokela</i> ritual site • Mwanihana peak, Nyumbanitu and Mdene cultural sites • Mwanaluvele cave 	Status of cultural and historical resources
		Use of cultural/historical resources
		Soil and rock properties
		Scenery properties
5. Montane forest	<ul style="list-style-type: none"> • Lower montane forest • Bamboo forest • Upper montane forest 	Water catchment
		Converging bio-geographical unique habitat
		Habitat for key species
		Steep slopes and aspect
6. Acacia – Commiphora and Miombo woodland	<ul style="list-style-type: none"> ▪ <i>Acacia</i> species ▪ Baobab ▪ <i>Ficus</i> species ▪ <i>Commiphora</i> species ▪ <i>Brachystegia busei</i> ▪ <i>Combretum spp</i> 	Diversity, abundance, and distribution of key plant species
		Herbivores of woodland
		Animal spp and abundance
		Forest size
		Bird life
7. Riverine vegetation	<ul style="list-style-type: none"> ▪ Bird species ▪ Amphibians ▪ Reptiles (Crocodiles) ▪ Mammals (primates, elephants, hippopotamus, greater kudu) 	Forest extent and size
		Indicator animal species
		Recruitment rate of key forest species
		Water quality and quantity
8. Endemic, rare, threatened and endangered species	<ul style="list-style-type: none"> • Elephants • Sanje Crested Mangabey • Iringa Red Colobus • Galagos species • Abbott duiker 	<ul style="list-style-type: none"> • Population size and distribution • Productivity (recruitment) • Genetic diversity • Preferred habitat status

	<ul style="list-style-type: none"> • Elephant shrew(Giant sengi) • Kipunji • Rufous-winged sunbird • Udzungwa forest partridge • Cassin’s hawk-eagle • Mkangazi (<i>Khaya anthotheca</i>), Mvule(<i>Milicia excelsa</i>), Mgwina, Mninga(<i>Pterocarpus angolensis</i>), Mkola/Mkongo, <i>parinari excelsa</i>, <i>Lettowianthus stellatus</i>, <i>Catunaregum spinosa</i>, <i>Harungana madagascariensis</i> and <i>Orina laticilia</i> (Grass) 	
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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. 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. The threats identified will be monitored by the UMNP Ecology Department and form the basis for the development of management actions in this Program.

Table C-11: Threats to UMNP conservation targets

Target	Threat	Severity	Scope	Ranking
1. Water sources	Farming near water sources	High	Medium	Medium
	Decline in rainfall	Medium	Medium	Medium
	Increased demand for water extraction from the park	Very high	Very high	Very high
	Deforestation	High	Medium	Medium
	Wildfires	Very high	High	High

	Pollution upstream from farming inputs and other human developments	Medium	Medium	Medium
2. Migratory corridors and buffer zones/dispersal areas	Increasing human population and activities (farming, settlement, grazing)	Very high	Very high	Very high
	Lack of land use plans and inadequate enforcement of the existing plans	Very high	Very high	Very high
	Lack of village by-laws to address conservation issues and poor enforcement of the existing by-laws	Very high	Very high	Very high
	Incompatible land use practices along the park boundary	Very high	Very high	Very high
	Inadequate protection	Very high	Very high	Very high
3. Geology (
	Mining	Low	Low	Low
4. Cultural and Historical resources	Inadequate information for preservation	High	High	High
5. Montane forest	Wildfires	High	Medium	High
	Selective logging and pole cutting	Medium	Medium	Medium
	Fire wood collection	Medium	Medium	Medium
	Invasion of exotic plant species	Very high	Medium	High
6. Acacia - Commiphora and Miombo woodland	Wildfires	High	High	High
	Selective logging and pole cutting	Medium	Medium	Medium
	Fire wood collection	Medium	Medium	Medium
7. Riverine vegetation	Increased demand for water extraction from the park	High	High	High
	Farming along the river banks	Medium	Medium	Low
	Wildfires	Medium	Medium	Medium

	Selective logging	Medium	Medium	Medium
8. Endemic, rare, threatened and endangered species				
8.1 Elephants	Poaching	High	High	High
	Blockage of migratory corridors and dispersal areas	Very high	Very high	Very high
	Human-elephants conflicts	Medium	Medium	Medium
8.2 Primates				
8.2.1 Red colobus	Hunting outside the park	Very High	High	High
	Habitat degradation (mainly from tree cutting outside the park)	Very high	Very high	Very high
8.2.2 Sanje mangabey	Poaching	Medium	Medium	Medium
	Disturbance from researchers and tourists	Low	Low	Low
	Population isolation (increased high risk of diseases and inbreeding depression)	Medium	Medium	Medium
8.2.3 Kipunji	Small population size (high risk of diseases and inbreeding depression)	Very high	Very high	Very high
	Poaching	Low	Low	High
8.3 Ungulates	Poaching	High	Medium	High
	Blockage of migratory corridors and dispersal areas	Low	Low	Low
8.4 Birds	Poaching	Low	Low	Low
	Habitat destruction outside the park	Very high	High	High
8.5 Carnivores	Blockage of migratory corridors and dispersal areas	Medium	Medium	Medium
	Poaching	Medium	Medium	Medium
	Human Wildlife Conflicts	Medium	Medium	Medium

8.6. Amphibians	Disease	Very high	Medium	High
	Inadequate knowledge	High	High	High
	Small isolated population sizes	Very High	Medium	High
	Firewood collection	High	Medium	Medium
8.7. Plants	Wildfires	High	High	High
	Selective logging	High	Medium	Medium

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-12: UMNP threat analysis matrix

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

Sedimentation								
Pollution								
Fish poisoning								
Excessive NTFP collection								
Forest fragmentation								
Local extinction of plants 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

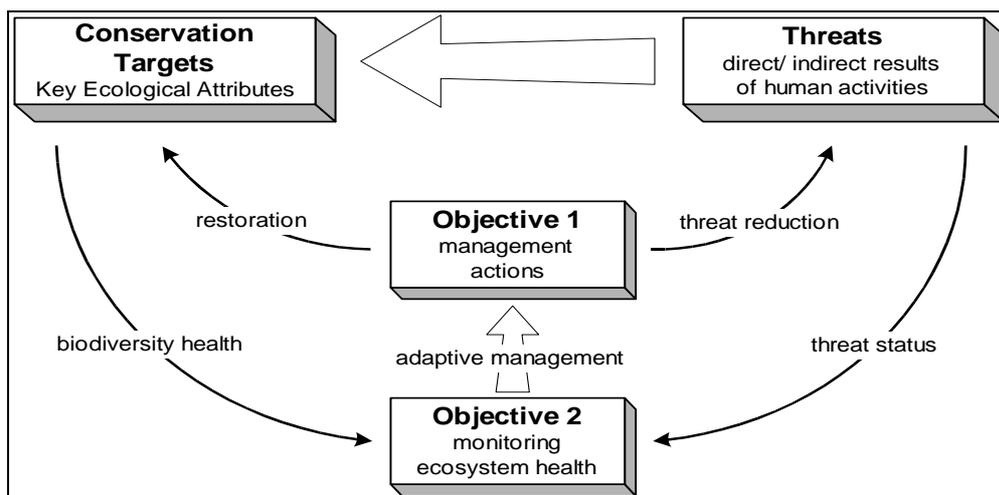
UMNP Ecosystem Management Program Objectives

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 **UMNP Conservation Targets and to minimize threats**
2. To strengthen regular management-oriented **monitoring and assessment** of key ecosystem values and processes

Figure C.1, illustrates how these two objectives address the 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 2011-2013 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 Udzungwa ecosystem, based on measuring the Key Ecological Attributes and

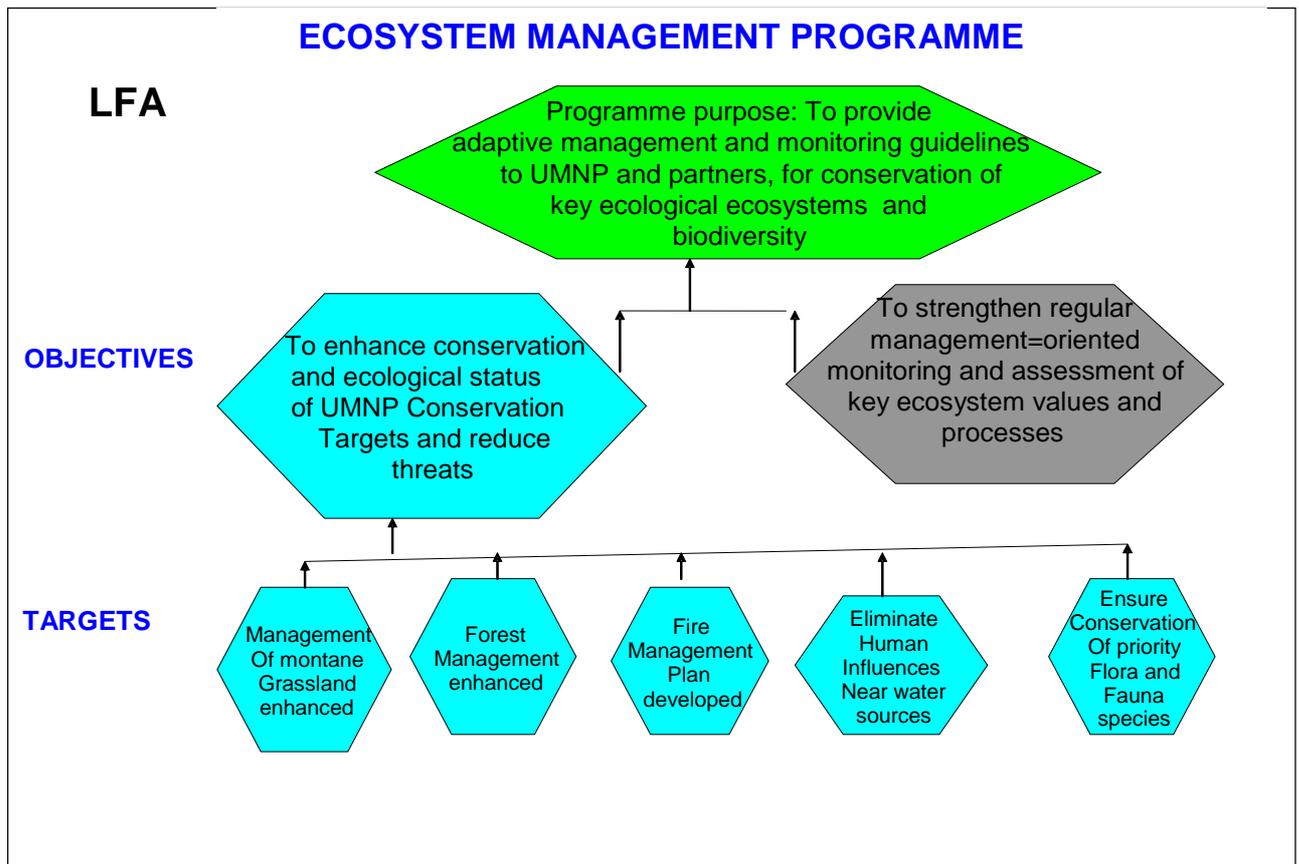
threats to the Conservation Targets. Figure C.2 shows the logical framework for the Ecosystem Management Program.

Objective 1: TO ENHANCE THE CONSERVATION AND ECOLOGICAL VALUES OF UMNP CONSERVATION TARGETS AND TO MINIMIZE THREATS

The desired future of UMNP is one where the threats to the functioning of the Udzungwa Mountains ecosystem are minimized and all components and processes are restored to their natural evolving levels.

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

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



Target 1.1: Human impacts threatening water sources in UMNP minimized

Water is an essential component of the fragile mountain ecosystem and one of the most important natural resources. The area’s hydrological systems are critical to the

existence of the park's resources and natural processes. UMNP contains important watersheds for rivers providing energy production at Kidatu and Kihansi hydroelectric dams. The watershed also provides quality water all the year round for domestic and commercial uses such as small and large scale farming.

Major threats facing the UMNP water sources include increased demand for water extraction from the park, farming near water sources and pollution upstream from farming inputs and other human developments. Currently, there is no monitoring system in place that determines water quality and quantity in the park.

This target will be addressed by the following management actions.

Action 1.1.1: Support a comprehensive study to establish ecologically sustainable network of water intakes inside UMNP.

UMNP management will carry out comprehensive study to determine the status of all existing water intakes, which are inside the Park by looking at the number of water intakes and amount of water which is extracted from each river. In addition, the proposed study will assess water quality in major rivers in the Park. Similarly, the study will determine minimum amount of water which should be retained in each river with water intake. The study should also determine and propose maximum amount of water which can be extracted from each river during the dry season. Finally, the study should recommend measures to mitigate impacts related to existing water intakes inside the Park.

Action 1.1.2: Advocate and collaborate with partners for the protection of water sources and utilization of alternative options.

UMNP management will collaborate with key stakeholders to protect water catchment areas in and outside the park. This will be done by enforcing village by-laws and raising awareness on the importance of protecting water sources. Communities adjacent to the park will be encouraged to explore and adopt alternative sources of water such as shallow wells and by extracting water from sources outside the park.

Action 1.1.3: Conduct EIA and environmental audit of the water supply systems

UMNP management will ensure that EIA is carried out for all new water projects and Environmental Audit for existing water supply systems.

Action 1.1.4: Collaborate with Local Governments to eliminate bad agricultural practices along river banks

Park management will work together with Local Government authorities to enforce by-laws that prohibit bad agricultural practices and use of chemicals along river banks and water sources.

Action 1.1.5: Raise awareness on sustainable water-use methods

In collaboration with key stakeholders, UMNP management will encourage use of efficient methods to conserve use of water for domestic, commercial and agricultural purposes. Some of the methods that can be used to conserve water may include frequent repairs of the water supply systems to minimize water losses, use of drip and sprinkler irrigation techniques.

Action 1.1.6: Establish water monitoring mechanisms

The Ecological Monitoring Department in collaboration with relevant stakeholders will establish and implement a monitoring system to determine water quantity and quality in the park. This will be carried out mainly in all permanent rivers and streams. The department will acquire adequate and appropriate equipment for this activity.

The park management will facilitate provision of relevant training and use experience from other parks to implement the monitoring system.

Target 1.2: Secure regular payment to UMNP for ecosystem services from large scale water users.

Conservation of water sources is associated with many challenges ranging from human destruction of water sources, inadequate human and financial resources. In order to be able to conserve water sources more effectively, concerted efforts from various stakeholders is of paramount importance. This can be achieved by involving major beneficiaries of water from Udzungwa Mountains catchment area to ensure perpetuity of environmental services.

Action 1.2.1 Determine economic values of water from UMNP

Ecological Monitoring department in collaboration with other stakeholders will support and conduct research to quantify economic values of water uses from UMNP. The study will also address threats in relation to water quantity and quality.

Action 1.2.2: Secure payments for water services to conserve UMNP catchment area.

Ecological Monitoring department in collaboration with key partners will identify and document major beneficiaries of water from UMNP ecosystem. After identifying major beneficiaries, UMNP will develop the appropriate modalities for securing payments for water services from the park.

Target 1.3: Ecological integrity of the park's habitat mosaic enhanced.

The park is a diverse landscape of different habitats including dense montane forest, thick stands of bamboo, miombo woodland, Acacia - Commiphora woodland and dry-bush, grassland, open moorland in the higher altitudes and riverine forest. These habitats are representative of the few tropical rain forests that are still intact.

Nevertheless, these habitat mosaics are facing different challenges such as invasion of exotic plant species, selective logging, pole cutting and increasing demand for fire wood collection. Another challenge is the ecological effect of large mammals confined inside the park due to blockage of migratory corridors and dispersal areas. In addition, there is an information gap on the species composition and ecological implications of wildlife isolation from one habitat to the other.

A study on impact of firewood collection from the park has indicated that 143, 872 cubic meters of dead wood are collected annually. Available information has shown that this has significant adverse impacts on the park's ecological processes.

In order to address these challenges, the following actions will be adopted:

Action 1.3.1 Review and facilitate implementation of research priorities

There are various research activities that have been conducted in the park since its establishment. The research studies covered endemic, threatened and rare species of flora and fauna, use of natural resources from the park and other areas prioritized by the park management.

