

Kidepo National Park Uganda

Management Plan 2000 - 2010



Protected areas plan - Kidepo Valley National Park 2000-2010

Introduction

This plan was prepared during January 2000 by a team from the Conservation Management Consortium based in Wales in the UK. The team members were Mike Alexander (team leader), Thomas Hellawell, Doug Oliver, Ian Tillotson and David Wheeler.

The plan is based on the Conservation Management System (CMS) management planning guide which was developed for use in tropical Africa during the production of this plan.

The team received invaluable assistance from Uganda Wildlife Authority staff, and in particular we would like to record our appreciation for of all the help and guidance received from the following: Dr R Robinson, Moses Mapesa, Richard Lamprey, Sam Mwandha, Kulao Okongo, Daniel Aleper, Collins Oloya, Peter Moeller, Elke Moeller, Thomas Loware and Walter Odokorwot.

Some minor revisions were necessary to take into account verbal and written comments on the first draft from staff based at UWA headquarter and Kidepo Valley National Park.

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Section 1 – Text

1. Plan summary

The long-term vision for Kidepo Valley National Park:

- The entire area will become a protected haven for wildlife, with the restoration of game and other populations of wild animals to levels that will be sustainable in the long term. This will include, whenever possible and appropriate, re-establishing populations of species lost in recent years.
- The National Park will make a significant contribution towards maintaining local, national and global biodiversity.
- The landscape and wilderness values will be restored, as far as possible, by removing and relocating all inappropriate man-made structures, buildings and other artefacts. The only roads and tracks maintained in the National Park will be those essential for management, protection and the provision of low-key tourism. The roads will be maintained to the minimum standard required to meet their function.
- The National Park will maintain a workforce capable of providing full protection for wildlife and habitats. All illegal and damaging activities such as game poaching, burning vegetation and illegal grazing will be prevented, or minimised.
- The National Park will be equipped with an infrastructure, other buildings including accommodation, vehicles, aircraft, machinery and all other facilities necessary to ensure the efficient and effective management of the National Park. As far as possible, these facilities will be provided offsite but as close as possible to the National Park.
- National Park managers will work towards developing harmonious relationships with the local communities. Levels of mutual understanding and co-operation will be achieved and the National Park will, as far as possible, optimise the benefits that it can provide for the local community. The local community will recognise the relevance of the National Park towards maintaining a sustainable local environment for their benefit and, in return, local people will contribute directly and indirectly to National Park management and protection.
- National Park staff will make a significant contribution towards providing environmental education for local people, particularly school children.
- Appropriate levels of sustainable tourism will be encouraged, but this provision will not be permitted to threaten or interfere with the key National Park functions of protecting the landscape, wilderness and wildlife interests. Every effort will be made to ensure that the provision of tourist facilities is self-financing and, ideally, will generate income to offset other management costs. Visitors will be able to gain safe access within the National Park along a network of unobtrusive park roads. Limited accommodation, possibly semi-permanent, high quality campsites, located within defined tourist zones will be provided within the National Park.
- Low key or minimalist on-site interpretation will be provided. Interpretation provisions will not compromise the landscape and wilderness values.

2. Policy statements

2.1 General

The Kidepo Valley National Park will be managed by the Uganda Wildlife Authority with the prime purpose of sustaining viable habitats and their associated wildlife populations in the long term. All other functions, including tourism, are secondary.

All parts of the National Park, including both the Narus and Kidepo Valleys and those mountainous areas within the boundaries, will be managed to contribute toward sustaining viable habitats and their associated wildlife populations in the long term.

The National Park will, in the future, serve as a reservoir of wildlife resources for Uganda and specifically for recolonisation of other suitable protected areas.

The outstanding landscape and wilderness qualities will not be compromised. All management operations, including the provision of facilities for tourists, will be designed to minimise their impact on the National Park.

Sustainable and appropriate levels of tourism will be encouraged in so far as this provision is compatible with maintaining the outstanding landscape and wilderness qualities and the associated wildlife.

2.2 Landscape & wilderness values

The outstanding landscape and wilderness qualities of the Park will not be compromised. All management operations, including the provision of facilities for tourists, will be designed to minimise their impact on the Park.

2.3 Relationship with local communities

Park managers will work towards developing harmonious relationships with the local communities. Levels of mutual understanding and co-operation with the local communities will be achieved. The Park will, as far as possible, optimise the benefits that it can provide for the local community. The local community will recognise the relevance of the Park towards maintaining a sustainable local environment for their benefit and, in return, local people will contribute directly and indirectly to Park management and protection.

2.4 Access & tourism

The roles and responsibilities of the Uganda Wildlife Authority are defined in The Ugandan Wildlife Statute No. 14, 1996. This statute contains the following policies in respect of tourism:

- *In consultation with other lead agencies, to control, develop or license the development of tourist facilities in wildlife protected areas*
- *To enhance the economic and social benefits from wildlife management by establishing wildlife user rights and promoting tourism.*

Current site-specific access policy

To encourage tourism and optimise the potential for generating income.

2.5 Interpretation

- To ensure that visitors get value for their money by providing services that enhance their understanding of the Park areas visited through a combination of signage, reading materials, maps, panel exhibits and guided tours
- To help visitors to appreciate nature and to enjoy an experience of the Park which will carry a lasting impression
- Proper interpretation will enhance publicity and marketing, particularly for the more affluent visitors who are targeted in this plan.

3. General description

3.1 General information

3.1.1 Location & site boundaries

The Kidepo Valley National Park is situated in the extreme north-eastern corner of Uganda and encompasses an area of 1442 sq. km. The north-western boundary of the National Park, between Urungo and Lonyili, lies along the international border with Sudan. The eastern boundary is separated from the border with Kenya by a strip of land that is only 5km wide at its narrowest point. The southern and eastern boundaries follow, more or less, the summit ridges of the Napore Range, the Taan Hills and the Natera Hills. Parts of the Nyangea, Morongole and Zulia Forest Reserves are located within the National Park.

3.1.2 Tenure

The entire National Park is owned by the Government of Uganda and is managed by the Uganda Wildlife Authority.

3.1.3 Management/organisational infrastructure

The headquarters of the Uganda Wildlife Authority is located in Kampala.

Local staff are all based at the National Park headquarters at Apoka and deployed at various outposts as required. Full details of the posts and their various functions are contained in a later section.

Current staffing levels (January 2000):

Senior staff

- **1 Chief warden**, has overall responsibility for management of the National Park
- **1 Warden law enforcement**, with responsibility for the management of the rangers for law enforcement duties
- **1 Warden research/monitoring**, with responsibility for scientific data collection (This member of staff is currently also responsible for community conservation duties i.e. developing relationships with local communities)
- **1 Warden Tourism**, with responsibility for the management of all aspects of tourism within the Park
- **1 Accounts assistant**, responsible for financial administration
- **54 Rangers**, responsible for all law enforcement duties (deployed at National Park gates, surveillance posts and in the strike force), plus data collection (biological monitoring) and miscellaneous duties. There are various grades of rangers (necessary for operational staff management purposes) but these are not considered in this plan.

Note: In January 2000, there were 54 law enforcement staff in post but there is a recruitment exercise for 21 more rangers, making a total of 75.

10 Workshop staff

- 1 Head mechanic; on-site maintenance of all vehicles and machinery
- 3 Drivers; driving grader, tractors and other vehicles
- 1 Turnboy; assistance to mechanic
- 1 Plumber; all plumbing maintenance within the Park
- 1 Carpenter; all carpentry duties within the Park
- 1 Painter; all painting duties within the Park
- 1 Fuel clerk; administration of fuel use / supply
- 1 Pump attendant; fuel distribution

9 General labourers

- 1 Headman; line manager of labourers
- 8 Labourers; general labouring duties e.g. road maintenance

5 Hostel staff

- 2 Information clerks; provide information for tourists
- 2 Room attendants; cleaning tourist accommodation
- 1 Cook; cooking for tourists

2 Medical dispensary staff

- 1 Medical assistant; provision of on-site medical services
- 1 Nursing aid; provides assistance to the medical assistant

1 Museum attendant; responsible for on-site museum

1 Stores attendant; responsible for managing general stores including food, uniforms, miscellaneous supplies

1 Canteen attendant; canteen management

Office staff

- 1 Chief clerk; general administration services
- 1 VHF Radio operator; operation of VHF base stations at HQ
- 1 HF Radio operator; operation of HF base station at HQ

The staff total in January 2000 was 91 but the recruitment programme for rangers will bring the total up to 112. The optimal number of staff identified in this plan is 144. A full rationale for this increase, with priorities, is included in the project description (project *AE00/01 Staff provision & function*). Additional information is contained in the relevant operational projects.

3.1.4 Site infrastructure

The significant infrastructure development within the National Park reflects the fact that, since National Park gazettement in 1962, all management support services, tourist facilities and staff accommodation have been based within the National Park boundary. The extent and complexity of the infrastructure is also a reflection of the scale of law enforcement required. In January 2000, there were 91 staff, plus families, giving approximately 370 people living and working within the National Park boundary.

The National Park headquarters complex is located at Apoka, in the south east of the Narus Valley. This is the administrative centre for the National Park and the location of all management support services, permanent residential accommodation and tourist accommodation.

The main complex of buildings occupies an area of approximately 2 ha. A smaller complex, the Apoka Lodge tourist facility, lies less than 1km to the southwest. In addition, there are a number of outlying service buildings.

The majority of buildings in the main complex provide residential accommodation facilities. They include 2 houses for senior staff, 63 'uniports' for junior staff, an 18 room 'abate' (iron sheets), a 30 room block for contractors, a kitchen block and a 32 room bathroom and latrine block. Tourist accommodation in the form of 14 'bandas' and a kitchen/communal dining building is also contained within the main complex. Service buildings include the workshop/store, armoury block, medical dispensary, school, National Park office block, museum block, general store block, church and welfare block.

The Apoka Lodge tourist facility consists of a main lodge building with service facilities and 16 bandas, accommodating a maximum of 32 tourists. Adjacent to Apoka Lodge is a large water tank.

Around the outskirts of the Apoka complex are various service buildings, e.g. generator buildings, water hole buildings and various buildings that are no longer used and are in a poor state of repair e.g. former wardens' houses.

Electrical supply for Apoka is provided by a series of generators and is restricted to parts of the main complex and the Apoka Lodge. Water is supplied from boreholes.

The majority of buildings at Apoka are in good serviceable condition, but the complex is generally shabby and requires an external 'facelift'. See the *ME12 project plans* for further detail on buildings.

There are 3 National Park gateposts located on or close to the National Park boundary at Natabalokure, Katurum and Kalokudo respectively. Each gatepost consists of a gatepost building or metal uniport plus an accommodation building for staff.

Two ranger surveillance posts, located at Morunyang and Morukaupwal, serve a critical function in law enforcement operations. They are particularly useful as observation points. These posts have only temporary buildings, constructed of timber and grass thatch. Despite their current inadequacies, these buildings are not being significantly improved because it is intended to relocate the posts elsewhere as soon as is practically possible (see *project MP11/01 Ranger surveillance posts*).

Located approximately 2km from the boundary of the National Park in the Loitanit area of the Narus Valley stands the derelict Grand Katurum Lodge and associated service buildings. Originally designed as a luxury tourist facility with a 100 bed capacity, the lodge was fully furnished but never officially opened. It was abandoned in 1977 and since that time the main lodge has been allowed to deteriorate. It is now a ruin although the main structure remains sound. Some of the service buildings have been utilised as accommodation for staff at the Katurum gatepost.

The road system within the National Park consists of a network of surfaced and unsurfaced roads designed to service both management operations and tourism. The quality of surface is variable; the best roads meet Class 3 standards (mainly in the immediate vicinity of Apoka) the worst are barely useable by 4 wheel drive vehicles. The majority of the network is suitable for use by 4 wheel drive vehicles only. The better roads are confined to the Narus Valley. The most northerly extension of the road, which ends at the Kananarok Hot Springs, a few metres from the international border with Sudan, is in a state of disrepair. The Kidepo Valley used to be serviced by a road from Kanatarok to Pirre. This has not been used for many years and is completely rundown now (in 2000).

The complete operational network in 2000 includes a total of approximately 150km of road.

There is one official operational airfield within the National Park, located close to Apoka HQ. This is a graded bare earth airstrip with margins where vegetation is maintained as a short sward. The airfield is only suitable for light aircraft with low load capacity. 2 other airfields, no longer operational, are located at Apoka and Pirre respectively.

3.1.5 Map coverage

The following maps cover the Kidepo Valley National Park and its surroundings:

- U.S.D. 1:125,000 Kidepo Valley National Park
- Land use/land cover 1:125,000. Sheets for Apoka, Magos, Lonyili, Kote, Zulia, Kawalakol, Pirre
- Land use/land cover 1:165,000. Sheet for Kotido
- O.S. 1:50,000 Sheet 1/4 Zulia; Sheet 2/3 Kote; Sheet 9/1 Lonyili; Sheet 9/2 Kawalakol; Sheet 9/3 Apoka; Sheet 9/4 Magos.

3.1.6 Photographic coverage

There is no systematic storage of site photographs. A number of aerial photographs and satellite images were obtained at the Wildlife Authority Headquarters in Kampala.

It is recommended that a photographic archive should be developed for the National Park. The record of photographic coverage should contain sections on both aerial and ground photographs. The record should contain reference to contemporary and historic photographs. Where individual photographs are of special interest they should be listed. Any reference to an individual photograph should give a location, and comment on the contents and quality.

3.1.7 Zones or compartments

Protected areas are divided into zones or compartments to meet a wide variety of management purposes. Zones must be delineated and described and the basis or justification for their selection presented.

To rationalise and target appropriate management, the National Park will be divided into a number of zones, each determined by the management and protection requirement.

Zones in the National Park could be selected for 5 distinct reasons:

1. To establish a buffer between the National Park and the surrounding areas
2. To minimise the impact of illegal activities
3. To maintain wilderness qualities
4. To manage tourists
5. To restore dry montane forest

Buffer zones

Buffer zones are required to lessen the impact of factors arising outside the National Park that impact on features in the park.

At present, the most obvious threat is fire started outside the National Park that spreads inside. There are a series of forest reserves on the Ugandan side of the park which, although currently not actively managed by the Forest Department, could in the future be managed at least to prevent the illegal burning of vegetation and so reduce the spread of fire into the park. Similarly, the existence of the Kidepo Game Reserve immediately across the international border in the Sudan, which is currently also unmanaged, would provide a suitable buffer zone when appropriate active management is resumed there. However, there remain significant lengths of National Park boundary on the Ugandan side where a buffer zone is not feasible, as it is land with human settlements where vegetation burning cannot be directly controlled. Future education and liaison with people in these areas may reduce the frequency of burning here, but, in the meantime, it must be accepted that the buffer zone is incomplete, and the maintenance of firebreaks along these portions of boundary will be the only way of preventing fires entering the park.

Law enforcement zone (park-wide)

In order to restore and maintain the landscape, habitats and wildlife the impact of existing and potential anthropogenic factors such as poaching, illegal vegetation burning and overgrazing by cattle, must be removed, or at least minimised, throughout the entire National Park. Illegal burning would ideally be prevented within a zone extending several kilometres around the park boundaries.

Law enforcement is an essential prerequisite to the success of management within the National Park. It is required equally throughout the park and should also extend outside it. Consequently, no divisions or zones are required.