Ecological Monitoring Department in collaboration with key stakeholders will review research priorities for the park that will contribute to effective protection and use of resources from the park, investigate the ecological effect of large mammals confined inside the park due to blockage of migratory corridors and dispersal areas and complete checklists for all taxa.

Action 1.3.2: Remove exotic and alien species from the park

Ecological Monitoring Department will ensure that all exotic plants are removed from the park boundaries and other areas in the park. The department in collaboration with research communities will conduct a study on appropriate mitigation measures to restore impaired habitats into best practise.

Action 1.3.3: Regulate the use of natural resources from the Park

In order to ensure sustainable use of natural resources from the park, UMNP management will control the consumptive and non-consumptive uses of resources in line with the set Limits of acceptable use (LAU).

Action 1.3.4: Strengthen collaboration with other stakeholders to protect and monitor important habitats adjacent to the park.

The Department of Ecological Monitoring in collaboration with key stakeholders will gather various ecological data on habitats and wildlife population dynamics within and outside the park. The information gathered will be used to advice on appropriate management approaches that will address threats facing these habitats and wildlife.

Action 1.3.5: Establish park herbarium

The Ecological Monitoring Department will collaborate with key stakeholders to establish a herbarium at the Udzungwa Ecological Monitoring Centre.

Management Target 1.4: Incidences and effects of wildfires in the park minimized

The wildfires in the park are most prevalent during the dry season, particularly in the eastern, north-west and southern parts of the park. Most of these fires are caused by social beliefs, honey gatherers, poor agricultural practices and poachers.

However, there is inadequate information on fire history and fire patterns concerning the park. Baseline data is needed before recommendations can be made and a fire management plan can be developed. Until then, existing policies will be maintained.

All natural fires will be monitored and controlled. Man-made fires will be suppressed in all areas of the park by all means.

Action 1.4.1: Facilitate research on wildfires dynamics in UMNP

The park management in collaboration with the TANAPA HQ Ecological Monitoring Department and relevant stakeholders will conduct studies to establish spatial and temporal dynamics of wildfires in and outside the park.

Action 1.4.2: Develop and implement Park fire management plan

The Ecological Monitoring Department in collaboration with key stakeholders will prepare fire management plan for the park. Issues to be addressed in the plan will include but not limited to provision of adequate human and financial resources, establishment of fire fighting unit, appropriate fire fighting gears and early warning systems.

The plan will also include details on areas prone to wildfires, appropriate response plan, clearance of park boundary, internal fire breaks. In addition, the plan will incorporate relevant fire monitoring systems and training.

Action 1.4.3: Strengthen collaboration with adjacent communities in managing wildfires

The park management will collaborate with local authorities to establish fire fighting unit which would include village game scouts and village environment committees.

The park will also work together with local authorities to prepare a Memorandum of Understanding (MoU) on fire control and management.

Outreach Department will cooperate with the fire fighting unit to raise awareness on fire control and management. The awareness raising campaign will focus on major causes of wildfires and appropriate fire fighting techniques. The park management will work together with relevant stakeholders to establish and implement fire management incentive schemes.

Target 1.5: Migratory corridors and dispersal areas secured and restored

Migratory corridors and dispersal areas plays a significant role on ensuring perpetuity of wildlife dynamics among ecosystems. UMNP is connected to other important habitats through five known corridors and dispersal areas namely Udzungwa - Ruipa - Namwai Forest - Kilombero GCA - Selous GR (*currently blocked*), Udzungwa - Mtandika - Rubeho - Ruaha National Park, Udzungwa - Nyanganje - Selous GR (*currently blocked*), Udzungwa - Lofya - Mikumi and Udzungwa - Ilole - Mikumi National Park.

However, these corridors and dispersal areas are threatened by human activities such as agriculture, grazing and settlements. These threats are more prevalent in Kilombero Valley, Mtandika, Ruaha mbuyuni, Ruipa, Mofu, Kisegese and Namawala areas. Apart from these threats, other factors affecting corridors and dispersal areas include lack of village land use plans and by-laws in most villages to address conservation issues. In addition, where such plans and by-laws exist there has been inadequate enforcement by responsible authorities.

In order to address the above challenges the following actions will be carried out:-

Action 1.5.1: Collect and document information on viable wildlife corridors and dispersal areas.

The Department of Ecological Monitoring will work together with relevant partners to identify survey, map and monitor viable wildlife corridors which link UMNP to other important habitats.

Action 1.5.2: Secure and restore wildlife corridors and dispersal areas

Park management will work with relevant stakeholders to revive and protect viable corridors and dispersal areas using the monitoring information collected on animal movement patterns, illegal off take of natural resources, human settlements, cultivation and livestock grazing.

The park management through the Outreach Department will facilitate local authorities to prepare village land use plans, by-laws and establishment of Wildlife

Management Areas (WMAs) to secure and protect wildlife corridors and dispersal areas.

Target 1.6: Compatible land uses are practised around the park boundary

UMNP is surrounded by protected areas which act as buffer zones on the western and southern parts of the park. Northern part of the park has fewer threats from human activities because the Great Ruaha River acts as a buffer to the park. The eastern part of the park faces more threats originating from incompatible human activities such as construction of human settlements and farming. This is because there is no buffer zone on this part of the park.

The management actions designed to address these threats are as follows:

Action 1.6.1: Facilitate appropriate land use practises that are compatible to conservation

Park management through outreach programme will support communities adjacent to the park boundary to carry out activities which are compatible to conservation. These activities may include low impact tourism, establishment of village forest reserves and bee-keeping.

Action 1.6.2: Establish buffer zone in the eastern side of the park.

UMNP management will explore the possibilities of acquiring areas adjacent to the park boundary that will serve as buffer zone. The park will also facilitate villages adjacent to the park boundary to establish village forest reserves.

Target 1.7: Conservation of cultural and historical resources improved

UMNP has four known cultural sites in the Park (Mwanihana and Mdene, Bokela and Mizimu) and two historical sites (Mwanaluvele caves and Mbatwa ruins).

There is no adequate information that can be used by the park management to carry out appropriate management practices. Furthermore, there is a lack of guidelines and appropriate skills to manage cultural and historical resources.

In order to address these inadequacies, the following actions will be carried out:-

Action 1.7.1: Collect and document information on cultural and historical sites

The Ecological Monitoring Department in collaboration with relevant partners will conduct a study on historical resources and cultural sites. The information to be collected should focus on the location, size, origin and traditional use of these sites.

Action 1.7.2: Develop and implement a conservation plan for these sites.

The park management in collaboration with relevant stakeholders will prepare the plan for management of cultural and historical sites. Among other things, the plan should incorporate guidelines on how best the sites can be managed, the required skills and knowledge.

Target 1.8: Conservation of endemic and rare species improved

UMNP is endowed with various endemic and rare species of flora and fauna. The fauna species include, Sanje Crested Mangabey, Iringa Red Colobus, Galagos species, Abbott duiker, elephant shrew (grey faced giant sengi), Kipunji, Rufous-winged sunbird, Udzungwa forest partridge, Moreaus Warbler and Cassin's hawk-eagle. The park has five species of bush babies including the rare Orinus bush baby.

There are also different species of amphibians and invertebrates that are endemic, rare and threatened which are found in the park. Similarly, some of the flora species which are considered endemic and endangered include *Tannodia swynnertonii*, *Pavetta nitidissima*, *Rytigynia caudatissima*, *Rytigynia hirsutiflora*, *Tarenna luhomeroensis*, *Gigasiphon macrosiphon*, *Sorindeia calantha*, *Isolona heinsinii* and *Saint paullia*.

Sustainable conservation of these species is compromised by the following challenges; human-elephants conflicts resulting from blockage of migratory corridors, dispersal areas and lack of buffer zones, poaching in and outside the park, inadequate information, selective logging and habitat degradation resulting from tree cutting outside the park.

Other challenges are disturbance from researchers and tourists that pose high risk of diseases, population isolation which may cause inbreeding depression, small population sizes and wildfires.

Action 1.8.1: Establish and maintain a comprehensive database on key species of flora and fauna

The park management will work together with key partners to fill gaps on available baseline data concerning key species of flora and fauna. The Ecological Monitoring Department will facilitate further research on abundance, distribution and threats facing all priority species.

Action 1.8.2: Strengthen and implement the existing monitoring protocols

The Ecological Monitoring Department will collaborate with other departments and partners to improve the existing monitoring protocols. Areas to be improved will include opportunistic and systematic data collection that will incorporate more key species. The department will prioritise species that should be monitored depending on availability of human and financial resources.

Action 1.8.3: Monitor and minimize disturbance from tourism and research on key species

At present, the Department of Ecological Monitoring has habituated two groups of Sanje Mangabey for tourism and research purposes. The groups habituated for research and tourism are found at Mizimu and Njokamoni areas respectively. The department will monitor tourism and research activities in order to determine impact on this species.

Due to the increasing demand on the guided Sanje Mangabey tour; the department will monitor effectiveness of Guidelines on Sanje Mangabey viewing and conduct regular review. The department will also develop key species research guidelines.

Action 1.8.4: Facilitate further research on elephant.

The Ecological Monitoring Department will work together with partners to conduct research on elephant to determine their population dynamics, dispersal areas and movement trends on seasonal basis. In collaboration with other key stakeholders emphasis on research will be on the eastern side of the park where incidences of human-elephant conflicts are more prevalent.

Action 1.8.5: Facilitate research on Kipunji (*Rungwecebus kipunji*)

The Department of Ecological Monitoring will cooperate with research partners to conduct research on Kipunji in order to determine reasons for population dynamics, distribution patterns and environmental determinants.

Action 1.8.6: Improve park veterinary services

The Ecological Monitoring Department will collaborate with the TANAPA Zonal Veterinary Unit to strengthen vet services within and outside the park. Veterinary services to be improved in the park include provision of adequate staff, field gears and equipment.

Furthermore, the department will strengthen collaboration with Kilombero and Kilolo Districts to conduct awareness campaigns, to control and manage epidemic and zoonotic diseases.

Objective 2: TO STRENGTHEN REGULAR, MANAGEMENT-ORIENTED MONITORING AND ASSESSMENT OF KEY ECOSYSTEM VALUES AND PROCESSES

In order to ensure sustainable conservation of the ecological processes in the park having a comprehensive monitoring system is of paramount importance.

This GMP incorporates a comprehensive UMNP Ecological Monitoring Plan (Technical Detail Plan). This plan will be used to monitor UMNP ecosystem health; i.e. the sustained maintenance or enhancement of the viability of the Conservation

Targets. The plan will also monitor both the threats as well as the Key Ecological Attributes of the Conservation Targets, as illustrated in Figure C.1.

The framework for the Monitoring Plan is set out in Table C.5 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 plan requires establishing baseline data for future comparisons of the monitoring indicators and where appropriate, the limits of acceptable use. The LAU will take into account human activities and natural variability in key ecological attributes and guide conservation actions. Once the baseline data and specific indicators are established, it will be possible to periodically collect, analyse, and integrate monitoring information into management decision-making and practices.

Table C.5: Framework for the UMNP 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: Water Sources						
<u>KEA</u> : One of the important watersheds for Great Ruaha River and Kilombero Valley	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 and ecological monitoring reports	Ecologist, RBWO,	Partially
<u>Threat</u> : Decline in rainfall	Average annual rainfall	Rain Gauge	Monthly	Ecological Monitoring reports	Ecologist	Yes
<u>Threat</u> : Increased demand for water extraction from the park	Number of new projects	Official correspondences	Annually	Incoming official requests	Ecologist	Yes
<u>Threat</u> : Deforestation	Forest cover and structure	Remote sensing, aerial photos, direct observation	Annually	Satellite images, field and Research reports	Ecologist	Yes

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<u>Threat:</u> Wildfires	Incidents and intensity of wild fires	Direct observation, Remote Sensing, Satellite images	Annually	Satellite images, field and research reports	Ecologist	Partially
Conservation Target 2: Migratory corridors and dispersal areas						
<u>KEA:</u> Wildlife migratory corridors and dispersal areas	Extent of settlements and farms in areas along corridors	Visual, Aerial surveys, Census	Twice a year (wet and dry season)	Monitoring and research reports	Ecologist, Researchers, local authorities and Outreach Warden.	Yes
<u>KEA:</u> Population size of key species	Number of elephants and buffalos	Collars & aerial surveys, Questionnaire Field work (dung analysis, foot prints, Ground transects	Twice a year	Field and research reports	Ecologist, researchers, TAWIRI, WD, Local authorities	Partially
<u>KEA:</u> Productivity of key species	Change of behaviours Population size	Collars & aerial surveys, Field work (dung analysis, foot prints, ground	Twice a year	Field and research reports	Ecologist, researchers, TAWIRI, WD, Local authorities	Partially

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
	Population composition (age, sex, structure)	transects, opportunist)				
<u>KEA:</u> Forage quality and spatial availability	Forage quality and quantity	Transects/plots, aerial photos and Satellite images	Annually	Field and research reports	Ecologist, researchers, TAWIRI, Local authorities	Partially
<u>Threats:</u> Increasing human population and activities (farming, settlement, grazing)	Population size and dynamics Socio-economic activities	Population Census Villages Surveys Questionnaires	Annually	Local Authorities reports Census reports	UMNP Local Authorities National Bureau of Statistics	Yes
<u>Threats:</u> Lack of land use plans and inadequate enforcement of the existing plans	Number of villages with land use plans Number of activities as per the land use plans	Surveys, Questionnaires	Annually	Local Authority Reports	UMNP/PWO Local Authorities NGOs	Yes
<u>Threats:</u> Lack of village by-laws	Number of villages with by-laws	Surveys,	Annually	Local Authority	Ecologist, PWO	Yes

Key Ecological Attribute/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
to address conservation issues and poor enforcement of the existing by-laws	supporting conservation activities	Questionnaires		Reports	Local Authorities NGOs	
<u>Threats:</u> Incompatible land use practices along the park boundary	Number of settlements and farms along corridors and dispersal areas	Surveys, Questionnaires	Annually	Local Authority and field Reports	PWO /PWP/ Ecologist Local Authorities	Yes
<u>Threats:</u> Inadequate protection	Incidents of Illegal activities Size of the degraded habitats Number of poachers arrested Weapons confiscated	Field patrols	Routine work	Field and research reports Filed cases	PWP Local authorities Researchers	Yes

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<u>KEA</u> : Physical and biological characteristics	Information available on cultural/historical resources Number of cultural/historical sites Condition of cultural/historical sites	Direct observation surveys	Annually	Survey and monitoring reports	Ecologist , Antiquities Department, Local authorities	Partially
<u>Threat</u> : Inadequate information for preservation	Number of researches /studies	Surveys Observation	Once	Survey and monitoring reports	Ecologist Antiquities Department, Local authorities	Partially
Conservation Target 4: Montane forest						
<u>KEA</u> : Water catchment	Forest cover	Remote sensing , satellite images and direct observation	Once a year during the dry season	Field and research reports	Ecologist, PWP and researchers	Yes
<u>KEA</u> : Converging bio-	Biodiversity loss and fragmented habitats	Inventory, aerial photos and satellite images	Every two years	Field and Research reports	Ecologist and researchers	Partially

Key Ecological Attribute/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
geographical unique habitat						
<u>KEA:</u> Habitat for key species	Forest cover and structure	Direct observation, aerial photos ,remote sensing and ranger patrols	Annually	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially
<u>Threat:</u> Wildfires	Extent, frequency and intensity of fire	Direct observation, aerial photos, remote sensing and satellite images	Annually	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially
<u>Threat:</u> Selective logging and pole cutting	Stem counts, number of arrested poachers	Direct observation, aerial photos, remote sensing and satellite images	Quarterly	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially
<u>Threat:</u> Fire wood collection	Cubic metres of deadwood collected per annum	Direct observation, research	Annually	Field and research reports	Ecologist, PWP and researchers	Yes
<u>Threat:</u> Invasion of	Presence and extent	Direct observation	Annually	Field and research reports	Ecologist, PWP and researchers	

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
exotic plant species						
Conservation Target 5: Acacia - Commiphora and Miombo woodland						
<u>KEA</u> : Diversity, abundance, and distribution of key plant species	Changes in tree cover Size and fragmentation of prioritised areas	Photo points; Satellite imagery involving GIS and related to the vegetation maps	Two years	Census, ecological monitoring, Research and inventory reports	Ecologist and Researchers	Yes
<u>KEA</u> : Herbivores of woodland	Population size and distribution patterns	Collars & aerial surveys, Questionnaire Field work (dung analysis, foot prints, Ground transects	Twice a year	Field and research reports	Ecologist, researchers, TAWIRI, FBD, Local authorities	Partially
<u>KEA</u> : Animal spp and abundance	Population size, Species composition Distribution patterns	Collars & aerial surveys, inventory Questionnaire	Twice a year	Ecological monitoring and research reports	Ecologist, TAWIRI and researchers	Partially

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
		Field work (dung analysis, foot prints, Ground transects)				
<u>KEA:</u> Forest size	Extent and cover	Aerial photos, satellite images and direct observation	Annually	Ecological monitoring and research reports	Ecologist and researchers	Yes
<u>KEA:</u> Bird life	Number of bird species	Direct observation, census and inventory	Annually	Ecological monitoring, census and research reports	Ecologist and researchers	Yes
<u>Threat:</u> Wildfires	Extent, frequency and intensity of fire	Direct observation, aerial photos, remote sensing and satellite images	Annually	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially
<u>Threat:</u> Selective logging and pole cutting	Stem counts, number of arrested poachers	Direct observation, aerial photos, remote sensing and satellite images	Quarterly	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially

Key Ecological Attribute/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<u>Threat:</u> Fire wood collection	Cubic metres of deadwood collected per annum	Direct observation, research	Annually	Field and research reports	Ecologist, PWP and researchers	Yes
Conservation Target 6: Riverine vegetation						
<u>KEA:</u> Forest extent and size	Extent and cover	Aerial photos, satellite images and direct observation	Annually	Ecological monitoring and research reports	Ecologist and researchers	Yes
<u>KEA:</u> Indicator animal species	Population size, Species composition Distribution patterns	Collars & aerial surveys, inventory Questionnaire Field work (dung analysis, foot prints, Ground transects	Twice a year	Ecological monitoring and research reports	Ecologist, TAWIRI and researchers	Partially
<u>KEA:</u> Recruitment rate of key forest species	Forest cover	plots	annually	Field and research reports	Ecologist and researchers	Partially
<u>KEA:</u> Water quality and quantity	Dissolved oxygen, pH, salinity, clarity, temperature,	Data collected at strategic locations	Quarterly	Research and Ecological	Ecologist, RBWO and researchers	No

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
	Total Dissolved Solute (TDS) and flow rate	Laboratory analysis Direct observation		Monitoring Reports		
<u>Threat:</u> Increased demand for water extraction from the park	Number of new projects	Official correspondences	Annually	Incoming official requests	Ecologist	Yes
<u>Threat:</u> Farming along the river banks	Size and area covered	Physical observation, remote sensing and aerial photos	Once a year	Satellite images, research and field reports	Ecologist, Protection warden and researchers	Partially collected
<u>Threat:</u> Wildfires	Extent, frequency and intensity of fire	Direct observation, aerial photos, remote sensing and satellite images	Annually	Satellite images, field, research and patrol reports	Ecologist, PWP and researchers	Partially
<u>Threat:</u> Selective logging	Stem counts, number of arrested poachers	Direct observation, aerial photos, remote sensing and satellite images	Quarterly	Satellite images, field, research and	Ecologist, PWP and researchers	Partially

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
				patrol reports		
Conservation Target 7: Endemic, rare, threatened and endangered species						
<u>KEA:</u> Population size and distribution	Population size, Species composition Distribution patterns	Collars & aerial surveys, inventory Questionnaire Field work (dung analysis, foot prints, Ground transects Ranger base monitoring	Twice a year	Ecological monitoring and research reports	Ecologist, TAWIRI and researchers	Partially
<u>KEA:</u> Productivity (recruitment)	Population size and composition (age, sex, structure)	Collars & aerial surveys, Field work (dung analysis, foot prints, ground transects, opportunist)	Twice a year	Field and research reports	Ecologist, researchers, TAWIRI, WD, FBD, Local authorities	Partially

Key Ecological Attribute/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<u>KEA</u> : Genetic diversity	Composition	Laboratory analysis	Every three years	Laboratory reports	Ecologist, researchers and TAWIRI	Partially
<u>KEA</u> : Preferred habitat status	Habitat quality Forage quality	Direct observations	Every two years	Field and research reports	Ecologist and researchers	Partially
<u>Threat</u> : Poaching	Poaching incidences Number of poachers arrested Weapons confiscated	Field patrols	Routine work	Field and research reports Filed cases	PWP Local authorities Researchers	Yes
Blockage of migratory corridors and dispersal areas	Extent of settlements and farms in areas along corridors	Direct observation, questionnaires, Aerial surveys, census	Twice a year (wet and dry season)	Monitoring and research reports	Ecologist, Researchers, local authorities	Yes
<u>Threat</u> : Human- elephants conflicts	Incidences of loss of life and property Quantity of damaged crops	Direct observation. Official reporting	Routine	Filed official reports	Ecologist, PWO and PWP	Yes
<u>Threat</u> : Habitat degradation (mainly from	Forest/forage cover and structure	Remote sensing, aerial photos, direct observation	Annually	Satellite images, field and	Ecologist	Yes

Key Ecological Attribute/ Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
tree cutting outside the park)				Research reports		
<u>Threat:</u> Disturbance from researchers and tourists	Incidences of change of behaviour	Direct observation and research	Routine	Field and research reports	Ecologist and researchers	No
<u>Threat:</u> Population isolation (increased high risk of diseases and inbreeding depression)	Reported cases of diseases Mortality rates Recruitment rate	Direct observation, lab analysis, census	Annually	Field and research reports	Ecologist, TAWIRI and researchers	Partially
<u>Threat:</u> Small population size (high risk of diseases and inbreeding depression)	Recruitment rate Mortality rates	Direct observation Census Lab analysis	Annually	Field and research reports	Ecologist, TAWIRI and researchers	Partially



Tourism management strategy

Programme Purpose:

To develop and promote the unique tourism potential of UMNP and surrounding areas for sustainable tourism management at local and National levels

The Udzungwa Mountains National Park tourism programme seeks to align the long-term development of tourism in Udzungwa Mountains 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 Udzungwa Mountains National Park tourism strategy has been based on are;

- National Policies for National Parks in Tanzania (1994)
- Wildlife Policy of Tanzania (1998)
- National Tourism Policy (1999)
- Integrated Tourism Master Plan (2002)
- Forest Policy (1999)
- Tanzania Investment Promotion Policy (2002)
- National Environmental Policy (1997)
- National Land Policy (1997)
- TANAPA Tourist Facilities Investment Policy (2009)

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 Udzungwa Mountains National Park will be specialized in order to increase visitor numbers to desirable level and optimize revenue; whilst maintaining the wilderness character of Udzungwa Mountains

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 Udzungwa Mountains 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.

The Udzungwa Mountains 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 Use (LAU)

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 concept of Limits of Acceptable Use restricts recreation activities and facilities to those directly associated with the park's resources and consistent with their protection. Furthermore, in-line with the LAU concept, the GMP sets maximum limits on numbers of visitors and types of facilities and activities.

In addition, tourist use may be further restricted and controlled in areas encompassing endangered wildlife and habitats.

Appropriate facilities

Within Udzungwa Mountains National Park, development of facilities cannot take place unless it is in-line with the Park's zonation scheme. According to the management zone, the Tourism Programme will determine the number, type, location and size of all tourism facilities located in the Park. 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 Udzungwa Mountains National Park will provide 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. Udzungwa Mountains National Park contains exceptional biodiversity and many endemic and rare species of great interest to visitors.

Partnerships and cooperation

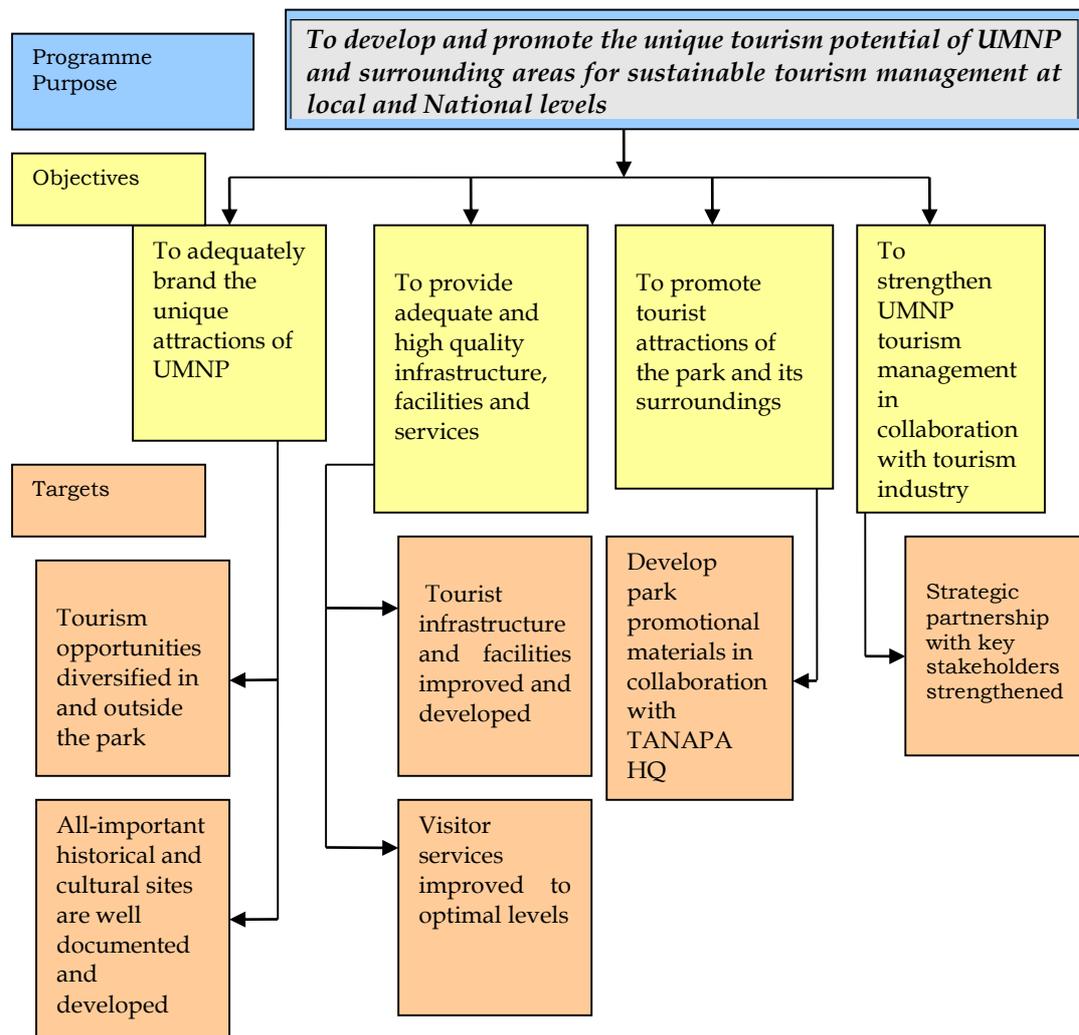
Opportunities will be developed to improve the interactions between Udzungwa Mountains National Park management; researchers, visitors and the tourism industry, in order to enhance visitor experience through quality of products offered and improved services. UMNP management will regulate, promote and facilitate tourism development based on set standards. In this respect, UMNP management will facilitate appropriate meetings with tour operators and other stakeholders on the management of tourism activities. Through the Outreach Programme, UMNP will promote community-based tourism in the villages adjacent to the park.

These guiding principles of the UMNP tourism strategy provide the basis for the *objectives* of the Tourism Programme that define the future desirable state at UMNP, and address the challenges facing the UMNP management. The four objectives are:

1. To **adequately brand the** unique attractions of UMNP
2. To develop infrastructure and quality facilities and services
3. To 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 2011-2013, 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.

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



Objective 1: TO ADEQUATELY BRAND THE UNIQUE ATTRACTIONS OF UMNP

UMNP’s tourism programme aims at adequately branding the unique attractions that will be different from other parks.

Target 1.1: Tourism opportunities diversified in and outside the park

Currently, major tourist activities include short and long walks, hiking, bird watching and guided Mangabey tour. The UMNP management will diversify tourist activities by identifying more attractions and improving facilities and infrastructure. This will eventually attract more local and international visitors to UMNP.

Action 1.1.1: Identify and develop new tourist attractions within the park

The Tourism department in collaboration with other stakeholders will physically identify and document the new attractions. Some of the potential tourist products that are considered include; canopy walkways and cable cars. Study tours carried out in different countries have indicated that UMNP environment is suitable for these types of activities.

Other new products may include; sport fishing, canoeing and boating. Introduction of these activities in UMNP can use experience from other National Parks. Before the new tourist products are developed to UMNP, specific studies should be carried out to find out the feasibility of introducing such products.

Action 1.1.2: Identify and document tourist attractions outside the park in collaboration with other stakeholders

Udzungwa Mountains management in collaboration with other stakeholders will spearhead the identification and documentation of attractions outside the Park. Some of the known attractions which have not been properly documented for tourism purposes include; Magomberema Caves, Madaho Dam, Kifung'ya Water Falls, Iyunji Forest at Vidunda Village where there are waterfalls, *daraja la mungu*, Caves and animals such as peacock and *Merere*, Sugarcane Plantation, Rubber Plantation, Traditional Healers (Kalembwana), Magombera, Udzungwa Scarp and West Kilombero Scarp Forests, Msowero (Chief Mangungo), Leshata Forest (Mpingo) at Kilosa, Slave Route at Kilosa, Kilombero Valley (Ramsar site), Kilombero River, Ikumbagulu (hiding place for Chief Mkwawa in war time) and rock painting at Ikula.

The Tourism department in collaboration with other stakeholders will facilitate documentation, marketing and accessibility to such attractions. This will encourage cultural tourism that will provide tangible benefits to communities around the Park and will help people to value the existence of the Park.

Target 1.2: All-important historical and cultural sites are well documented and developed

Currently, there are three identified cultural sites in the Park (Nyumbanitu, Mwanihana and Mdene), historical sites (Mwanaluvele caves, Mbatwa ruins) and ritual sites (Bokela and Mizimu). Cultural and historical sites outside the Park include Magomberema Caves, Bibi Kalembwana ritual site, and Msowero memorial site for Chief Mangungo, Slave Route at Kilosa, Ikumbagulu memorial site for Chief Mkwawa and rock painting at Ikula.

So far, there is no adequate information to promote cultural and historical sites as important tourist attractions.

Action 1.2.2: Document and develop cultural and historical sites inside and outside the Park

The Park Management in collaboration with Local Authorities, village key informants and the Department of Antiquities will document all cultural and historical sites inside and outside the Park for education and tourism purposes. Additionally, UMNP will investigate all festival activities that are associated with traditional rituals and integrate them into cultural tourism experiences.

Objective 2: TO PROVIDE ADEQUATE AND HIGH QUALITY INFRASTRUCTURE, FACILITIES AND SERVICES

Currently, the park has inadequate tourist facilities and services which are important for attracting and enhancing visitor's experience. This plan will provide programs for improvement and development of standardized facilities, infrastructure and services.

Target 2.1: Tourist infrastructure and facilities improved and developed

UMNP management will improve existing infrastructure and facilities for visitors to suit visitors' needs and satisfaction. Facilities which require improvements include; all public camping sites, trails, gates, picnic sites and viewpoints. New facilities to be developed include; picnic sites, visitor information centre, hostel, mini entrance gate(Sanje), and camping sites.

Action 2.1.1: Improve and establish trails, picnic sites, viewpoints and camping sites

UMNP management will improve existing trails by re-aligning and hardening steep areas. Unreliable crossing points across rivers and streams will be improved. Proper high quality sheds will be provided in all picnic sites. Better kitchen facilities and toilets will be provided in all camping sites. Environmental friendly resting facilities will be established at designated viewpoints which will be located in strategic areas along the trails.

New trails will be surveyed and established from Msosa to Baobab camp, Msosa/Mbatwa to Sonjo via Njia Panda. New camping sites will be established in strategic areas.

Action 2.1.2: Improve existing and establish new entrance gates

All existing gates need improvement to include additional facilities for disabled (pathways and toilets), designated areas for interpretive materials and resting places.