Wilderness zone

The vision statement for the National Park (see section 1) is that the area will be maintained as a wilderness area, with the habitats and species maintained in an favourable status through limited intervention management.

The area identified for the wilderness zone is the entire Kidepo Valley and the hills between there and the Narus Valley, extending to one kilometre east of the road to the hot springs (Natabalokure - Kananarok Road).

Only essential management activities will be permitted within this zone, and the impact of all management operations will be designed to minimise their impact on the National Park.

Currently, the only management activities envisaged are the renovation of the existing road to enable access for law enforcement patrols, the establishment of 2 new manned outposts at Pirre and Kananarok (24 men each) and the re-instatement of the airfield at Pirre. The road and airfield will be maintained to the minimum standard required to meet their function. Careful consideration must be given to the construction of the outpost in order to minimise the visual intrusion.

Access on foot only will be allowed for research, monitoring and survey for National Park management purposes. Only fly camps (i.e. no designated camp sites and infrastructure) will be allowed. Visitors will only be allowed in on foot and when prior permission has been obtained. A permit system should be established which would specify the duration of visits and control the total numbers allowed at any one time.

A locked barrier at either end of the Kanatarok – Pirre road will ensure only authorised vehicles and individuals are allowed entry. A record will be maintained of all traffic.

Tourist zone

Zonation will also take into account a requirement to accommodate and make provisions for tourists. Tourism, although desirable if maintained at appropriate levels, is also a potential threat. Excessive tourist activity can disturb, and even threaten, wildlife and can seriously diminish landscape and wilderness values. In order to ensure that opportunities for tourism are optimised and that the impact of tourists is minimised, a tourist zone will be identified within the National Park.

The area currently suitable for the main tourist activities is the Narus Valley (excluding the Montane Forest Preservation Zone areas of Nyangea and Lomoi) and the area 1km to the east of the road to the hot springs (Natabalokure - Kananarok Road), which is a popular tourist destination. Management would include making areas of vegetation attractive to herbivorous game by regular burning, and so ensuring ease of viewing. The burning should, however, only be done following a proper fire plan that will not make the area unattractive to the larger herbivores. Tourists will be allowed to camp in designated and developed campsites within the tourist zone (with permission), but will not be allowed to drive off road.

If tourism here becomes popular, limits may be needed on numbers of visitors at any one time to retain the wilderness appeal of the tourist zone, which must not be compromised.

Preservation zone (montane dry forest zone)

There is a relatively small area of distinct vegetation - the montane dry forest - that is listed by IUCN as being internationally important. Only fragments of it remain in areas where fires are less frequent. These areas, which occur above the 1,400m contour, comprise a mosaic of degraded montane forest and even more degraded dry Combretum savanna. All areas that fall in this category are designated the preservation zone.

The creation of a preservation zone is intended to emphasise the importance of the montane dry forest habitat, and to demonstrate that the Park recognises its international obligations. Due to the fragility of this habitat, tourists will not be allowed to camp in this zone, but, since the zone has particularly interesting plant life and birds, limited accompanied access will be permitted.

The zones are shown in the map section (not included).

3.2 Environmental information

3.2.1 Physical

Climate

The climatic year is divided almost equally into one wet season of comparatively low rainfall and one hot, dry season. The wet season falls normally between April and September, with the dry season extending through the remainder of the year. Mean annual rainfall is fairly light; existing data gives 889mm in the Narus Valley and 635mm in the Kidepo Valley. The dry season is typically dominated by hot north-easterly winds, which desiccate the countryside and facilitate rapid and widespread bush fires.

Hydrology

Two shallow valleys drain the Park, which remains dry at the surface for a substantial part of the year. The valleys run in a north-westerly direction, more or less at right angles to the border with Sudan. The confluence of the two valleys lies some 10km inside Sudan. Water in the Kidepo Valley is a temporary phenomenon, flowing only during the wet season. Surface-flowing water throughout the length of the Narus River is also restricted to the dry season, but the year round subterranean flow emerges on to the surface at a few locations throughout the year. Thus, the Narus Valley sustains the only source of water during the dry season. This resource concentrates the wildlife during the dry season in the Narus Valley.

One feature of particular hydrological note is the presence of a small complex of hot springs located near Kanatarok, close to the Sudan border.

Geology

The basal geology of the Park is granitic in origin and structure. The surface geology is volcanic and is dominated by mountain ridges and inselbergs.

Geomorphology/landform

The volcanic origin of the Park surface strata has given rise to a landform of rugged quality. With the exception of the Sudan border area, steep mountains dominate most of the peripheral areas of the Park. A mountain ridge also extends in a north-westerly direction from the central part of the southern boundary, effectively separating the two valleys. The flat valley floors have formed rolling savanna plains, which are periodically broken by low hills and rocky outcrops formed by the extrusion of volcanic plugs. Thus the landscape of the Park is of considerable diversity and altitude, and supports an equally diverse flora.

Topographical variation is pronounced and abrupt. The valley floors vary in elevation from 914m - 1,219m while the summits of Lonyili in the west and Morungole in the east rise to 2,248m and 2,749m respectively.

Soils

Most of the soils within the Park are derived from the decomposition of volcanic material and from volcanic ash. These are base rich in reaction and fairly abundant in nutrients. The exceptions are the more acidic sandy alluvial soils that are derived from the erosion of underlying rock. These are associated with the watercourses and provide the required soil conditions for the palm savanna vegetation.

3.2.2 Biological

Habitats/communities/flora

The best source of information for this section is "*The Vegetation of Uganda and its Bearing on Land Use*" (I. Langdale Brown et al, 1964). Parts of the vegetation community descriptions have been used in the habitat descriptions, but it should be noted that local variations from the descriptions given may occur at Kidepo Valley National Park, and some will have changed since the original survey. The predominant vegetation is savanna of various types. The vegetation types identified occupy a complex patterning on the ground. There are catenas (chains) of similar vegetation arranged altitudinally in series on hills and in intimate mosaics with other vegetation types. These depend on soil type, drainage, climate, fire frequency and intensity, and grazing. There are also extensive areas of single vegetation types. These are depicted on the vegetation map for the whole of Uganda, but it must be noted that the minimum size of the mapping unit is 1 square mile, so fine detail on the ground is not represented.

B3 *Juniperus - Podocarpus* dry montane forest is the natural climax at altitudes of 5,000 - 9,000 feet and is present as part of a Catena complex with F1 forest/savanna mosaic. It comprises a close stand of *Juniperus procera* and *Podocarpus gracilior* up to 100 feet in height, which bear many epiphytes, including orchids and *Usnea* lichens. An irregular understorey of *Ilex mitis*, *Teclea nobilis* or *Maytenus* is often present. The ground is usually bare, except under open canopy conditions where the grass *runssorensis* or herbs such as *Hypoestes trifolia* or various *Amarantaceae* occur. It may be that only relict patches remain, with savanna interspersed, due to fire.

The F1 forest/savanna mosaic at high altitude is the degraded version of B3, with a sparse tree canopy, 6 - 15 feet in height, characterised by *Protea gaguedi* and *Faurea saligna*. The grass layer, 2 - 5 feet in height, is dominated by *Andropogon distachyus*, *Cymbopogon validus*, *Exothea abyssinica* or *Hyparrhenia cymbaria*. This community develops back into B3 forest with the cessation of burning. At its lower edge, the F1 community merges into dry Combretum savanna.

M2 *Borassus - Hyperrhenia dissoluta* Palm savanna are probably fire climaxes, very similar in type to the natural climax. "Tree" cover varies from 5 - 15% and consists mainly of the Fan Palm, *Borassus aethiopum* that occasionally attains a height of 50 feet. It is established on fine loams and sandy soils in positions with mobile ground water. The M2 community is the drier of the two M communities. *Borassus* palm was dispersed by Elephants which eat the fruits.