Action 2.1.3: Construct visitor information centre

The visitor information centre will be constructed at Mang'ula. The centre should be located in a strategic position which will encourage visitors to use the facility. The centre will provide information about the park and its resources and attractions which are very important for visitors.

Action 2.1.4: Improve and maintain existing tourist road network

The existing road network from Msosa to Mbatwa will be improved and maintained for tourism and administrative purposes. UMNP management will look upon the possibility of increasing the road network in Mbatwa and surrounding areas in order to create a circuit for tourism purposes.

Action 2.1.5: Construct rest house at Mang'ula

UMNP management will construct a rest house at Mang'ula to cater for official park visitors. The rest house may be used by tourists when there are no park visitors.

Action 2.1.5: Improve Twiga hotel facilities and services

Currently, Twiga Hotel has a maximum capacity of 14 rooms each with a single bed. UMNP management will improve Twiga hotel to meet tourists and other users' requirements by increasing the number of beds, constructing a small meeting room and swimming pool facility. Other improvements needed include a fence, new entry gate and landscaping of the areas occupied by bandas, car parking and the surrounding areas.

Action 2.1.6: Provide interpretive facilities and materials in strategic areas

UMNP management will provide interpretive information at the entry gates, along trails, camping sites, viewpoints and main attractions (e.g. Waterfalls, mountain peaks). Sign posts will be installed at the beginning and junctions of tourist trails and tracks.

Target 2.2: Visitor services improved to optimal levels

At present, the park does not have adequate personnel to provide the required services to tourists and other park visitors. In addition, the park does not have camping and hiking gears that can be hired to tourists. More staff, camping and hiking gears will be provided to improve customer services.

Action 2.2.1: Recruit adequate and competent staff

UMNP management will recruit qualified staff according to the UMNP staff establishment for Twiga hotel.

Action 2.2.2: Provide training to customer care staff

UMNP management will identify training needs and provide the required training.

Action 2.2.3: Acquire camping and hiking gears for hiring by tourists

UMNP management will procure camping and hiking gears such as tents, hiking sticks, rain coats, hiking shoes etc. The Tourism and Finance Departments will prepare modalities for hiring these gears for a fee.

Objective 3: TO PROMOTE TOURIST ATTRACTIONS OF THE PARK AND ITS SURROUNDINGS

Tourism attractions within the park will be promoted by providing relevant high quality information to enhance the understanding of the park resources and adjacent areas. The park management in collaboration with TANAPA HQ, researchers and other stakeholders will develop various information materials aiming at promoting the park's and adjacent areas key attractions. Currently, there is inadequate promotional material for the park.

Target 3.1: Develop park promotional materials in collaboration with TANAPA HQ

The park management will develop promotional materials for the purpose of attracting more tourists to visit the park. Promotional materials for the park will be in form of print, electronic and written materials, such as brochures, leaflets, guide books, newsletters and souvenirs (e.g. T - shirts, caps, tyre covers, badges, and stickers). Preparation of promotional materials will be done in collaboration with stakeholders especially for tourist attractions which are found in areas adjacent to the park.

Action 3.1.1: Prepare and distribute promotional materials

The park management will prepare and distribute adequate promotional materials to all relevant stakeholders.

Action 3.1.2: Develop TV and radio programmes in the local and international media

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

Action 3.1.3: Update and maintain Udzungwa Mountains National Park website

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

Objective 4: To strengthen UMNP 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. 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.

Action 4.1.1: Explore and pursue partnerships that promotes UMNP

UMNP management in collaboration with TANAPA HQ will participate in trade fairs both locally and internationally to promote park attractions.

Action 4.1.2: Initiate competitive certification program for the best tour operators and all stakeholders based on ethic and compliance.

Park management in collaboration with TANAPA HQ 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 Udzungwa Mountains Park code of conduct (guidelines) for visitors

Welcome to Udzungwa Mountains National Park – the only home of three endangered and endemic primate species (Iringa Red Colobus, Kipunji and Sanje Crested Mangabey). The support that you are giving through your park fees provides the Park with the means to conserve and protect this unique landscape.

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 yourself, 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 Sanje waterfalls and Mwanihana and Luhomero peaks should be physically fit.
3. Obey all trail signs and markings and hike and camp at the designated trail and campsites only.
4. You should not pick any flowers or plants at all in the park.
5. A park guide must accompany you at all times in the forest. While hiking to Mwanihana and Luhomero peaks your group size must never exceed eight (8) people including TANAPA ranger and guide.
6. During Mangabey viewing the approved guidelines should be adhered to.
7. Observe silence always in the park, if you must talk do it in a low tone.
8. Never feed primates or other wildlife.
9. You are responsible for digging a 1ft deep hole in the forest for burying faeces when a latrine is not available.
10. 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. Take all litter out of the park (Trash in Trash out).
11. You are not allowed to enter the park with any type of firearm or any other weapon that can be used to destroy park resources.

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 park, may result in my having to leave 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 to the park!

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 following table 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 UMNP 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
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 ➤ Erect appropriate signage

COMMUNITY OUTREACH PROGRAMME

Community outreach strategy

Programme Purpose: *To raise conservation awareness, improve community livelihoods and reduce threats to conservation.*

The UMNP outreach programme strives to align the long-term development of community outreach in UMNP with the programme 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 UMNP outreach strategy are:

- National Policies for National Parks in Tanzania (1994),
- Wildlife Policy of Tanzania (2007),
- National Water Policy (2002),
- National Environmental Management Policy (1997),
- Forest Policy (1999)
- Fisheries Policy (1997)
- Land Policy (1997)
- Agriculture and Livestock Policy (1997)
- National Beekeeping Policy (1998)
- National Strategy for Growth and Reduction of Poverty (NSGRP) - MKUKUTA I& II (2005, 2010)
- National Policy on Poverty Alleviation (2007)
- Wildlife Management Areas Regulations (2002)
- Wildlife Management Areas Guidelines (2002)
- The Community Development Policy (1996)
- Community Based Forest Management Guidelines (2007)
- The Financial Regulations and Procurement Act of 2004

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.

UMNP 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, legislations and strategies in order to guide the implementation of this program and the achievement of the program purpose, as described below:

Good relations between UMNP and local communities or their government

UMNP is intricately linked and affected by the incompatible human activities and land-uses occurring on its boundaries and *vice versa*. Park-community relationships have improved since inception of the park in 1992. Despite its achievements, there have been notable dependencies on use of park resources (water and fuel wood) by local communities. UMNP management will strive to improve the existing mechanisms, to promote dialogue and improve communication with adjacent communities, government and other stakeholders.

Benefits sharing with local communities

UMNP management recognises that park-adjacent 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 recognized then the necessary community support for conservation will not be sustainable.

Consequently, UMNP 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 UMNP. This is in line with the National Policies for National Parks in Tanzania, 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).

UMNP management will follow TANAPA financial regulations, and the Financial Regulations and Procurement Act of 2004 in implementing Support for Community Initiated Projects (SCIP) and eco-friendly Income Generating Projects (IGPs).

Conservation and environmental education

Conflict and disputes between UMNP and adjacent communities have often arisen from inadequate communication about park regulations. This lack of knowledge results in communities feeling distrustful of the Park, disempowered and unsure of their rights. To address these issues, UMNP management will raise conservation education and awareness in the surrounding communities (e.g. villages, schools and other institutions); in particular UMNP will clarify park rules, regulations, through a well-structured education program.

Providing alternatives

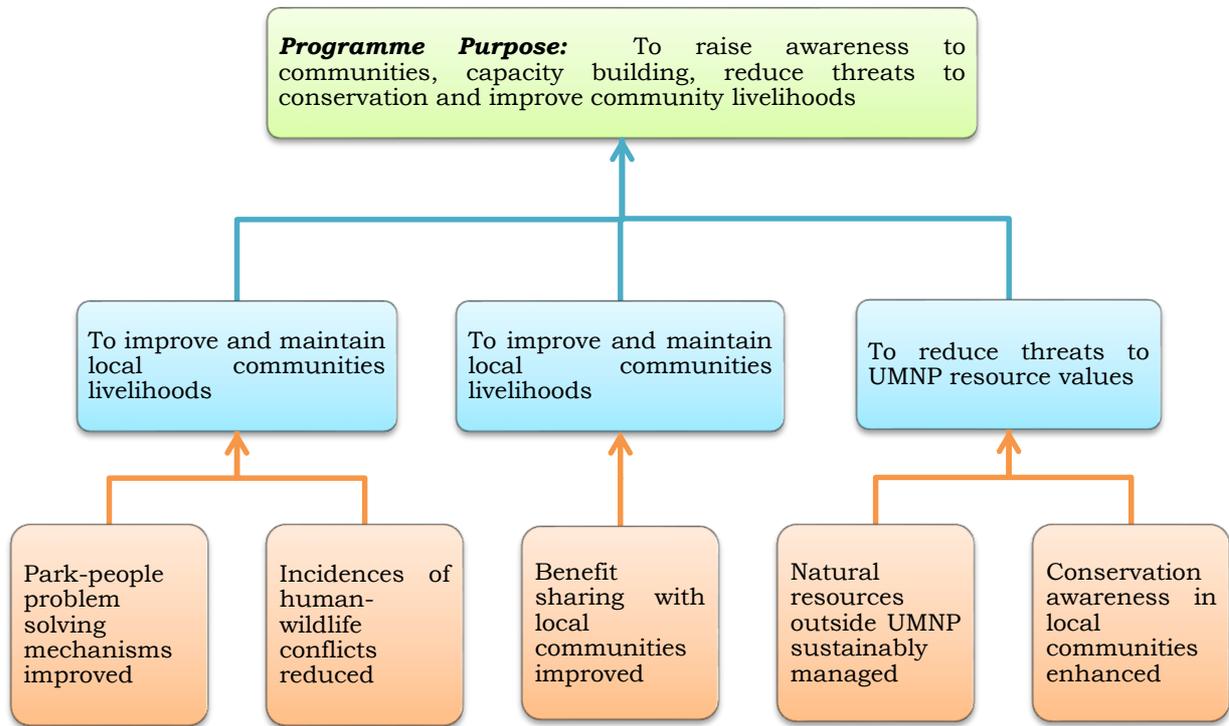
Traditionally, communities living near the park have been depending on the park resources for fuel wood, water extraction, thatching material and medicinal plants. The extraction of these resources was a result of an agreement between the park and the local communities when the park was established in 1992. UMNP management in collaboration with other stakeholders has been supporting different initiatives to provide alternative sources of the above resources. The park management in collaboration with other stakeholders will continue to support existing initiatives and will strive to explore other appropriate alternative options.

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 UMNP and address the relevant problems and issues facing UMNP 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 UMNP 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 2012-2015, 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



To improve and maintain park-people relations, Edit objective 1 from the LFA

Objective 1: TO IMPROVE AND MAINTAIN PARK-PEOPLE RELATIONS

The desired future state of UMNP is one where the neighbouring communities and local governments are fully aware and supportive of the aims and objectives of UMNP 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.

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

Target 1.1: Park-people problem solving mechanisms improved

UMNP has a conflict resolution mechanism in place. However, there are still some conflicts resulting from population pressure, land scarcity and lack of buffer zones on the eastern side of the park.

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

Action 1.1.1: Strengthen existing conflict resolution mechanisms

UMNP management and the adjacent villages have a number of conflicts that need to be solved through different mechanisms. Currently, the park uses various conflict resolution mechanisms through meetings, workshops, seminars, frequent visits and study tours. In addition, other approaches include cooperation with village environmental conservation committees, schools, game scouts and leaders. UMNP will continue to collaborate with other stakeholders to strengthen the existing mechanisms.

Target 1.2: Incidences of human-wildlife conflicts reduced

Several human-wildlife conflicts such as crops and livestock raiding, loss of properties and human life have been reported. In addition, there have been cases of wildlife-livestock interactions that have resulted to disease transmissions.

Outreach department has been raising awareness on control of problem animals and alternative land uses. Moreover, in case of incidences of problem animals, the park management collaborates with village governments and other relevant authorities to control problem animals and facilitate vaccination to control disease transmission.

The following management actions are formulated to address this management target:

Action 1.2.1: Park management to support villages to control problem animals

UMNP will collaborate with village governments and responsible District authorities to control problem animals. Local communities will be sensitized to participate and use traditional ways to scare animals. Other methods like alternative land use practices which are compatible with park- community land interface will be used to deter problem animals.

Action 1.2.2: Educate adjacent communities on consolation procedures for loss of life or property

The Outreach Department will collaborate with local authorities to educate communities on the proper procedures to obtain consolation payments for loss of life or property resulting from problem animal assaults.

Objectives 2: TO IMPROVE AND MAINTAIN LOCAL COMMUNITIES LIVELIHOODS

Like most communities in Tanzania, communities adjacent to UMNP are also relatively poor. Efforts to improve their livelihoods are of paramount importance in order to get their support for conservation of the park.

Target 2.1: Benefit sharing with local communities improved

Benefit sharing with local communities comprises of SCIP and IGPs. SCIP projects cover health, education, domestic and irrigation water supply schemes, administrative infrastructure and environmental conservation projects. IGPs included bee keeping, fish farming, dairy and piggery farming. Another support involves providing revolving funds for organised community groups (Community Conservation Banks).

However, the challenges encountered were inadequate knowledge and skills on entrepreneurship, inadequate capital, lack of mechanisms to create markets for local products, high demand for benefits from the park to local community and insufficient obvious benefits from eco-tourism.

In order to address these challenges, the following management actions have been formulated:

Action 2.1.1: Support community initiated projects

The park management will enhance support to community initiated projects that are 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 environmental friendly income generating projects

The Outreach Department will continue to support the existing IGPs and explore other projects that are environmentally friendly. The department will facilitate trainings to local communities on entrepreneurship and explore more livelihood opportunities such as food processing, joint ventures in tourism activities, handcrafts and curios.

Objectives 3: TO REDUCE THREATS TO UMNP RESOURCE VALUES

The desired future state of UMNP 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 adjacent land, as described below.

Target 3.1: Natural resources outside UMNP sustainably managed

The forests of the Udzungwa Mountains contain five endemic primate species, the Iringa red Colobus, Matundu dwarf galago, mountains dwarf galago, Kipunji and the Sanje crested mangabey, and two endemic bird species, the Udzungwa partridge and the Rufous-winged sunbird). Large populations of these species are found in forests outside the park's boundaries. The forests include Ndundulu, Nyumbanitu, Nyanganje and a large part of Matundu. About 40% of the endemic Sanje crested mangabey and almost the entire population of the Udzungwa partridge and Kipunji live in these reserves, beyond the park's protective boundaries.

Increasing human population has resulted into poaching, grazing, deforestation and agricultural encroachment. Expansions of settlements and agricultural activities have also led to the blockage of migratory corridors and dispersal areas linking UMNP with other protected areas.

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) and environmental committees in conservation of natural resources

UMNP will collaborate with relevant stakeholders to provide training to village game scouts and environmental committees on natural resources protection, utilisation, and basic field gears in order to facilitate smooth operations.

Action 3.1.2: Support communities to use indigenous knowledge to conserve natural resources in the villages

UMNP will promote 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

UMNP will collaborate with private sector, relevant community-based organizations (CBOs) and NGOs in conservation of biodiversity.

Action 3.1.4: Facilitate villages to develop and implement land use plans

Lack of village land use plans has contributed to serious environmental degradation. Development of these plans is a mandate of the Village Councils with the support of District Councils. However, as a development stakeholder, UMNP will facilitate implementation of this mandate to improve environmental conservation in all the villages.

Target 3.2: Conservation awareness in local communities enhanced

While some communities understand the importance and value of conserving park's natural resources, others do not and would prefer to use the resources without any restrictions. This implies that they may lack awareness of both the short and long-term benefits of conserving the park's resources.

Outreach Department provides conservation education to villages adjacent to the park. The education involves school greening programmes, developing and distributing conservation education materials, agro-forestry, use of energy efficient stoves, competitions in environmental conservation activities and park visits to various community groups. However, there has been inadequate equipment and facilities to efficiently conduct conservation education programs.

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

Action 3.2.1: Strengthen conservation and environmental education to local communities

The Outreach Department with other partners will continue to provide conservation education to villages and schools adjacent to the park. The current initiatives will be strengthened by acquiring equipment such as LCD projectors and accessories, computers, camcorders and motor vehicles. The Department will also establish an Environmental Education centre and Youth Hostel.

The Outreach Department will work with the Desktop Publishing Unit at TANAPA HQ and other relevant stakeholders in updating and 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

The Outreach Department will also facilitate training to park staff on the role of outreach to conservation and development of the local communities living adjacent villages.

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

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

The Outreach Department will endeavour to utilize the local media to raise conservation awareness to local communities and stakeholders in the surrounding districts.



Park operations strategy

Programme purpose: *Results oriented performance of Udzungwa Mountains National Park's operations strategy enhanced such that the fragile ecosystem is well conserved*

The UMNP Park operations programme seeks to align the park infrastructure, services and operations with the programme 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 Programme over the next 10 years. The principal national policy-level instruments that the UMNP park operations strategy needs to take into account are:

- National Policies for National Parks in Tanzania (1994)
- Development-Action-Lease Procedures (DALP -TANAPA 1995)
- Pragmatic Environmental Assessment (PEA) guidelines (NEMC, 1997)
- Wildlife Policy (2007)
- Forest Policy (1998)
- Water Policy (2002)
- Tourism Policy (1999)
- TANAPA Financial Policy
- National Procurement Act (2004)
- Mineral Policy of Tanzania (1997)
- National Policy for Agriculture and Livestock (2000)
- National Transport Policy (2003)
- Code of Conduct for TANAPA Rangers
- Revised Labour Law (2004)
- National Employment Policy (1997)
- National Policy for HIV/AIDS (2001)
- National Social Security Policy (2003)
- National Strategy for Growth and Reduction of Poverty (NSGRP) - MKUKUTA (2005)
- TANAPA Staff Regulations (2002)

The Park Operations strategy incorporates a set of principals designed to achieve the program purpose and to ensure alignment with National policies and strategies as described below:

Protection of resources and use

Udzungwa Mountains National Park is famous for its unique biodiversity in Tanzania. The park is surrounded by local communities, who are mainly farmers and livestock keepers. Some of the villagers are involved in the illegal off take of natural resources from the park such as selective logging, mining, hunting, setting wildfires and encroachment. In response, UMNP management will protect these resources for present and future generations, by supporting non-consumptive activities in the park. In collaboration with other stakeholders, UMNP management will strengthen law enforcement activities, influence conservation of natural resources in the surrounding protected areas and community lands.

Visitor safety in the Park

UMNP 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 hotel, camping sites or natural trails is a high priority to UMNP management in their day-to-day operations. Appropriate information on safety will be provided to visitors in the park to guide them and ensure they gain maximum experience.

Staff motivation

UMNP management appreciates the fact that effectiveness and efficiency of park operations is directly related to individual and group commitments to perform to a high standard and to work in difficult and risky situations. Therefore, UMNP management will provide incentives in the form of good working facilities, equipment, salaries, housing, training and social amenities to assist staff in undertaking their assignments efficiently. UMNP management will strive 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. Concerted efforts are needed to encourage investors to develop visitor facilities and activities to generate revenue from tourists that annually visit UMNP to experience the Park's resources and beautiful landscapes. UMNP 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, sale of souvenirs, guidebooks, canopy walkways and , walking safaris to fund the park operational costs. The operational costs include administrative issues, construction and maintenance of park infrastructure and tourist facilities.

Improved park infrastructure and services

So far there has been considerable investment in the park's administrative and tourist infrastructure. However, more investment is needed to provide more staff houses at park HQ, offices and ranger posts. Furthermore, other requirements include tourist trails, park roads (western zone), visitor information centre and entrance gates, rest house, student hostel, staff welfare facilities and extension of Twiga hotel. Services to visitors and staff will also be improved, in particular communication facilities, safe and reliable water supply.

For the park to carry out its management operations efficiently and effectively, it will require adequate working equipment for administrative and tourism purposes.

Collaboration with other stakeholders

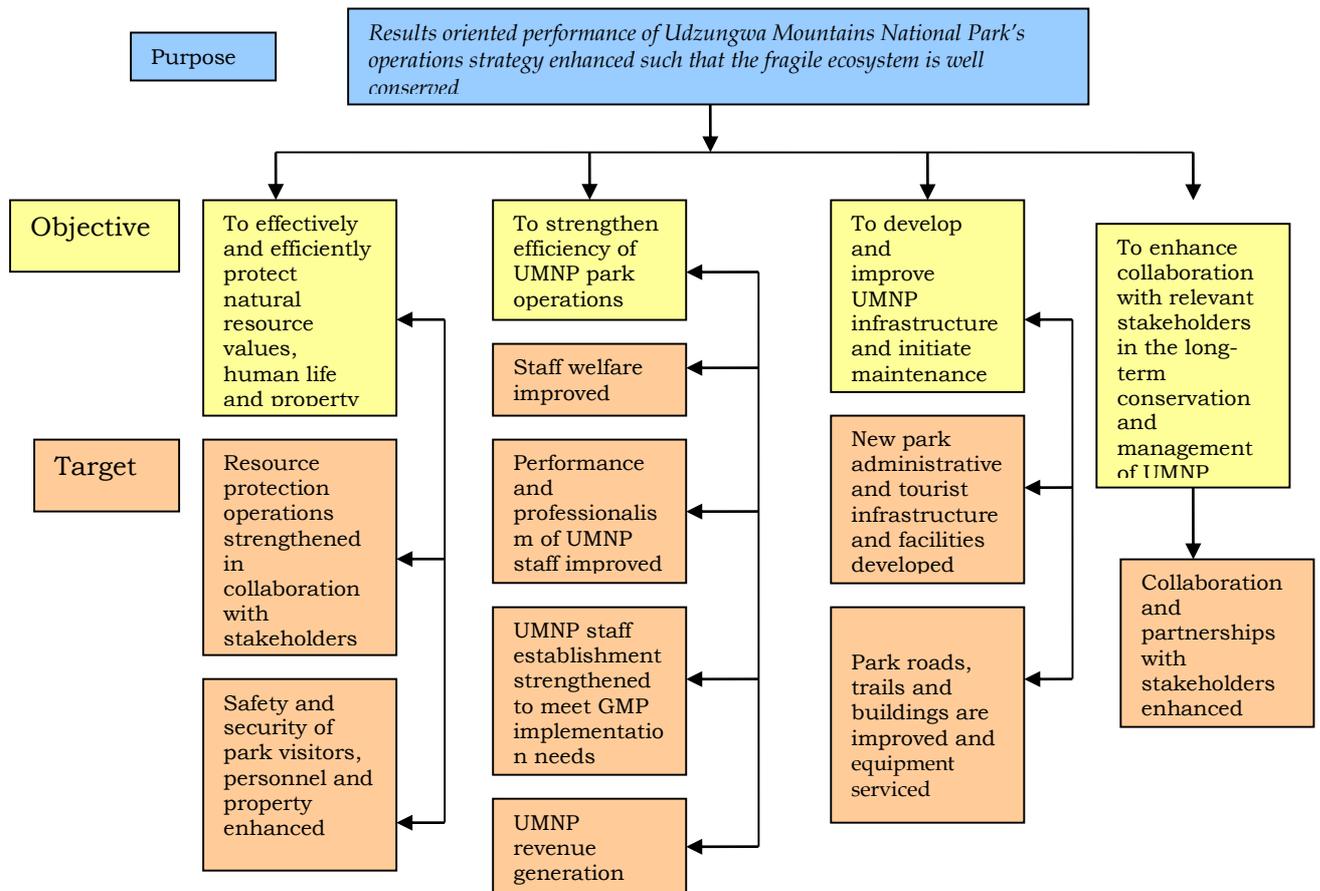
UMNP is surrounded by many neighbouring land-users that are affected by the presence of the Park and vice versa. Therefore, UMNP will cooperate and collaborate with others in order to understand their perspectives, expand UMNP's sphere of influence and to ensure that the survival of the Park within the Udzungwa Mountains ecosystem is maintained.

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

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

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 2012-2015, 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 UMNP 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, currently employing 52 staff out of the 99 park workforce. According to the park staff establishment, the department requires 42 additional staff as detailed in table . For the past five years, types of training provided include long course on basic wildlife management skills, short courses on intelligence, para-military techniques and prosecution activities. This type of training will be required for the newly recruited ranger force. Equipment available are inadequate. For the department to carry out its functions effectively and efficiently adequate equipment should be provided.

Action 1.1.1: Recruit new staff

UMNP will recruit new as per approved Park staff establishment.

Action 1.1.2: Provide sufficient equipment for anti-poaching unit

UMNP management will improve the functions of the Protection department by providing required equipment such as vehicles, patrol gears, communication facilities and equipment, patrol boats, firearms and ammunitions.

Action 1.1.3: Assess and adopt new anti-poaching techniques

UMNP management in collaboration with Directorate of Resource Conservation and Ecological Monitoring will identify and recommend suitable new anti-poaching techniques. Some of the modern techniques include using GPS, night vision goggles, crime sensing dogs, surveillance cameras, use of aircraft, “polisi jamii” and intelligence activities. This action will assess these techniques in order to see how they can best support the law enforcement efforts.

Action 1.1.4: Improve and maintain reward schemes regarding anti-poaching activities

Protection department in collaboration with TANAPA HQ Resource Protection department will review areas of improvement concerning reward schemes for informants. The department will continue to reward informants who provide information which results into successful events of arresting poachers, recovering trophies and apprehending illegal weapons.

Action 1.1.5: Facilitate training and activities of Village Game Scouts

UMNP will collaborate with relevant stakeholders to provide training to village game scouts on natural resources protection, utilisation, and basic field gears in order to facilitate smooth operations. This will enhance protection of wildlife corridors and dispersal areas, Wildlife Management Areas (WMAs) and buffer zones (village forests). VGS will also help to control and manage problem animals and illegal off take of natural resources.

Action 1.1.6: Demarcate park boundary

UMNP will collaborate with key stakeholders to complete marking of the park boundary using beacons as per government notice, which established the park. 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. The department will also carry out routine maintenance and clearing of the park boundary.

Action 1.1.7: Collaborate with other law enforcement agencies

The department will continue to collaborate with the neighbouring protected area law enforcement agencies to carry out joint patrols, depending on the magnitude of the problem and availability of funds. In addition, efforts will be made to follow-up any arrested persons and court cases to ensure that the legal procedures are satisfactorily completed.

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

Apart from ensuring protection of natural resources in the park, the department has the responsibility to provide security to park visitors and their properties.

The management actions to achieve this target are described below.

Action 1.2.1: Strengthen surveillance patrols to ensure security of park visitors

Protection department will strengthen visitor security by providing armed rangers to all visitors while in the park for tourism and research activities. Security will also be provided in all the park visitor facilities in and out of the park.

The department will also collaborate with other stakeholders to carry out surveillance operations by adapting better screening processes and information sharing for purposes of monitoring suspicious actions in the surrounding communities and tourist facilities.

Action 1.2.2: Improve communication systems

UMNP management in collaboration with Protection department will provide modern communication system to enhance efficiency of the protection department. The equipment required includes digital repeater stations, hand-held radios, mobile phones, and satellite phones.

Action 1.2.3: Provide visitor rescue services

UMNP management will introduce rescue services for park visitors. This will involve establishing rescue team, providing appropriate training and acquiring the necessary equipment and facilities using Kilimanjaro and Arusha National Parks experience.

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

UMNP management will collaborate with other law enforcement agencies and local communities adjacent to the Park for the purpose of information sharing, minimizing conflicts and illegal off take of natural resources and smoothening legal proceedings

concerning criminal offences. These will be achieved through regular meetings, seminars, workshop and park visits.

Objective 2: TO STRENGTHEN EFFICIENCY OF UMNP PARK OPERATIONS

The desired future of UMNP 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. The four management targets to achieve this desired future are described below.

Target 2.1: Staff welfare improved

UMNP management in collaboration with TANAPA HQ has improved staff welfare by providing accommodation to both senior and junior staff. At present, 43 out of 99 staff are accommodated in park staff quarters. Water supply services provided by UMNP need improvement. The required services that need to be established include health, recreational and nursery school facilities.

The three management actions to achieve this target are described below.

Action 2.1.1: Provide adequate accommodation for park staff

UMNP management will establish requirements for staff houses and provide additional accommodation in order to meet the demand.

Action 2.1.2: Improve provision of health services to park staff

UMNP management will facilitate her staff to access medical services from nearby health facilities.

The park management in collaboration with relevant institutions will raise awareness for preventive measures on diseases prevalent in the area such as malaria, HIV/ AIDS, typhoid, tuberculosis, onchorceciasis and trypanosomiasis.

Target 2.2: Performance and professionalism of UMNP staff improved

UMNP management in collaboration with Directorate of Human Resources and Administration will enhance park staff performance and professionalism through capacity building, recommending areas for review of staff regulations and code of conduct for park staff.

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

Action 2.2.1: Participate in developing Code of Conduct for park rangers

UMNP management will provide inputs for developing TANAPA Code of Conduct for rangers. Inputs to be provided should consider nature of working environment specific for UMNP.

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

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

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

UMNP 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: Update UMNP staff establishment

UMNP management will review the existing staff establishment to include new staff requirements in the following areas Hotel and hostel attendants, nursery school, librarian, GIS Officer, rescue team, ranger guides, plumbing, electric and welding technicians. Revision of staff establishment will be done from time to time as deemed necessary.

Action 2.3.2: Recruit new staff

UMNP will recruit new staff as per approved Park staff establishment.

Action 2.3.3: Facilitate staff to acquire relevant knowledge and skills

UMNP management will establish library facility at the park headquarters which will be accessible to park staff, visitors and the general public. Information in the library will be in the form of hard copy and electronic resources including internet services.

Target 2.4: UMNP revenue generation improved

Currently, the park revenues do not meet the park operational costs and has to be subsidized by other parks. Maximization of revenue collection from different sources will be promoted through tourism diversification. The UMNP management will endeavour to introduce new sources and improve revenue collection and controls as described in the following management actions:

Action 2.4.1: Introduce new sources of income generation

Finance department in collaboration with Tourism department will identify new sources of revenue and prepare economic feasibility studies to justify investments in such ventures.

Action 2.4.2: Improve revenue collection and internal controls

To ensure that revenues accrued from tourism are properly collected, recorded and stored, UMNP management will review its current financial management practices and control systems and staff training requirements, with the view to minimize revenue losses. Some of the control measures will include establishing a control gate at Sanje and operationalize Msosa gate

Action 2.4. 3 Computerize financial accounts

At the moment, a computerized accounting system in TANAPA is being developed with an aim to improve collection, documentation and security of revenue from gates and accommodation facilities within UMNP. Electronic accounting system, Point of Sale (POS) will be installed at all entry gates. In addition to that computerization will be extended to keeping accurate accounting records.

Objective 3: To develop and improve UMNP infrastructure and initiate maintenance programs

For the park management to carry out its operations effectively and efficiently, it will require additional investments for administrative and tourism purposes. Existing park administrative infrastructure and facilities will need improvement.

Target 3.1: New Park administrative and tourist infrastructure and facilities developed

The required investments include more staff houses at park HQ, offices, ranger posts, tourist trails, park roads (western zone), nursery school, visitor information centre and entrance gates, rest house, library, student hostel, staff welfare facilities and extension of Twiga hotel. All new developments at park HQ will take place at Mang'ula site after developing a site plan.

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

Action 3.1.1: Develop site plan for park HQ infrastructure and facilities

UMNP management will hire a consultant to develop a site plan for construction of new infrastructure at the park HQ and Mang'ula site. The site plan should indicate buildings to be removed, relocated and new ones to be constructed.

Action 3.1.2: Develop the required infrastructure

New infrastructure at park HQ will be developed according to the site.. Additional entry and exit mini gate will be constructed at Sanje.

Action 3.1.3: Provide adequate equipment and facilities

UMNP management will provide sufficient equipment and facilities to facilitate efficient park operations.

Target 3.2: Park roads, trails and buildings are improved and equipment serviced

UMNP management will ensure that roads, trails, buildings and other park facilities are well maintained. The main management focus for this target is therefore to ensure that park infrastructure and facilities are in good condition all the time.

Action 3.2.1: Develop and implement park maintenance program

Park management will prepare a maintenance program in order to ensure that infrastructure, equipment and facilities are in good working condition all the time. The program will determine the frequency of maintenance of infrastructure, equipment and facilities. It will also provide guidance on replacement and disposal of facilities and equipment.