N5 *Combretum - Acacia - Hyparrhenia* dry savanna is a tree savanna, consisting of mixed deciduous trees and both annual and perennial grasses. The tree cover varies from 5 - 40%. Soils are generally of a light texture and often shallow. In the Park, it occurs as the dominant component of a mosaic with T7, *Acacia - Albizia - Dichrostachys* community as a result of overgrazing, or with P2, dry *Acacia* savanna as a result of burning and grazing.

N8 Combretum - Acacia - Themeda savanna. *Combretum molle*, *Acacia hockii*, *Dombeya rotundifolia*, *Cymbopogon afronardus*, *Heteropogon contortus*, *Hyparrhenia dissoluta*, *Laudetia arundinaceae*, *Sehima nervosum* and *Themeda triandra* are important members of tree savanna and savanna woodland, derived from montane forest by repeated burning. They occur at altitudes 5,000 - 7,000 feet on shallow, stony soils. Tree cover can vary between 10 - 40%, with tree height between 10 - 25 feet. The grass layer consists mainly of tufted grasses 1 - 4 feet in height, with occasional shrubs. It develops into montane thickets with *Olea chrysophylla* and *Carissa edulis* with cessation of burning and can develop into B3 *Juniperus procera* Dry Montane Forest.

N11 Acacia - Combretum savanna is a fire climax community of mixed deciduous trees dominated by *Acacia hockii*, with trees 8 - 12 feet high and perennial grasses 2 - 4 feet high. Common trees and shrubs include *Acacia sayal var sayal*, *Combretum molle* and *Ipomea spathulata*. The grass layer, which is dominated by *Hyparrhenia dissoluta* and *Themeda triandra*, is usually burned in the dry season, except where grazing precludes this. Cessation of burning appears to lead to the establishment of deciduous thickets, sheet erosion and the eventual replacement of this community by the V Thicket community. In the Park, it occurs as the dominant component of a mosaic with the W8 (impeded drainage) *Acacia - Setaria* savanna.

N13 Lannea - Combretum - Lonchocarpus savanna. Associations of *Combretum ghasalense*, *C. molle*, *Lannea fructicosa* and *Lonchocarpus laxiflorus*, underlain by *Hyparrhenia dissoluta*, *H. rufa* and *Themeda triandra* occur as fire climax tree savannas and savanna woodlands. Their average height is 12 - 20 feet, with woody cover ranging between 30 - 70%. In the western part of the Narus valley it is the dominant component of a catena with R2, *Lannea - Acacia* dry steppe.

P2 Acacia - Themeda - Setaria savanna. This community is either tree savanna or savanna woodland, with a maximum tree height of 20 feet. *Acacia gerrardii var gerrardii*, *Themeda triandra* and *Setaria incrassata* are the dominant species. It is thought to have derived from the V. Thicket community as a result of burning and overgrazing. It occurs on free draining clays and clay loams 3,500 - 5,000 feet and tends to be heavily populated by game animals. Grass fires are an annual occurrence so the community is probably a kind of fire and grazing climax.

R1 Tree and Shrub Steppe. This community has abundant *Acacia mellifera*, *A. seyal var seyal*, *Barleria prionitis*, *Cyalutha orthacantha*, *Ipomea cordofana*, *Leucas martinicensis* and *Pennisetum mezianum* occurring as a natural climax, with a fairly well developed ground layer of grasses and herbs. Woody cover varies between 6 - 12 feet. Ground cover is 50 - 80% in the rainy season but much lower in the dry season. Overgrazing stimulates a sequence of changes that culminate in the formation of the T3 and T5 *Acacia* and *Commiphora* bushland.

R2 Lannea - Acacia Tee and Shrub Steppe. *Acacia tortilis sub-species spirocarpa*, *Lannea humilis*, *L. triphylla*, *Aristida adscensionis*, *Barleria longissima*, *Panicum massaiense* and *Sporolobus festivus* form an open community. It is essentially a natural climax, and is made up of scattered trees and shrubs with a low open perennial grass cover. Tree and shrub cover varies from 5 - 60% and ranges in height 4 - 12 feet. The community is dry but supports a fair population of game, which, by browsing, exerts a limiting effect on tree and shrub regeneration. In the Park it occurs in the western part of the Narus Valley with T6 and T7 bushlands and between the Narus Valley and the Kidepo Valley.

T Bushland communities are unstable regressional stages which develop from savanna (N. community) and steppe (R. community) as a result of overgrazing. They are distinguished by the presence of numerous deciduous shrubs and bushes 6 - 10 feet high which form a mosaic, with aerial cover varying between 40 - 90%. Ground layer is usually sparse with scattered annual grasses 6 inches to 2 feet high. This overgrazing of savanna communities acts both directly by repressing herbaceous growth and indirectly by the consequent reduction in the intensity of the annual grass fires. This favours the increase of fire susceptible shrubs, which appear to have a drying effect on the soil, and causes a further reduction

in plant cover at ground level, soil compaction, an increased run off and sheet erosion. It may, therefore, be said that the spread of bushland reflects the onset of more arid conditions.

T communities occur singly or as a mosaic between the Narus and Kidepo Valleys and in the north-western extremity of the Park.

T1 *Acacia* - *Lannea* Bushland. Small trees and large shrubs of various *Acacia* species of which *Acacia mellifera* is most abundant. Woody cover varies between 30 - 70% but seldom exceeds 8 feet in height. The ground layer is composed mainly of annual grasses and herbs and may be as little as 5% in the dry season. With continued grazing, it gives way to Thicket (V community).

T6 *Lannea* - *Acacia* - *Balanites* Bushland. This is a seral community, which succeeds savannas after overgrazing and the cessation of dry season burning. A rapid invasion by *Lannea humilis* and associated shrubs and annual grasses follows the die out of perennial grasses and widespread soil compaction. It consists of shrubs 6 - 8 feet tall with 30 - 80% ground cover.

T7 *Acacia* - *Albizia* - *Dichrostachys* Bushland. These are regressional communities which have derived from Combretaceous savannas, including N11 and N12, by overgrazing. They have a woody cover of mixed deciduous shrubs and scattered savanna elements 8 - 12 feet high, covering 30 - 70% of the area. The ground layer is variable in composition and in cover depending on the degree of degradation. Sheet erosion, soil compaction and the loss of potentially available rainfall through run-off induce further regression to more xerophytic vegetation with the formation of V2 and V3 Dry Thickets.

W8 *Acacia* - *Setaria* Savanna. The soil profiles of this community are slow draining and seldom, if ever, dry out completely to any great depth. Woody cover, predominantly *Acacia drepanolobium* varies from nil - 15%, with trees up to 6 - 10 feet tall. The grass layer is dominated by *Setaria incrassata*, although *Themeda triandra* can be dominant.

V Dry Thicket. This vegetation community is characterised by numerous short and much branched "armed" trees and shrubs, as well as climbers and succulents, 6 - 12 feet in height. Thickets vary in area, and clumps may be separated by bare and sparsely covered ground, or bushland. Canopy cover can be 100% but ground cover is usually very low. The density of the thickets, together with the formidably armed plants and low grass cover, reduces its value for grazing animals. Thickets with numerous succulent plants reflect the drier conditions, which may be ascribed to lower rainfall or to the severe loss due to excessive run-off. Thus, thickets tend to succeed steppes (R communities) and bushland (T communities) as a consequence of severe erosion. Although the thickets contain many plants with desert associations, they are not, under Karamoja conditions, the precursors of actual desert, as the cycle of erosion leads to the formation of stone mantles which are porous and receptive to rainfall, and which are subsequently colonised by certain savanna elements. Thicket types present in the Park are V3, *Acacia* - *Commiphora* thicket and V5, *Acacia mellifera* thicket.

Fauna

Mammals

The total list of mammal species recorded for the Park is considerable. At 86 species, this is more than any other Ugandan National Park. In addition, and as a reflection of Kidepo's more arid and mountainous character, 28 of these species are not known to occur in any of the other Ugandan National Parks. However, the list was prepared in 1990-1992; since that time continuous poaching and burning has probably reduced the species list.

The most up to date information available on birds and mammals is available in the *Uganda National Parks Bird and Mammal checklist* (S.E. Wilson, 1995). See annex B for the list of mammals from this publication.

a) Carnivores

All population figures are estimates and may be subject to error.

Lion - a population of up to 10 lions is resident in the Park. These animals tend to be centred on the Narus Valley area. Numbers were higher in the past (circa 20+) but have been reduced through disease.

Leopard - population figures for leopard are very unreliable. Park staff estimate that up to 30 may utilise the Park and surrounds, mostly occurring in the more forested peripheries of the site.

Striped and spotted hyena - very few striped hyena occur in the Park. There have been a few recent sightings but these species are more prevalent outside the Park, where they are able to predate on domestic animals, cattle and goats.

African hunting dog - in recent years, a small pack of hunting dogs (5+) has been recorded in the north-western corner of the Park; this is believed to be a transient population that resides also in southern Sudan and the Lipan Controlled Hunting Area to the west.

Cheetah - this species is occasionally sighted in the Park. Numbers are not known but are probably less than 5. It is not clear if these are fully resident or transient.

b) African elephant

A population of approximately 390 animals utilises the Park. When resident in the Park, this population currently remains primarily in the Narus Valley area. The age structure of the population is relatively immature (about 80% probably less than 30 years old), the more mature animals having been lost to poachers.

c) Larger ungulates

Buffalo - a population of approximately 1500 animals resides in the Park, primarily in the Narus Valley area.

Zebra (common) - the Park supports a population of 300+ animals. These animals currently reside primarily in the Narus Valley area.

Rothschild's giraffe - the Park supports a population of 8 animals which currently resides in the Narus Valley area. This small group comprises 6 animals remnant from the larger population that occurred in the past (up to 400 animals) and 2 animals (the third died) which were translocated from Kenya in 1997 to reinforce the population.

Hartebeest - a population of approximately 130 animals occurs in the Park. This population currently resides primarily in the Narus Valley area.

Eland - there is a small relic population of 15-20 animals. The range of these animals is currently confined to the area immediately to the east of Apoka.

d) Smaller ungulates

Population estimates are shown in brackets. These may be subject to significant error and are possibly superficial given the transitory nature of some of these species.

Geunther's dikdik (100+), **Bohor reedbuck** (50-100) and **warthog** (70-80) currently reside in the Park, primarily in the Narus Valley area.

Klippspringer (30+), **mountain reedbeek** (20+) and **lesser kudu** (<10) occur in the hills, both within and surrounding the Park. These animals are fairly transient, tending to utilise the Park area primarily in the dry season.

Greater kudu may also occur in this area, but there are no recent records and they may now be extinct from the Park and surrounding area.

Lesser and greater kudu may be considered for re-introduction/population re-enforcement if numbers fail to recover with the control of poaching (refer to objective for potential re-introductions).

e) Species present in the recent past

Roan antelope - this species was once present in Park in large numbers (120 - 1967-72). The last remaining animals were lost to poachers in 1995.

Beisa oryx - believed extinct from the Park. Some small remnant populations may occur in the surrounding hills but this is doubtful. They were last recorded in the 1960s.

Black rhinoceros - black rhinoceros were once present in large numbers (50 - 1967-72). The last remaining animals were lost to poachers in 1983.

Bright's gazelle - believed extinct from the Park. This species was once present in large numbers (250-500 - 1967-72).

Birds

The following extract is taken from 'Where to watch birds in Uganda' (J. Rossouw & M. Sacchi, 1998):
'For the visiting birder, Kidepo Valley National Park boasts a bird list of over 475 species, a total second only to Queen Elizabeth National Park. Amongst the host of dry, eastern 'specials' not found in any other Ugandan National Park are some of East Africa's rarest and most sought-after birds such as Black-breasted Barbet and Karamoja Apalis'.

Kidepo is outstanding for its birds of prey. 58 species have been recorded, including Verreaux's eagle, Lammergeier, Egyptian vulture and the pygmy falcon. Of the hornbills, which are characteristic of the savanna habitat, five species are represented.

The kopjes and the remaining montane forest patches are important refuges for over a dozen species and sub species that are represented only in the Kidepo National Park.

Ostrich - a population of 20-25 birds utilises the Park. These birds reside primarily in the north-western sections of the Park and over the border into Sudan. Counts are unreliable due to transient nature of this population. 3 immature birds are being reared at Apoka as part of a program to re-enforce the existing population and extend their range within the Park to include the Narus Valley area.

Herpetofauna

Crocodile

A population of up to 10 adult animals occurs in the Park. These are confined to three separate permanent water holes: Logirangole, Kalabi dam and Narus, all in the Narus Valley. It is believed that there are no movements of animals between these three locations. There has been no confirmation of successful breeding in recent years.

3.2.3 Cultural

Archaeology

There are no known sites or features of archaeological interest in the Park.

Past land use

Until comparatively recently, the Kidepo area has been a northern hinterland which has been relatively unknown to the outside world. Early records are few, but the region's history reveals that this area was basically used for pastoral purposes. The Karamojong, who lived here, have a special attachment to cattle, which provide their main livelihood. The people are ready to defend themselves against anyone who may want to take away their livelihood, even to the point of death. Cattle rustling characterises the cultural way of life of the ethnic groups in this region. It is done either as a sign of bravery or in revenge for earlier attacks from another group and a cycle is then established making the activity difficult to stamp out.

British colonial power sought treaties and friendship with local chieftains during the late 19th century, but only a few white hunters entered the area until 1907 when military patrols were set up for peacekeeping purposes. This continued until 1920 when a garrison was established near Kaabong to the south of the present Park. This was disbanded in 1932 and, during subsequent years, the area was little visited except by poachers.

Land use, until the establishment of the Park, would have been pastoral with local tribes grazing cattle and other stock.

From 1950 the tsetse fly, spreading south from Sudan, became a serious problem in the Kidepo area. It was recognised that the conventional methods of control, which essentially involve game slaughter, would have been futile because of natural animal invasion from Sudan and Kenya. Instead, a *cordon sanitaire* was established, which nominally remains to the present day.

Present land use

The present land use is conservation of nature. However, illegal poaching, vegetation burning and occasional cattle grazing occur from time to time in various parts of the Park.

Past management for nature conservation

Information was not readily available. However, records have been maintained and at some time in the future a project should be established to collate all past management information. For the future, records of all management activities should be maintained and made accessible.

Since 1962 when the National Park was established, the area has been managed for the benefit of wildlife. Further information on the development of the infrastructure and other management projects will be found under the various project headings.

Past status of the site

In the mid 1950s the Game Department stationed some guards at Opotipot for the control of game. In 1958, the 1,259 sq. km Kidepo Game Reserve was declared. In 1962, as part of the preparations for Uganda's independence, the Game Reserve was upgraded to National Park status.

Present legal status of the site

The following information is taken directly from the Queen Elizabeth National Park, General Management Plan 1999.

Legislation and policies direct and constrain management of natural resources within Uganda's protected area system. Of these, the *Constitution of the Republic of Uganda 1995*, the *Uganda Wildlife Statute No. 14, 1996*, the *Uganda Wildlife Policy, 1995*, and the *National Environment Statute, 1995*, provide the principle guidance. In addition, Uganda adheres to a number of international conventions and treaties, including, the *Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973 (CITES)*, the *Ramsar Convention, 1971*, and the *Convention on Biological Diversity, 1992*.