Action 3.2.2: Improve existing administrative and tourist infrastructure and facilities

Park management will improve office buildings and staff houses that will not be relocated at park HQ. In addition, the Park will improve the existing ranger posts, construct lock-ups and provide recreational facilities such as satellite television and various sport facilities and gears in all ranger posts. Importantly, the park management will rehabilitate Mbatwa ranger post and construct gate clerk's houses at Msosa. Furthermore, the park will identify and construct parking areas at Sonjo, Njokamoni and Sanje trailheads.

Target 3.3: Park infrastructure developed and 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 development activities 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 Programmatic Environmental Assessment (PEA). The EIA/PEA will follow the regulations and guidelines established by the National Environment Management Council (NEMC, 2005).

Emphasis on proper waste and pollution management systems will be adhered to in the fragile Udzungwa Mountains ecosystem. UMNP 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 3.3.1: Carry out site specific EIA/PEA for planned infrastructures

UMNP management will ensure that EIA/PEA is carried out for all major developments taking place in the park. Major developments may include construction of new roads in the western part, water supply systems in the park, new ranger posts and construction of new park HQ buildings.

Park management should ensure that project proposals cost estimates incorporates EIA/PEA studies expenses.

Action 3.3.2: Develop and implement waste management plan

Park management will assess the current waste management systems in the park and gather information on best practices from other parks. This information will be used as a basis for developing waste management plan in collaboration with TANAPA HQ and other relevant stakeholders. This plan will provide guidelines on how best waste can be managed in the park and the adjacent areas.

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

UMNP management will ensure that collaboration with international, national and local partners in conservation is strengthened.

The management target to perpetuate and enhance this collaboration will focus on forming national and international partnerships and exchange programs.

Target 4.1: Collaboration and partnerships with stakeholders enhanced

The UMNP management has been working with partners in different programs related to research, management, capacity building, protection, outreach, tourism and park operations. Key international collaborators are WWF, MNS, WCS, UNESCO, IUCN and CI. Some of the key national and local collaborators include Local Governments, MNRT, EAMCEF, WCST, TAWIRI, SUA, UDSM, CAWM, TANESCO

and Tour operators. Park management will continue to collaborate with these partners and seek new partners when a need arise.

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

Action 4.1.1: Strengthen the existing collaboration with conservation partners

UMNP management will continue to work with conservation partners in order to support smooth implementation of various park operations. This will be achieved through regular meetings, workshops, dialogues, study tours, park visits and information sharing. Benefits arising from this collaboration will include getting technical support, capacity building, funding and sharing knowledge and skills.

The detailed 3-Year Action Plan addressing these four objectives is outlined in Table G.4 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.1.

Table F-13: 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

<p>1.2.2: Improve communication network</p>	<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.
<p>3.1.1: Monitor road/trails and buildings wear and tear and carry out necessary maintenance and construction</p>	<p>Noise pollution from construction work disturbing animals, birds or insects</p>	<ul style="list-style-type: none"> ▶ All construction road works should be done during the normal working hours of the day
<p>3.2.1: Institute waste and pollution management systems</p>	<p>Contamination of soils and river systems from oil and diesel spills</p> <p>Use chemicals in the flush toilets may pollute the soils and streams.</p> <p>Improper disposal of solid waste may pollute the soils and streams, as well as cause adverse effect on wildlife health</p>	<ul style="list-style-type: none"> ▶ Oils should be properly stored and safely disposed of outside of the Park ▶ Bio-degradable chemicals should be used ▶ Proper solid waste disposal system should be designed and implemented

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)



THREE-YEAR OPERATION PLANS

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, 3-year Action Plans have been established for each of the four GMP Management Programs to provide a guideline for those who manage UMNP on a daily basis.

Each Action Plan is organised by Program Objectives and Management Targets to ensure that they are clearly linked to the GMP's 10-year strategic framework (see Sections C-F above). The 10-year **Management Actions** from the GMP's strategic framework provide the high-level actions to be implemented on a day-to-day basis. It is expected that good progress will be made in implementing these actions under the initial 3-year Action Plans, however, it is intended that many of the actions will be rolled forward for completion in the subsequent action plans for this GMP. Where appropriate, each action 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.

This section provides the initial 3-year Action Plans for each of the four management programs, with the timeframe on which Management Actions and Activities will occur, the necessary input requirements and the allocation of responsibility for implementation.

Abbreviations used in Action Plan

Action Plan Abbreviation	Details
CPW	Chief Park Warden - UMNP
DALDO	District Agriculture and Livestock Development Officer
DCDO	District Community Development Officer
DCO	District Cultural Officer
DLNRO	District, Land and Natural Resources Officer
DLO	District Land Officer
DPDPTS	Director of Planning, Development Projects and Tourism Services
DRCEM	Director of Resource, Conservation and Ecological Monitoring
DWE	District Water Engineer
FM	Finance Manager
HRDM	Human Resource Development Manager
MEM	Manager Ecological Monitoring - TANAPA HQ
MPDP	Manager Planning and Development Projects - TANAPA HQ

PA	Park Accountant
PAO	Personnel and Administrative Officer
PE	Park Ecologist
PIT/SA	Principal IT and System Analyst
PO	Procurement Officer
PRM	Public Relations Manager
PWI	Park Warden Intelligence
PWO	Park Warden Outreach
PWP	Park Warden Protection
PWT	Park Warden Tourism
RBWO	Rufiji Basin Water Office
TAWIRI	Tanzania Wildlife Research Institute
VGS	Village Game Scouts
WWF	World Wildlife Fund for Nature

Table G.1: Three Year Ecosystem Management Programme 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 enhance the conservation and ecological values of UMNP Conservation Targets and to minimize threats</i>															
1.1: Human impacts threatening water sources in UMNP minimized	Action 1.1.1: Support a comprehensive study to establish ecologically sustainable network of water intakes inside UMNP.														
	1.1.1.1: Develop ToRs for a comprehensive study on water diversion intakes inside the park	Stationary	CPW, PE, DPDPTS												
	1.1.1.2: Hire consultant to carry out the study according to the ToRs	Funds, consultant	CPW, PE, PA, PO												
	Action 1.1.2: Advocate and collaborate with partners for the protection of water sources and utilization of alternative options.														
	1.1.2.1: Identify relevant partners	Allowances, Transport	PE												
	1.1.2.2: Raise awareness on the importance of protecting water sources	Allowances, Transport	PE, PWO												

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
	1.1.2.3: Collaborate with relevant stakeholders to explore and adopt alternative sources of water such as shallow wells and by extracting water from sources outside the park	Funds, experts	PE, PWO, DWE, DCDO, RBWO												
	Action 1.1.3: Conduct EIA and environmental audit of the water supply systems														
	1.1.3.1: Carry out EIA for all new water projects	Funds, Consultants	DPDPTS, CPW, MEM, PE												
	1.1.3.2: Carry out Environmental Audit for existing water supply systems.	Funds, Consultants	DPDPTS, CPW, MEM, PE												
	Action 1.1.4: Collaborate with Local Governments to eliminate bad agricultural practices along river banks														
	1.1.4.1: Collaborate with local government authorities to enforce by-laws that prohibit bad agricultural practices and use of chemicals along river banks and water sources.	Funds, transport	PE, PWO, DCDO, DLO, DLNRO												
	Action 1.1.5: Raise awareness on sustainable water-use methods														

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
	1.1.5.1: Collaborate with relevant stakeholders to encourage use of efficient methods on water for domestic, commercial and agricultural purposes	Funds, Transport	PE, PWO, DCDO, DWE												
	Action 1.1.6: Establish water monitoring mechanisms														
	1.1.6.1: Collaborate with key stakeholders to establish and implement a monitoring system	Funds, Transport	CPW, PE, RBWO, Researchers												
	1.1.6.2: Procure appropriate equipment and provide relevant training of their use	Funds, Transport	CPW, PE, PAO, PA, PO												
1.2: Secure regular payment to UMNP for ecosystem services from large scale water users.	Action 1.2.1 Determine economic values of water from UMNP														
	1.2.1.1: Hire a consultant to conduct research to quantify economic values of water uses from UMNP and threats in term of quality and quantity	Funds, consultant, transport	CPW, PE, PO, PWO												
	Action 1.2.2: Secure payments for water services to conserve UMNP catchment area.														
	1.2.2.1: Collaborate with key partners to identify and document major beneficiaries of water from UMNP ecosystem	Funds, Transport	PE, PWO												

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
	1.2.2.2: Develop and implement the appropriate modalities for securing payments for water services from the park	Funds, Transport	CPW, PE, PWO, PA												
Target 1.3. Ecological integrity of the park's habitat mosaic enhanced.	Action 1.3.1 Review and facilitate implementation of research priorities														
	1.3.1.1: Collaborate with key stakeholders to review and disseminate research priorities for the park	Funds, Transport	CPW, PE, MEM, PIT/SA, Researchers												
	Action 1.3.2: Remove exotic and alien species from the park														
	1.3.2.1: Collaborate with research communities to conduct a study on appropriate mitigation measures to restore impaired habitats into best practise	Funds, Experts Transport	PE, Researchers												
	1.3.2.2: Identify and eliminate exotic species in the Park	Funds, Experts Transport	PE, Researchers												
	1.3.2.3: Identify and control invasive species in the Park	Funds, Experts Transport	PE, Researchers												

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
	1.3.2.4: Raise awareness on impact of exotic/invasive species to park resources	Funds, Transport	PE, Researchers												
	1.3.2.5: Prepare and implement strategies to control introduction of exotics in the Park	Funds, Transport	PE, PWT, PWO												
	Action 1.3.3: Regulate the use of natural resources from the Park														
	1.3.3.1: Implement Limits of acceptable use (LAU) for controlling the consumptive and non-consumptive uses on park's resources	Funds, Transport	CPW, PE, PWO, PWT, PWP												
	Action 1.3.4: Strengthen collaboration with other stakeholders to protect and monitor important habitats adjacent to the park.														
	1.3.4.1: Collaborate with key stakeholders to gather various ecological data on habitats and wildlife population dynamics within and outside the park	Funds, Transport	PE, FBD, TAWIRI, Researchers, Local authorities, WD												
	Action 1.3.5: Establish park herbarium														

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
	1.3.5.1: Collaborate with key partners in establishing a herbarium at UEMC	Experts, Funds, Transport	PE, Researchers	■	■	■	■	■	■	■	■	■	■	■	■
Management Target 1.4. Incidences and effects of wildfires in the park minimized	Action 1.4.1: Facilitate research on wildfires dynamics in UMNP														
	1.4.1.1: Conduct studies for establishing spatial and temporal dynamics of wildfires in and outside the park	Funds, Transport	PE, Researchers					■	■	■	■	■	■	■	■
	Action 1.4.2: Develop and implement Park fire management plan														
	1.4.2.1: Collaborate with key stakeholders to prepare fire management plan for the park	Funds, Transport	PE, CPW, MEM	■	■	■									
	Action 1.4.3: Strengthen collaboration with adjacent communities in managing wildfires														
	1.4.3.1: Collaborate with local authorities to establish fire fighting unit	Funds, Transport	PE, PWO, Local authorities, PWP	■	■										
	1.4.3.2: Collaborate with local authorities to prepare a Memorandum of Understanding	Funds, Transport	CPW, PE, PWO, Local			■									

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
	(MoU) on fire control and management.		authorities, PWP												
	1.4.3.3: Raise awareness on fire control and management.	Funds, Transport	PE, PWO												
	1.4.3.4: Establish and implement fire management incentive schemes	Funds, Transport	CPW,PE, PWO												
Management Target 1.5. Migratory corridors and dispersal areas secured and restored	Action 1.5.1: Collect and document information on viable wildlife corridors and dispersal areas.														
	1.5.1.1: Identify, survey, monitor and map the viable wildlife corridors and dispersal areas	Funds, Transport	PE, Researchers , PWP, local Authorities, FBD, TAWIRI												
	1.5.1.2: Document the information on viable wildlife corridors and dispersal areas	Funds, Transport	PE, Researchers												
	Action 1.5.2: Secure and restore wildlife corridors and dispersal areas														
	1.5.2.1: Identify corridors and dispersal areas	Funds, Transport	PE, PWP, Researchers , TAWIRI												

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
	1.5.2.2: Collaborate with relevant partners to collect data on animal movement patterns, illegal off take of natural resources, human settlements, cultivation and livestock grazing	Funds, Transport	PE, PWP, Researchers, TAWIRI, Local authorities, FBD, WD												
	1.5.2.3: Facilitate the local authorities to prepare village land use plans	Funds, Experts, transport	PE, PWO, Local authorities												
	1.5.2.4: Facilitate local authorities to prepare village by-laws	Funds, Experts, transport	PE, PWO, Local authorities												
	1.5.2.5: Facilitate the local authorities to establish Wildlife Management Areas (WMAs)	Funds, Experts, transport	PE, PWO, Local authorities												
Management Target 1.6. Compatible land uses are practised around the park boundary	Action 1.6.1: Facilitate appropriate land use practises that are compatible to conservation														
	1.6.1.1: Work with local authorities to encourage communities to carry out eco-friendly activities e.g. low impact tourism, establishment of village forest reserves and bee-keeping	Funds, Transport	PE, PWT, PWO, Local authorities												
	Action 1.6.2: Establish buffer zone in the eastern side of the park.														

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				
	1.6.2.1: Identify potential areas for establishing buffer zones	Funds, Transport	CPW, PE, PWP, PWO, MEM, Researchers	■	■	■	■												
	1.6.2.2: Acquire areas adjacent to the park boundaries to serve as buffer zones	Funds, Transport	CPW, PE, PWP, PWO, MEM	■	■	■	■	■	■	■	■								
Management Target 1.7: Conservation of cultural and historical resources improved	Action 1.7.1: Collect and document information on cultural and historical sites																		
	1.7.1.1: Collaborate with relevant partners to conduct a study on historical resources and cultural sites	Experts, Funds, Transport	PE, PWT, Department of Antiquities, Researchers					■	■	■	■	■	■	■	■	■	■	■	■
	Action 1.7.2: Develop and implement a conservation plan for these sites.																		
	1.7.2.1: Prepare the plan for management of cultural and historical sites in collaboration with relevant stakeholders	Funds, Experts, Transport	PE, Department of Antiquities, Researchers					■	■	■	■	■	■	■	■	■	■	■	■

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				
Target 1.8: Conservation of endemic and rare species improved	Action 1.8.1: Establish and maintain a comprehensive database on key species of flora and fauna																		
	1.8.1.1: Facilitate further research on abundance, distribution and threats facing all priority species.	Funds, Transport	MEM, PE, Researchers																
	Action 1.8.2: Strengthen and implement existing monitoring protocols																		
	1.8.2.1: Collect data to incorporate more key species	Funds, Transport	MEM, PE, Researchers																
	1.8.2.2: Prioritise species to be monitored and implement the monitoring protocol	Funds, Transport	MEM, PE, Researchers																
	Action 1.8.3: Monitor and minimize disturbance from tourism and research on key species																		
	1.8.3.1: Monitor effectiveness of guidelines on Sanje Mangabey viewing	Funds	PE, PWT, Researchers																
	1.8.3.2: Conduct regular review of guidelines on Sanje Mangabey viewing	Funds	CPW, PE, PWT																

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
	1.8.3.3: Develop and implement research guidelines on key species	Funds, Transport	CPW, PE, PWT, Researchers	■	■	■	■	■	■	■	■	■	■	■	■
	Action 1.8.4: Facilitate further research on elephant.														
	1.8.4.1: Conduct research on elephant to determine their population dynamics, dispersal areas and movement trends on seasonal basis	Funds, Transport	PE, Researchers, TAWIRI, WD, Local authorities	■	■	■	■	■	■	■	■	■	■	■	■
	Action 1.8.5: Facilitate research on Kipunji (<i>Rungwecebus kipunji</i>)														
	1.8.5.1: Collaborate with research partners to conduct research on Kipunji in order to determine reasons for population dynamics, distribution patterns and environmental determinants	Funds, Transport	PE, Researchers, TAWIRI, FBD	■	■	■	■	■	■	■	■	■	■	■	■
	1.8.6: Improve park veterinary services														
	1.8.6.1: Procure adequate field gears and equipment for veterinary use	Funds, Transport	PE, PA, PO, CVO		■				■				■		