The Constitution of the Republic of Uganda, 1995

The Uganda Constitution, Chapter 15, article 237, clause 7, states that, "*Land in Uganda belongs to the citizens of Uganda and shall vest in them in accordance with the land tenure system provided for in this Constitution*".

The next clause (8) under the same article, "*provides for government (or local government) as determined by parliament and by law, to hold in trust for the people and protect natural lakes, rivers, wet lands, forest reserves for ecological and tourist purposes for the common good of all citizens*".

These two clauses have been subject to differing interpretations and created confusion, which has led to conflict between protected area managers, Members of Parliament, District Governments and local communities concerning the management of Uganda's protected areas. Some communities, supported by their government leadership, have used clause 7 to promote *individual* rights to protected area lands (i.e. as a justification to settle and cultivate lands within Uganda's protected areas' boundaries). Protected area managers have repeatedly insisted that this focus on individual rights is a misinterpretation of the Constitution, and that clause 8 requires that protected areas be managed to protect and preserve the country's natural heritage for the common good of all citizens.

Within the Constitution it is also stated that Parliament shall, by law, provide for measures intended to protect the environment from abuse, pollution and degradation as well as promoting environmental management, awareness and sustainable development. The measures provided for are detailed in the National Environment Statute, 1995 and the Uganda Wildlife Statute no. 14, 1996.

The National Environment Statute, 1995

This statute describes in detail environmental management principles and provides for a National Environment Management Authority (NEMA) whose function is to enforce the statute.

Several parts of the statute are of direct, or indirect, relevance to this management planning effort, and, ultimately, to the implementation of the plan. The following excerpts, taken from Parts II, III, V and VII, illustrate the importance of the statute as a constraint to the planning process.

- ◆ *Encourage the maximum participation by the people of Uganda in the development of policies, plans and processes for the management of the environment*
- ◆ *Establish adequate environmental protection standards and monitor changes in the environment*
- ◆ *Require environmental assessments/ audits/ monitoring of proposed/ ongoing projects that may significantly affect the environment or the use of natural resources*
- ◆ *Ensure that the true cost of environmental pollution is borne by the polluter*
- ◆ *Prevent, stop or discontinue any act or omission deleterious to the environment*

- ◆ *Ensure observance of proper safeguards in the planning and execution of all development projects, including those already in existence, that have, or are likely to have, a significant impact on the environment*
- ◆ *Require an Environment Impact Assessment to be undertaken by the developer*
- ◆ *Require the developer to take all practicable measures to ensure that the requirements of the Environment Impact Statement are complied with*

The Uganda Wildlife Statute No. 14, 1996

This statute defines the roles and responsibilities of the Uganda Wildlife Authority. The statute provides the legal definitions, requirements, and procedures pertaining to the management of Uganda's 10 national Parks and 10 wildlife reserves. It also provides an institutional framework to enable the necessary intervention and collaboration with other agencies (e.g. NEMA, the Forest Department, the Fisheries Department and local government) for the purposes of management. However, it is important to note that contradictions exist between the statute and Forest and Fisheries Department policies. These contradictions and differing management interpretations cause continuing problems for those managing Uganda's natural resources. Problems exist even within the statute, especially where the statute seems to give more protection to wildlife reserves than national parks with regard to mineral extraction activities. Also, vital attachments required by the statute, such as bylaws and regulatory functions (i.e. specific actions related to benefit sharing, vermin species and user rights) have yet to be finalised.

The following excerpts from the statute are critical to this planning effort:

- ◆ *Establish management plans for wildlife conservation areas and for wildlife populations outside conservation areas.*
- ◆ *The Executive Director (ED) of the Uganda Wildlife Authority shall, with the approval of the Board, ... prepare or cause to be prepared a comprehensive management plan for each protected area.*
- ◆ *The ED shall take into account any proposals received from ... district councils, the community, partners and other appropriate agencies in preparation of a draft management plan.*
- ◆ *In consultation with other lead agencies, to control, develop or license the development of tourist facilities in wildlife protected areas.*
- ◆ *Any developer desiring to undertake any project which may have a significant effect on any wildlife species or community shall undertake an environmental impact assessment study in accordance with the NEMA Statute 1995.*
- ◆ *The enhancement of economic and social benefits from wildlife management by establishing wildlife user rights and promoting tourism.*
- ◆ *Control and monitor industrial and mining development in wildlife protected areas*
- ◆ *UWA shall in consultation with NEMA carry out audits and monitoring or cause audits and monitoring to be carried out in accordance with the stipulations in the NEMA statute.*

The Uganda Wildlife Policy, 1995

Both the 1995 Wildlife Policy (created prior to the creation of the Uganda Wildlife Authority) and the draft 1999 policy revision are inadequate. Efforts are underway to revise the policy.

3.3 Current public use & interest

3.3.1 Public interest/relationship with local communities

Local communities & interest groups

(Edited text taken from "Grazing Matters" - Findings of the Karamoja Wildlife Management Project)

- *Socio-economic background*

The Karimojong are armed semi-nomadic agro-pastoralists whose tradition of regional warfare and cattle raiding is much feared by the rest of the country. There are an estimated 35,000 guns in the Karamoja region, which occupies about 10% of the land surface of Uganda. Internationally, the area is better known for the famines of the early 1980s that were ignored by the central Government until the foreign media drew attention to the issue and brought in relief agencies.

Hunger is continually spoken about in Karamoja. Rainfall is extremely variable, temporally and spatially, making agriculture marginal and limiting the availability of surface water for livestock. The elders remember years not according to dates but by names which illustrate the leanness of the year or the harshness of the environment. The collective memory is well focused on the aggression meted out by successive Government regimes. At first, the Colonial Government and then later the militias of the post-independence governments sought to force the people of Karamoja into a lifestyle that was more modern and more controllable.

Twice the Karimojong raided the Moroto army barracks in 1979 and again in 1985, and in a backlash to all forms of Government used their guns to destroy property and disrupt civil society, attacking all vehicles including the food convoys sent to assist them. Karamoja was abandoned by virtually all sources of external support, including the Government officers, leaving the Karimojong to themselves.

Stability and relative peace returned in the 1990s allowing Karamoja to become part of the nation of Uganda, although it remains a very tenuous integration. The two districts of Moroto and Kotido are part of the decentralised system of governance, but in reality the government is extremely fragile. The new order is maintained, at least outwardly through a system of vigilantes - warriors whose guns have been registered and who are answerable to the local army commander. However, neither the army, the police nor the Government could claim to have brought Karamoja under control.

In 1995 there was a renewed effort by the wildlife authorities to re-establish their presence in the Moroto District. Wildlife officers employed by the Uganda Wildlife Authority returned to Karamoja. (The Game Department staff had fled in aftermath of the 1979 war).

During the period of turmoil, only the Kidepo Valley National Park retained any semblance of protection for wildlife. The rest of the areas with any wildlife protection status were left to the mercy of the Karamojong guns, and are now empty of game.

- *The Kidepo Valley National Park local situation*

The Kidepo Valley National Park has, until recently, been regarded a no-man's land, constantly disputed by the various Ugandan tribes and others from the Sudan. The Napore and the Nyangia had the strongest claim to traditional rights in the area because they had lived on the Narus Valley plain and grazed their cattle there, but were forced to move to the hills for increased security from the cattle raiders. They still consider the Narus Valley to be their tribal hunting ground.