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
	1.8.6.2: Strengthen collaboration with Researchers, District and Division Livestock Development and Veterinary Departments through conducting regular meetings, awareness campaigns and joint operations	Funds , Transport	PE, PWO, ZVO, Researchers												

Table G.2: Three Years 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 UMNP															
1.1: Tourism opportunities diversified in and outside the park	Action 1.1.1: Identify and develop new tourist attractions within the park														
	1.1.1.1: Conduct survey to identify tourist attractions within the park	Transport, allowances	PWT, PE												
	1.1.1.2: Document and publish the identified attractions	Stationeries, funds	PWT, MTS, PE												
	1.1.1.3 Carry out feasibility study and introduce canopy walkways	Funds, consultant(s)	CPW, PWT, MTS, DPDPTS, PE												
	1.1.1.4 Carry out feasibility study and introduce cable cars	Funds, Consultant(s)	CPW, PWT, MTS, DPDPTS, PE												
	1.1.1.5 Conduct studies on possibilities of carrying out sport fishing, canoeing and boating	Funds, consultant(s)	CPW, PWT, MTS, DPDPTS, PE												

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								
	1.1.2: Identify and document tourist attractions outside the park in collaboration with other stakeholders																						
	1.1.2.1: Conduct survey to identify tourist attractions outside the park	Transport, man days, allowances	PWT, OPW																				
	1.1.2.2: Document and publish the identified attractions	Stationeries, funds	PWT, OPW																				
1.2: All-important historical and cultural sites are well documented and developed	1.2.1: Document and develop cultural and historical sites inside and outside the Park																						
	1.2.1.1: Document all cultural and historical sites inside and outside the Park in collaboration with Local Authorities, village key informants and the Department of Antiquities	Stationeries, funds, Antiquity Expert(s)	PWT, OPW, District Cultural Officer																				

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
	1.2.1.2: Investigate all festival activities that are associated with traditional rituals and integrate them into cultural tourism experiences	Transport, allowances.	PWT, OPW, District Cultural Officer, Trditional Leader												
Objective 2: To provide adequate and high quality infrastructure, facilities and services															
2.1: Tourist infrastructure and facilities improved and developed	2.1.1: Improve and establish trails, picnic sites, viewpoints and camping sites														
	2.1.1.1: Maintain the available trails and construct new ones in the designated areas (Baobab Camp to Msosa/Mbatwa, Msosa/Mbatwa to Sonjo via Njia Panda, and Udekwa – Luhomero via Njia Panda to Sonjo	Funds, transport, allowances,	PWT, PE, PWW, PWP												
	2.1.1.2: Improve existing picnic sites by providing high quality sheds and construct new ones in the designated areas	Funds, transport, allowances	PWT, PE, PWW, PWP												

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
	2.1.1.3: Identify and construct view points in the designated areas along trails	Funds, transport, allowances,	PE, PWT, PWW	█	█	█	█	█	█	█	█				
	2.1.1.4: Improve crossing points across rivers and streams and construct new ones in the designated areas	Funds, transport, allowances	PE, PWT, PWW	█	█	█	█	█	█	█	█	█	█	█	█
	2.1.2: Improve existing and establish new entrance gates														
	2.1.2.1: Add facilities for disabled (pathways and toilets) to all entry gates	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█				
	2.1.2.2: Design and install interpretive materials and resting places at entrance gates	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█				
	2.1.2.3: Design and construct new mini entry gate at Sanje,	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█	█	█	█	█
	2.1.3 Construct visitor information centre														
	2.1.3.1 Hire consultant to designs visitor information centre	Funds, consultant(s)	CPW,PWW,PWT,PO, PE	█	█	█	█								

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
	2.1.3.2: Contract out the construction of the Visitor Information Centre at Mang'ula	Funds, contractor	CPW,PWW,PWT,PO, PE												
	2.1.4: Improve and maintain existing tourist road network														
	2.1.4.1: Improve the existing road network from Msosa to Mbatwa for tourism and administrative purposes	Funds, transport	PWT, PWW												
	2.1.4.2: Increase the road network in Mbatwa and surrounding areas to create a circuit for tourism purposes	Funds, transport	CPW,PWW,PWT, PE												
	2.1.5: Construct rest house at Mang'ula														
	2.1.5.1 Hire consultant to design the rest house	Funds, consultant(s)	CPW, PE, PWW,PWT,PO												
	2.1.5.2: Contract out the construction of the rest house	Funds, contractor	CPW, PE, PWW,PWT,PO												
	2.1.6: Improve Twiga hotel facilities and services														

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				
	2.1.6.1: Hire a consultant to design a meeting room, swimming pool facility, fence around the hotel and additional rooms.	Funds, consultant(s)	CPW, PWW,PWT,PO, PE	■	■	■	■												
	2.1.6.2: Hire a contractor to construct the facilities.	Funds, contractor	CPW, PWW,PWT,PO, PE					■	■	■	■	■	■	■	■				
	2.1.6.2: Hire a landscaping expert to improve the hotel area	Funds, landscaping expert	CPW,PWW,PWT,PO, PE									■	■	■	■				
	2.1.7: Provide interpretive facilities and materials in strategic areas																		
	2.1.7.1: Provide interpretive information at the entry gates, along trails, camping sites, viewpoints and main attractions (e.g. Waterfalls, mountain peaks)	Funds	PWT, PWW,PE	■	■	■	■	■	■	■	■	■	■	■	■				
	2.1.7.2: Design and install sign posts at the beginning and junctions of tourist trails and tracks.	Funds, consultant(s)	PWT, PWW	■	■	■	■	■	■	■	■	■	■	■	■				
2.2: Visitor services	2.2.1: Recruit adequate and competent staff																		

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
improved to optimal levels	2.2.1.1: Liase with the HR department to recruit qualified staff according to the UMNP staff establishment.	Funds	CPW, PAO, HRDM, PWT												
	2.2.2: Provide training to customer care staff														
	2.2.2.1: Identify training needs and provide the required training	Funds, consultant	CPW, HRDM, PAO, PWT												
	2.2.3: Acquire camping and hiking gears for hiring to tourists														
	2.2.3.1: Prepare modalities for hiring these gears for a fee.	Funds	PWT,PO, PA												
	2.2.3.2: Procure camping and hiking gears such as tents, hiking sticks, rain coats, hiking shoes etc	Funds	PWT, PO, PA												
Objective 3: To promote tourist attractions of the park and its surroundings															
3.1: Develop park promotional materials in collaboration	3.1.1: Develop and distribute promotional materials														
	3.1.3.1: Collect data and information about the park	Stationeries, transport, allowances	PE, PWT, PWP												

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
with TANAPA HQ	3.1.3.2: Design, produce and distribute adequate promotional materials to visitors	Funds, Transport	PWT, OPW, TANAPA Publishing Unit												
	3.1.2: Develop TV and radio programmes in the local and international media														
	3.1.1.1: Develop themes and topics to be broadcasted in collaboration with TANAPA HQ PR Office	Funds	CPW, PWT, OPW, PRM												
	3.1.1.2: Liaise with TANAPA HQ PR Office to broadcast the programmes	Funds	CPW, PWT, OPW, PRM												
	3.1.3: Develop and maintain Udzungwa Mountains National Park website														
	3.1.2.1: Collaborate with TANAPA HQ on the maintenance of UMNP website	Funds, consultant(s)	CPW,PWT, PIT/SA, PRM												
Objective 4: To strengthen UMNP tourism management in collaboration with tourism industry partners															
4.1: Strategic partnership with key stakeholders strengthened	4.1.1 Explore and pursue partnerships that promotes UMNP														

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
	4.1.1.1 Identify strategic partners in promoting UMNP	Transport, funds	CPW, PWT, OPW												
	4.1.1.2: Participate in local and international trade fairs	Transport, funds	CPW, PWT, OPW												
	4.1.1.3: Collaborate with Outreach department to establish eco-tourism activities through the local communities.	Transport, funds	PWT, OPW												
	4.1.2: Initiate competitive certification program for the best tour operators and all stakeholders based on ethic and compliance														

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
	4.1.2.1 Conduct regular visitor surveys	Funds, transport	PWT	■	■	■	■	■	■	■	■	■	■	■	■
	4.1.2.2: Develop and maintain tourism database	Funds, transport	PWT, MTS, PIT/SA	■	■	■	■	■	■	■	■	■	■	■	■
	4.1.2.3: Set criteria for the best tour operator	Funds, transport	CPW, DPDPTS, PWT	■				■				■			
	4.1.2.4: Award an identification note to the best tour operator	Funds, transport	CPW,DPDPTS PWT			■				■				■	
	4.1.2.5: Conduct annual meetings with tourism stakeholders	Funds, transport	CPW, DPDPTS, PWT			■				■				■	
	4.1.2.6: Conduct consultative meeting and visits to tourism stakeholder	Funds, transport	PWT		■				■				■		

Table G.2: - Three Years 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 UMNP															
1.1: Tourism opportunities diversified in and outside the park	Action 1.1.1: Identify and develop new tourist attractions within the park														
	1.1.1.1: Conduct survey to identify tourist attractions within the park	Transport, allowances	PWT, PE												
	1.1.1.2: Document and publish the identified attractions	Stationeries, funds	PWT, MTS, PE												
	1.1.1.3 Carry out feasibility study and introduce canopy walkways	Funds, consultant(s)	CPW, PWT, MTS, DPDPTS, PE												
	1.1.1.4 Carry out feasibility study and introduce cable cars	Funds, Consultant(s)	CPW, PWT, MTS, DPDPTS, PE												
	1.1.1.5 Conduct studies on possibilities of carrying out sport fishing, canoeing and boating	Funds, consultant(s)	CPW, PWT, MTS, DPDPTS, PE												

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							
	1.1.2: Identify and document tourist attractions outside the park in collaboration with other stakeholders																					
	1.1.2.1: Conduct survey to identify tourist attractions outside the park	Transport, man days, allowances	PWT, OPW																			
	1.1.2.2: Document and publish the identified attractions	Stationeries, funds	PWT, OPW																			
1.2: All-important historical and cultural sites are well documented and developed	1.2.1: Document and develop cultural and historical sites inside and outside the Park																					
	1.2.1.1: Document all cultural and historical sites inside and outside the Park in collaboration with Local Authorities, village key informants and the Department of Antiquities	Stationeries, funds, Antiquity Expert(s)	PWT, District Officer, OPW, Cultural																			

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
	1.2.1.2: Investigate all festival activities that are associated with traditional rituals and integrate them into cultural tourism experiences	Transport, allowances.	PWT, OPW, District Cultural Officer, Traditional Leader												
Objective 2: To provide adequate and high quality infrastructure, facilities and services															
2.1: Tourist infrastructure and facilities improved and developed	2.1.1: Improve and establish trails, picnic sites, viewpoints and camping sites														
	2.1.1.1: Maintain the available trails and construct new ones in the designated areas (Msosa to Baobab camp, Msosa/Mbatwa to Sonjo via Njia Panda.	Funds, transport, allowances,	PWT, PE, PWW, PWP												
	2.1.1.2: Improve existing picnic sites by providing high quality sheds and construct new ones in the designated areas	Funds, transport, allowances	PWT, PE, PWW, PWP												

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
	2.1.1.3: Identify and construct view points in the designated areas along trails	Funds, transport, allowances,	PE, PWT, PWW	█	█	█	█	█	█	█	█				
	2.1.1.4: Improve crossing points across rivers and streams and construct new ones in the designated areas	Funds, transport, allowances	PE, PWT, PWW	█	█	█	█	█	█	█	█	█	█	█	█
	2.1.2: Improve existing and establish new entrance gates														
	2.1.2.1: Add facilities for disabled (pathways and toilets) to all entry gates	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█				
	2.1.2.2: Design and install interpretive materials and resting places at entrance gates	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█				
	2.1.2.3: Design and construct mini entry gate at Sanje.	Funds, transport, consultant(s)	PWT, PWW, PE	█	█	█	█	█	█	█	█	█	█	█	█
	2.1.3 Construct visitor information centre														
	2.1.3.1 Hire consultant to designs visitor information centre	Funds, consultant(s)	CPW,PWW,PWT,P O, PE	█	█	█	█								

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
	2.1.3.2: Contract out the construction of the Visitor Information Centre at Mang'ula	Funds, contractor	CPW,PWW,PWT,P O, PE												
	2.1.4: Improve and maintain existing tourist road network														
	2.1.4.1: Improve the existing road network from Msosa to Mbatwa for tourism and administrative purposes	Funds, transport	PWT, PWW												
	2.1.4.2: Increase the road network in Mbatwa and surrounding areas to create a circuit for tourism purposes	Funds, transport	CPW,PWW,PWT, PE												
	2.1.5: Construct rest house at Mang'ula														
	2.1.5.1 Hire consultant to design the rest house	Funds, consultant(s)	CPW, PE, PWW,PWT,PO												
	2.1.5.2: Contract out the construction of the rest house	Funds, contractor	CPW, PE, PWW,PWT,PO												
	2.1.6: Improve Twiga hotel facilities and services														

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
	2.1.6.1: Hire a consultant to design a meeting room, swimming pool facility, fence around the hotel and additional rooms.	Funds, consultant(s)	CPW, PWW,PWT,PO, PE	■	■	■	■								
	2.1.6.2: Hire a contractor to construct the facilities.	Funds, contractor	CPW, PWW,PWT,PO, PE					■	■	■	■	■	■	■	■
	2.1.6.2: Hire a landscaping expert to improve the hotel area	Funds, landscaping expert	CPW,PWW,PWT,P O, PE									■	■	■	■
	2.1.7: Provide interpretive facilities and materials in strategic areas														
	2.1.7.1: Provide interpretive information at the entry gates, along trails, camping sites, viewpoints and main attractions (e.g. Waterfalls, mountain peaks)	Funds	PWT, PWW,PE	■	■	■	■	■	■	■	■	■	■	■	■
	2.1.7.2: Design and install sign posts at the beginning and junctions of tourist trails and tracks.	Funds, consultant(s)	PWT, PWW	■	■	■	■	■	■	■	■	■	■	■	■
2.2: Visitor services	2.2.1: Recruit adequate and competent staff														

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
improved to optimal levels	2.2.1.1: Liase with the HR department to recruit qualified staff according to the UMNP staff establishment.	Funds	CPW, PAO, HRDM, PWT	■	■	■	■	■	■	■	■	■	■	■	■
	2.2.2: Provide training to customer care staff														
	2.2.2.1: Identify training needs and provide the required training	Funds, consultant	CPW, HRDM, PAO, PWT	■	■	■	■	■	■	■	■	■	■	■	■
	2.2.3: Acquire camping and hiking gears for hiring to tourists														
	2.2.3.1: Prepare modalities for hiring these gears for a fee.	Funds	PWT,PO, PA	■	■										
	2.2.3.2: Procure camping and hiking gears such as tents, hiking sticks, rain coats, hiking shoes etc	Funds	PWT, PO, PA	■	■	■	■	■	■	■	■	■	■	■	■
Objective 3: To promote tourist attractions of the park and its surroundings															
3.1: Develop park promotional materials in collaboration	3.1.1: Develop and distribute promotional materials														
	3.1.3.1: Collect data and information about the park	Stationeries, transport, allowances	PE, PWT, PWP	■	■	■	■	■	■	■	■	■	■	■	■

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
with TANAPA HQ	3.1.3.2: Design, produce and distribute adequate promotional materials to visitors	Funds, Transport	PWT, OPW, TANAPA Publishing Unit												
	3.1.2: Develop TV and radio programmes in the local and international media														
	3.1.1.1: Develop themes and topics to be broadcasted in collaboration with TANAPA HQ PR Office	Funds	CPW, PWT, OPW, PRM												
	3.1.1.2: Liaise with TANAPA HQ PR Office to broadcast the programmes	Funds	CPW, PWT, OPW, PRM												
	3.1.3: Develop and maintain Udzungwa Mountains National Park website														
	3.1.2.1: Collaborate with TANAPA HQ on the maintenance of UMNP website	Funds, consultant(s)	CPW,PWT, PIT/SA, PRM												
Objective 4: To strengthen UMNP tourism management in collaboration with tourism industry partners															
4.1: Strategic partnership with key stakeholders strengthened	4.1.1 Explore and pursue partnerships that promotes UMNP														