The Napore - Nyangia hills to the south-west of the Park are now the home of the Napore and the Nyangia people. The Ik people live at Kalapata, especially in Morungole on the south eastern side of the Park. The Dodoth live at Kathile and Kalapata, and the Jie live around Kotido to the south of the Park. Of all these people, the Napore are the most numerous in the vicinity of the Park

Interaction with local communities

Local people were displaced when the Park was established in 1962. The resources within the Park boundaries they were accustomed to using were no longer legally available to them. They were not involved in management of the Park and felt like on-lookers. They gained no benefit from the existence of the Park, except for some employment. Attitudes to the Park were extremely negative and management success was achieved through armed enforcement. Since these times, the importance of community conservation has been realised and major improvements in relations with the local community have been achieved.

Local people in the vicinity of the Park still have few means of earning money and so need to supplement their incomes to provide a reasonable subsistence. The resources of the Park remain a tempting supplement to a subsistence existence. Consequently, they have engaged in various illegal activities within the Park for many years, although effective enforcement and wildlife protection patrols have now reduced this in the Narus Valley.

Vegetation throughout the Park has been degraded by illegal cattle grazing, sometimes by up to 10,000 animals, and by illegal and frequent vegetation burning within the Park to provide fresh grass.

In addition, local people living adjacent to the Park regularly set fire to the vegetation in the entire area surrounding the Park, including the hills. This burning is sometimes carried out more than once in the year resulting in severe degradation of vegetation. More importantly, the fires are uncontrolled as it is desirable for the production of fresh grass growth to let the fire burn as large an area as possible. These fires often spread into the Park, causing further degradation of already over-burned vegetation. It may also have an effect on the ability of the hills and adjacent land to hold water, with possible consequences for the water table on the plains, including the area of the Park, which may result in a more arid environment.

Vegetation is also burned for security reasons by travellers through the Park to reduce the risk of ambush, or by poachers to reduce the risk of being apprehended.

Poaching of wildlife for subsistence or for profit has been the cause of the serious decline in populations of game animals within the Park, and has resulted in the local extinction of several species, with others close to extinction in the area. Surrounding areas have been heavily hunted, leaving the park as the only area with reasonable game numbers.

Other illegal and damaging activities include collection of wood for fuel, collection of bushes and branches to make defensive bomas, cutting of *Borassus* Palm to make cattle drinking troughs, tree cutting in the montane forest, gold collecting and encroachment of agriculture and settlements into the Park. People have also taken refuge within the Park, hiding from enemies. There are trade routes through the Park, both legal and illegal, used for legitimate trading and travel and for illegal cattle rustling, poaching and drug smuggling. Most people entering or passing through the Park engage to a certain extent in the activities that cause degradation, either deliberately or by accident.

Past & current measures to improve relationships

- *Financial benefits to the local community*

A Revenue Sharing policy throughout Uganda for all National Parks was introduced under the Uganda Wildlife Statute 1996 (Statute no. 14). The Park is obliged to share the income it receives from park entry fees (20% of the fees) with the local community. The money is paid to the four adjacent administrative sub-counties and is targeted at improving the welfare of local people through improving local facilities. This income is low at the Park. In addition, park staff pay their graduated tax to Karenga sub-county (the park headquarters at Apoka fall within the sub-county boundaries). This is a significant contribution to the sub-county as the majority of residents default their tax obligations while park staff pay promptly.

An increase in tourism to the Park would provide opportunities for local people to increase their income by providing services, selling crafts or direct employment. However, it is unlikely that this will meet the expectations of the local people.

- *Participatory rural appraisal*

The Park has held a series of liaison and fact-finding meetings between Park staff and all components of the local community to enable two-way communication and mutual understanding (see "*The Stray bullet*" - The Relationship between people and wildlife in Kotido District, 1997). Many ways in which the Park benefits from the local community, and many actions the Park could take to improve community relations, have been identified during this process. The community recognizes both positive and negative attributes due to the existence of the park:

Benefits

- Local people have perceived the benefits of the Park's anti-poaching patrols as the reason for the tangible improvements in their security against cattle raiders, particularly from Sudan, throughout the entire area around the Park.
- The Park has, from time to time, provided effective protection against problem animals to prevent crop destruction and rangers have trained people how to drive them off. Volunteer vigilante groups have been trained and provide back up in this activity.
- The Park is the main employer in an area where job opportunities are extremely rare. Over 80% of Park employees are from the local communities. This helps to integrate the Park into the local community, particularly with the Napore people who now have a strong sense of identity with the Park, which they regard as their own.

Disadvantages

- Crop damage by wildlife from the Park, especially elephants.
- Restricted or no access to the natural resources within the Park (grazing, fuel wood, thatch grass, meat etc.).

The consultation meetings have identified that the local communities have demands and expectations from the Park, the most important of which are listed below:

- They feel that they should receive a higher proportion of the Park's income
- Local NGO input to their rural development should be increased
- Support to rural development e.g. dispensaries and grinding mills established in remote villages
- The Napore want a monopoly on available Park jobs (which actually happens in practice but not as policy)

- *Liaison and direct involvement with Park Management*

Park Management Advisory Committees (PMAC) were set up for each Parish adjoining or affected by the Park. Voluntary Community Council Wardens from each community serve as the first link with the Park Authority. These institutions still have to be restructured, based on the recent NEMA and UWA statutory requirements, to form Community Protected Area Committees (CPAC).

- *Education*

Educational visits made by Park staff to the local communities are aimed at people of all ages. Regular visits are made to schools where environmental education has become a part of the curriculum and wildlife clubs have been formed. School groups make visits to the Park for game drives and escorted walks.

- *Direct assistance*

In 1997, agricultural production was disrupted by drought, resulting in famine in the Park area. Park Community Conservation staff approached the World Food Programme in Kampala and obtained donations of 3.5 tons of maize and 4.9 tons of Sorghum for 700 people in the Lokori Parish.

The Park has assisted with transportation of building materials for community projects.

Community relations across the international border

Relations with raiders who cross the border from Sudan are complicated by the international border, which Park staff cannot cross, and by the fact that poaching or raiding parties are often large and always heavily armed. Apprehension is impossible and confrontation results in an exchange of fire. Park rangers have been killed or injured in the past. Efforts at Government level are being made to resolve the problems of rustling and poaching from Sudan, which has been a major cause of the decline of the wildlife of the Park. So far, no tangible results have been obtained.

3.3.2 Access & tourism

Past & current use

Tourist numbers & characteristics

Tourist facilities were available at Kidepo before 1996. However, for the purpose of this plan, the statistical figures analysed and quoted here are from 1996 onwards. These figures were extracted from the Apoka Lodge visitor book. Visitors may be categorised into three groups:

- *Ugandan visitors*

These are either local residents or Ugandans from outside the area adjacent to the Park, some of who visit the park on regular basis. A few local residents can be regarded as tourists but most visit the Park for other reasons, for example to visit relatives, look for employment or sell food in Apoka.

- *Foreign resident*

This category of visitors made up foreigners working in Uganda with foreign missions or as expatriates. Many of these visitors work with NGOs within Karamoja, while the rest mainly come from Kampala. Very few come from elsewhere. The statistics show that the majority of these visitors originate from Western Europe and USA.

- *Foreign non-resident visitors*

These are foreign visitors who are non-resident and who are visiting Uganda for only short periods. Foreign visitors come from all round the world but the majority come from Western Europe (especially Britain and Germany), North America and South Africa.

The following table summarises the numbers in each category:

Year	1996	1997	1998	1999
Local residents	674	1316	1221	1112
Ugandan residents	233	200	210	114
Foreign visitors	600	522	375	250
Total	1507	2017	1806	1476

Access to and within the site

Local residents travel to the Park by road. Visitors from further away travel either by road or by air. The majority of foreign visitors travel to the Park by air, usually by chartering a private flight from Kampala.

Visitors who travel in their own vehicles are able to use the Park's existing network of tracks. However, they must adhere to the marked routes and must be accompanied by a Park ranger. If they choose to drive to the less secure sections of the Park, for example the Hot Springs at Kananarok, an armed guard is necessary.