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
	4.1.1.1 Identify strategic partners in promoting UMNP	Transport, funds	CPW, PWT, OPW												
	4.1.1.2: Participate in local and international trade fairs	Transport, funds	CPW, PWT, OPW												
	4.1.1.3: Collaborate with Outreach department to establish eco-tourism activities through the local communities.	Transport, funds	PWT, OPW												
	4.1.2: Initiate competitive certification program for the best tour operators and all stakeholders based on ethic and compliance														

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
	4.1.2.1	Conduct regular visitor surveys	Funds, transport	PWT	■	■	■	■	■	■	■	■	■	■	■	■
	4.1.2.2:	Develop and maintain tourism database	Funds, transport	PWT, MTS, PIT/SA	■	■	■	■	■	■	■	■	■	■	■	■
	4.1.2.3:	Set criteria for the best tour operator	Funds, transport	CPW, DPDPTS, PWT	■				■				■			
	4.1.2.4:	Award an identification note to the best tour operator	Funds, transport	CPW,DPDPTS PWT			■				■					■
	4.1.2.5:	Conduct annual meetings with tourism stakeholders	Funds, transport	CPW, DPDPTS, PWT			■				■					■
	4.1.2.6:	Conduct consultative meeting and visits to tourism stakeholder	Funds, transport	PWT		■				■				■		

Table G.3: Three Years Out Reach Action Plan

Management 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 improve and maintain park-people relations															
Target 1.1: Park-people problem solving mechanisms improved	Action 1.1.1: Strengthen existing conflict resolution mechanisms														
	1.1.1.1: Organize regular meetings, seminars and workshops	Funds	CPW, OPW, PE, PW-PR												
	1.1.1.2: Attend relevant meetings (e.g village, ward, district and stakeholders)	Funds	CPW, OPW, PE, PW-PR												
	1.1.1.3: Develop community profiles	Funds	OPW												
	1.1.1.4 Collaborate with UEMC and WCS in studying alternative ways to control problem animals.	Funds	OPW, PE, WCS, UEMC, Local Communities												
	1.1.1.5: Collaborate with district authorities on problem animal control	Funds	CPW, OPW, PE, PWP												
Target 1.2: Incidences of human-wildlife conflicts reduced	Action 1.2.1: Park management to support villages to control problem animals														
	1.2.1.1: Carry out joint patrols	Fuel, allowances,	OPW, PWP												
	1.2.1.2: Provide field equipment to VGS	Funds	CPW, OPW												

	1.2.1.3: Train VGS on management of problem animals	Fuel, allowances, stationeries	OPW PWP,	■	■	■	■												
	Action 1.2.2: Educate adjacent communities on consolation procedures for loss of life or property																		
	1.2.2.1: Conduct awareness meetings	Fuel, allowances, stationeries	OPW PWP,	■	■			■	■					■	■				
Objectives 2: To improve and maintain local communities livelihoods																			
Target 2.1: Benefit sharing with local communities improved	Action 2.1.1: Support community initiated projects																		
	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: Effect implementation of projects for villagers in the new area	Fuel, allowances	OPW	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	2.1.1.4: Implement SCIP projects in targeted villages	Funds	OPW	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Action 2.1.2: Support environmental friendly income generating projects																		
	2.1.2.1: Develop socio-economic profiles of the communities	Fuel, allowances, stationeries	OPW	■	■	■	■												

Table G.4: - Three Years Park Operations Action Plan

	3.1.2.3: Facilitate the use of indigenous knowledge	Fuel, allowances,	OPW																
	Action 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																	
	Action 3.1.4: Facilitate villages to develop and implement land use plans																		
	3.1.4.1: Support development and implementation of village land use plans in collaboration with other stakeholders	Fuel, Consultant, Funds, stationeries	CPW, OPW																
Target 3.2: Conservation awareness in local communities adequately enhanced	Action 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																

	Action 3.2.4: Use local media to enhance conservation awareness to local communities and other stakeholders																		
	3.2.4.1: Raise conservation awareness to targeted groups through the media	Funds	OPW																

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 Protection Department																		
	1.1.1.1: Procure vehicles and patrol boats for protection operations	Funds, Transport	CPW,PWP, PA, PO																
	1.1.1.2: Procure patrol gears, firearms and ammunition	Funds, Transport	PM,CPW,PWP, PA, PO																
	1.1.2: Assess and adopt new anti-poaching techniques																		

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
	1.1.2.1: Collaborate with DRCEM to identify, recommend and adopt new anti-poaching techniques such as use of crime sensing dogs, surveillance cameras, use of aircraft and “polisi jamii	Funds, Transport	CPW, DRCEM, PWP,PE	█	█	█	█	█	█	█	█	█	█	█	█
	1.1.2.1 Procure modern anti-poaching equipment (e.g. GPS and night vision goggles)	Funds, Transport	PWP, PA, PO	█	█	█	█								
	Action 1.1.3: Train newly recruited ranger force														
	1.1.3.1: Provide training on basic wildlife management skills, Intelligence, Para-military techniques and prosecution	Trainers, Funds, Transport	PM, CPW, PWP, PAO	█	█	█	█	█	█	█	█	█	█	█	█
	Action 1.1.4: Improve and maintain reward schemes regarding anti-poaching activities														
	1.1.4.1: Collaborate with TANAPA HQ Resource Protection department to	Fund, Transport	CPW, DRCEM, PWP, OPW	█	█	█	█	█	█	█	█	█	█	█	█

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
	review reward schemes for informants.														
	1.1.4.2: Reward informants	Funds	CPW, PWI, OPW												
	Action 1.1.5: Facilitate training and activities of Village Game Scouts														
	1.1.5.1: Collaborate with relevant stakeholders to provide training to village game scouts on natural resources protection and problem animal control	Funds, Transport	PWP, OPW												
	1.1.5.2: Collaborate with relevant stakeholders to provide basic field gears to VGS	Funds, Transport	PWP, OPW, PA, PO												
	1.1.6 Demarcate park boundary														

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
	1.1.6.1: Collaborate with key stakeholders to complete park boundary marking using beacons as per government notice which established the park	Surveyors, Funds, Transport	CPW, PWP, PWW, DLOs, OPW, Ministry of Lands and Urban Development	█	█	█	█	█	█	█	█	█	█	█	█
	1.1.6.2: Carry out routine maintenance and clearing of the park boundary.	Funds, Transport	PWP, PWW, PAO	█	█	█	█	█	█	█	█	█	█	█	█
	1.1.6.3 Monitor encroachment along the park boundary	Funds, Transport	PWP, PE	█	█	█	█	█	█	█	█	█	█	█	█
	1.1.7 Collaborate with other law enforcement agencies														
	1.1.7.1: Collaborate with the neighbouring protected area law enforcement agencies to carry out joint patrols	Funds, Transport	PWP, PWI	█	█	█	█	█	█	█	█	█	█	█	█
	1.1.7.2: Follow-up on arrested persons and court cases to ensure that the legal procedures are satisfactorily completed.	Funds, Transport	PWP, PWI	█	█	█	█	█	█	█	█	█	█	█	█

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		
1.2: Safety of park visitors, personnel and property enhanced	1.2.1: Strengthen surveillance patrols to ensure security of park visitors																
	1.2.1.1: Provide armed rangers to all visitors while in the park for tourism and research activities.	Funds, Transport	PWP, PE, PWT														
	1.2.1.2: Provide security in all the park visitor facilities in and out of the park.	Funds, Transport	PWP, PWT														
	1.2.1.3: Carry out surveillance operations in collaboration with other stakeholders	Funds, Transport	PWI, PWP														
	1.2.2: Improve communication systems																

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
	1.2.2.1: Procure modern communication equipment (e.g. repeater station equipment, solar panels, walkie talkies, mobile phones, satellite phones, vehicle radio calls very high frequency (VHF) and high frequency (HF) radio calls)	Funds, Transport	PWP, PA, PO												
	1.2.2.2 Observe radio frequency interferences and resolve accordingly	Funds, Transport	PWP, PWI												
	Action 1.2.3: Provide visitor rescue services														
	1.2.3.1: Establish rescue team	Funds, Transport	CPW, PAO, PWT, PWP												
	1.2.3.2: Provide appropriate training	Trainers, Funds, Transport	CPW, PWP, PAO												
	1.2.3.3: Procure necessary equipment and facilities (e.g. ambulances and stretchers)	Funds, Transport	PWP, PWT, PA, PO												

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
	Action 1.2.4: Collaborate with other law enforcement agencies and local communities														
	1.2.4.1: Conduct regular meetings, seminars, workshop and park visits with other law enforcement agencies and local communities adjacent to the Park	Funds, Transport	CPW, PWP, PWI, OPW												
Objective 2: To strengthen efficiency of UMNP park operations															
2.1: Staff welfare improved	2.1.1: Provide adequate accommodation for park staff														
	2.1.1.1: Establish staff housing requirements	Funds, Transport	CPW, PAO												
	2.1.1.2 Develop architectural designs	Consultant(s)Funds, Transport	CPW,PWW,PE, PO												
	2.1.1.3: Contract out the construction of the staff houses	Contractor(s)Funds, Transport	CPW,PWW,PA, PO												
	Action 2.1.2: Improve provision of health services to park staff														

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
	2.1.2.1 Facilitate staff and their families to attend medical services.	Funds, transport	CPW, PAO	■	■	■	■	■	■	■	■	■	■	■	■
	2.1.2.2: Collaborate with relevant institutions to raise awareness for preventive measures against malaria, HIV/AIDS, typhoid, tuberculosis, oncorceciasis and trypanosomiasis.	Funds, Transport	OPW, PAO		■				■				■		
	Action 2.1.3: Construct staff recreation centre														
	2.1.3.1 Develop architectural designs	Consultant(s)Funds, Transport	CPW,PWW,PE, PO		■	■									
	2.1.3.2: Contract out the construction of the recreation centre	Contractor(s)Funds, Transport	CPW,PWW,PA, PAO, PO				■	■	■	■	■	■	■	■	■
	Action 2.1.4: Construct nursery school														
	2.1.4.1 Develop architectural designs	Consultant(s)Funds, Transport	CPW,PWW,PE, PO	■											
	2.1.4.2: Contract out the construction of the nursery school	Contractor(s)Funds, Transport	CPW,PWW, PA,PAO, PO		■	■	■	■	■	■	■	■	■	■	■

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				
2.2: Performance and professionalism of UMNP staff improved	2.2.1: Participate in developing Code of Conduct for park rangers																		
	2.2.1.1: Provide inputs for developing TANAPA Code of Conduct for rangers considering the nature of the working environment specific for UMNP.	Funds, Transport	PM, CPW, PAO,PWP																
	2.2.1.2: Adopt, disseminate and enforce the approved TANAPA Code of Conduct for rangers	Funds, Transport	PAO, PWP																
	2.2.2: Participate in updating and disseminate the TANAPA staff regulations																		
	2.2.2.1: Provide inputs to update TANAPA staff regulations	Funds, Transport	CPW, PAO																
	2.2.2.2: Adopt, disseminate and enforce the approved TANAPA staff regulations to all staff.	Funds, Transport	CPW, PAO																

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				
2.3: UMNP staff establishment strengthened to meet GMP implementation needs	2.3.1: Update UMNP staff establishment																		
	2.3.1.1: Review the existing staff establishment to include the following: Hotel, hostel and nursery school staff, librarian, GIS expert rescue team and ranger guides, plumbing, electric and welding technicians.	Funds	CPW, PAO																
	2.3.2: Facilitate staff to acquire relevant knowledge and skills																		
	2.3.2.1: Establish library facility at the Ecological Monitoring Centre	Funds, Transport	CPW, PE, PWW																
2.4: UMNP revenue generation improved	Action 2.4.1: Introduce new sources of income generation																		
	2.4.1.1: Collaborate with Tourism department to identify new sources of revenue	Funds, Transport	CPW, PA, PWT, PE																
	2.4.1.2: Prepare economic feasibility studies to justify	Consultant(s), Funds, Transport	CPW, PA, PWT, PE																

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
	investments in new tourism products														
	2.4.2: Improve revenue collection and internal controls														
	2.4.2.1: Operationalise Msosa gate.	Funds, Transport	PA, PWT, PWW												
	Action 2.4.2: Computerize financial accounts														
	2.4.2.1: Install and operationalise electronic accounting system, Point of Sale (POS) at all entry gates.	Funds, Transport	FM, PA, PWT, PIT/SA												
	2.4.2.2: Collaborate with TANAPA HQ to computerize accounting records.	Funds, Transport	FM, PA, PWT, PIT/SA												
Objective 3: To develop and improve UMNP infrastructure and initiate maintenance programs															
3.1: New park administrative and tourist infrastructure	3.1.1: Develop site plan for park infrastructure and facilities														

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
and facilities developed	3.1.1.1: Hire consultant to develop a site plan for construction of new infrastructure at the park HQ, Mang'ula site, , and Sanje,.	Consultant(s)Funds, Transport	CPW,PWW,PE, PO, PWP, PAO	█	█	█	█	█	█	█	█				
	Action 3.1.2: Develop the required infrastructure														
	3.1.2.1: Acquire land for construction of Sanje mini gate	Funds	CPW, PO, PA, PWT	█	█	█	█								
	3.1.2.2: Contract out the construction of the required infrastructure at park HQ	Contractor(s)Funds	CPW,PWW,PO, PA	█	█	█	█	█	█	█	█	█	█	█	█
	3.1.2.3: Contract out the construction of gates at Sanje,	Contractor(s)Funds	CPW,PWW,PWT, PO	█	█	█	█	█	█	█	█	█	█	█	█
	3.1.2.4: Contract out the construction of new ranger posts at Ikula and Idete areas.	Contractor(s)Funds	CPW,PWW,PWP, PO, PA					█	█	█	█	█	█	█	█
	Action 3.1.3: Provide adequate equipment and														

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
	facilities														
	3.1.3.1: Provide sufficient equipment and facilities to facilitate efficient park operations (e.g. vehicles, office equipment)	Funds, Transport	PA, PO												
3.2: Park roads, trails and buildings are improved and equipment serviced	Action 3.1.1: Develop and implement park maintenance program														
	3.1.1.1: Prepare and implement the maintenance program	Funds, Transport	CPW,PWW, PAO,PO, PA, PWT												
	Action 3.1.2: Improve existing administrative and tourist infrastructure and facilities														
	3.1.2.1: Improve office buildings and staff houses that will not be relocated at park HQ.	Funds	CPW, PWW, PAO												
	3.1.2.2: Rehabilitate Mbatwa ranger post	Funds	PWW, PWP, PA, PO												

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
	3.1.2.3: Construct Lock-ups at all ranger posts.	Funds	PWW, PWP, PA, PO												
	3.1.2.4: Provide recreational facilities such as satellite television equipment and various sports facilities and gears	Funds, Transport	CPW, PE, PAO, PO, PA, OPW												
	3.1.2.5: Identify and construct parking areas at Sonjo, Njokamoni and Sanje trailheads.	Funds, Transport	PE, PWW, PWT, PA												
3.2: Park infrastructure development and activities environmental impacts minimised	3.2.1: Carry out site specific EIA/PEA for planned infrastructures														
	3.2.1.1: Hire consultant and carry out EIA/PEA for major developments taking place in the park (e.g.construction of new roads in the western part, water supply systems in the park, and construction of new park HQ buildings)	Consultant(s)Funds	CPW, PE, PWW,PWT,PO												

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
	Action 3.2.2: Develop and implement waste management plan														
	3.2.2.1: Assess the current waste management systems in the park and gather information on best practices from other parks.	Funds, Transport	PE, PWT, PAO,PWW												
	3.2.2.2: Develop a waste management plan in collaboration with TANAPA HQ and other relevant stakeholders.	Funds, Transport	PE, PWT,PWW												
Objective 4: To enhance collaboration with relevant stakeholders in the long-term conservation and management of UMNP															
4.1: Collaboration and	4.1.1: Strengthen the existing collaboration with conservation partners														

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
partnerships with stakeholders enhanced	4.1.1.1: Conduct regular meetings, workshops, dialogues, study tours, park visits and information sharing in order to support smooth implementation of various park operations.	Funds, Transport	CPW, PE, PA												