For visitors travelling to Kidepo by air, the Park maintains two vehicles which can be hired out with the necessary driver and guard(s); these are an open 4 wheel-drive Landrover and an open truck. The Park also provides transport from the airstrip to the visitor accommodation.

Reasons tourist visit the site

The following list, compiled from comments in the visitors' book, presents in order of priority the aspects of the site that people enjoy most:

- Beautiful scenery
- Wildlife, especially elephants, lions, buffaloes, giraffes, zebras, crocodiles, jackals and warthogs
- Beautiful birds
- Good accommodation/a well organised campsite
- The remoteness of the Park
- The Hot Springs area

Past & current infrastructure

Past

In 1971, the Ugandan Government, in partnership with Uganda Hotels, commissioned the construction of a large hotel at Katurum, some 8km from Apoka. The intention was to establish a first class and fully equipped hotel which would provide all facilities. Most important was the establishment of an international airport that would permit the direct arrival of foreign tourists. Construction of the hotel began in 1971 and proceeded slowly to completion in 1977. However, the breakdown in the political stability that occurred at that time meant that it was never formally opened. It slowly fell into disrepair, mainly due to the looting and stripping of its contents and timber, and is now (January 2000) beyond economic repair.

Current

The current tourist accommodation buildings consist of 2 distinct developments.

The main development is the Apoka Tourist Lodge and adjacent 'banda' accommodation buildings built in 1967. This was built for high-class tourism and is located just under 1km from the main HQ complex. The Tourist Lodge comprises a substantial building which serves as lounge and dining room with kitchen and domestic facilities, flanked by 16 bandas constructed in 8 pairs. Each building can accommodate 2 people i.e. 32 people in total. A large veranda in front of the main building permits fine views across the Narus Valley to the distant Napore hills. It also overlooks a maintained water hole which attracts a range of wildlife.

The Apoka Lodge was originally managed through a commercial concession but this has now been withdrawn due to a breach of contract by the concessionaire. The Lodge is now managed directly by the Uganda Wildlife Authority (see current & past concessions below).

The other tourist development is a series of 14 bandas, built in 1974 and known as the Hostel, which is located within the HQ complex. The Hostel was originally built to accommodate drivers of tourist transport and the buildings provide more basic facilities. The Hostel accommodates a maximum of 28 people.

From the Park headquarters at Apoka, a network of roads and circuit routes allows access to the various parts of the Narus Valley. The most distant accessible point is the hot spring area at Kananarok. Many of the roads are no longer easily passable.

Past & current concessions

Past

On 9 August 1993, an agreement between the Uganda National Parks Board of Trustees and Tessera Holding Ltd. (the concessionaire) defined terms and conditions under which tourist development would proceed in the Park. The agreement embraced a period of 30 years and was referred to as the *Apoka Rest Camp Improvement Programme*. The programme involved the restoration and refurbishment of existing facilities which had fallen into some disrepair. In addition, the contract dictated the excavation of a swimming pool, the construction of a presidential suite and the provision of quarters for a permanent staff.

By 1997, the swimming pool and the presidential suite had not materialised and the rest camp was no longer operational. The Board of Trustees received information indicating that service had been of poor quality during the period that the rest camp had been operational. Consequently, they reviewed the concession and concluded that the rest camp had been abandoned by the concessionaire. As a consequence of this breach of contract, the concession was terminated.

Current

No concession currently exists but the situation is under review by Uganda Wildlife Authority. The Authority has taken over management of the rest camp.

3.3.3 Current interpretation provision

Past & current provision

There has been little organised attempt at providing interpretation in the Park.

Signs

The site is not currently equipped with signs. The remains, now illegible, of old metal signs can be found in a few locations. These should be removed.

Leaflets

The Park is mentioned in one or two commercial tourist brochures and in a general Wildlife Authority leaflet, but there are no site-specific leaflets or guides. A tourist leaflet is currently in preparation (January 2000).

Tourist map

A rather out-dated tourist map is available in the Park. It was printed in 1972 and unfortunately sponsored by Petersen's Guns Ammo and Hunting Magazine. This is no longer considered to be an appropriate sponsor for a National Park.

Museum

There is a small, poorly maintained and rather makeshift museum on the site. The exhibits consist mainly of dead bits and pieces, skulls and bones. It is not likely to inform, entertain or impress visitors. It should be closed.

Accompanied/guided tours

Every visiting group wishing to undertake a guided tour of part of the Park will be allocated at least one ranger guide (the size of the group will dictate). Each ranger carries a radio for emergencies or to obtain the most recent information.

- *Motorised tours* - there are no set routes or destinations. This will depend on the most recent sightings and reported locations of game, and groups will be taken to these locations.
- *Walking tours* - the same principles apply. At least one ranger guide equipped with a radio will accompany each group of visitors. Some walks will commence at Apoka; others will be taken by

vehicle to a more distant starting point. Walks may be up to 10km in length, depending on the prevailing conditions and the fitness and requirement of the group.

3.3.4 Current educational use

Educational visits by Park staff to local communities encompass all age groups. Park staff visit communities for educational purposes for all age groups. Regular visits are made to schools where environmental education has become a part of the curriculum and wildlife clubs have been formed. School groups make visits to the Park for game drives and escorted walks.

3.3.5 Current research use & facilities

The Uganda Wildlife Authority published an internal document, '*Wildlife Monitoring and Research Policy*' in November 1999. The mission statement is '*to provide relevant, accurate and timely information that will improve the capacity of the Uganda Wildlife Authority to conserve and sustainably manage wildlife resources and biodiversity inside and outside Protected Areas under its jurisdiction for the benefit of the present and future generations of Ugandans and the global community*'.

This document establishes organisational guidelines for research and monitoring. Staff of the Kidepo Valley National Park must comply with this document. Consequently, there is no requirement in this plan to reiterate the direction contained in the official guidance document.

The Park employs a Warden – research & monitoring. He is responsible for co-ordinating all aspects of research and monitoring.

Current & recent research projects

The Warden – research & monitoring will carry out the following research projects:

A project to study the role of Elephants and fire on the regeneration of *Acacia*. The project has been running since 1998. The work will be extended to include a project to investigate habitat utilisation by Elephants, and the status, age structure and family structure of Elephants.

Research proposed by the warden – research & monitoring

- Predator prey relationships – lion and zebra

This will study the impact of grazing on plant communities, particularly on species composition.

- Giraffe and eland productivity and survival study.

NOTE: Generally research on protected areas can be divided into two broad categories:

- applied research projects generated in order to enable on-site management and protection
 - pure research, of a more academic nature, with possibly less direct relevance to site management.
- The latter should always be provided for if they do not compromise the conservation or other important features. Applied research projects should be generated on a need-to-know basis. Research is expensive and must focus on meeting the most important requirements of management. These areas of research should, therefore, be given priority, and finances should be made available.

A project should be developed to identify the current research requirements and provide an estimate of the finances required.

3.4 Landscape

The Kidepo Valley National Park comprises 2 broad shallow valley systems, bounded on all sides, except the north-western boundary, by steep rugged mountains. To the north-west, the valley system continues beyond the confluence of the 2 principal watercourses, far into Sudan. The relatively flat topography of the valley floors is broken only by low ridges or hills and by occasional, more conical volcanic peaks. Exposed volcanic plugs, which now take the form of rocky kopjes, are also a feature of the valleys.

The vegetation is predominantly savanna grassland, with a sparse canopy of associated shrubs and low trees. The canopy becomes reduced as the valley sides rise gently towards the foot of the fringing mountains and become more arid. In the Kidepo Valley, close to the principal stream courses, *Borassus* palms become an important feature of the landscape.

The mountains that fringe the perimeter of the Park are abrupt, steep, and rocky. It is a volcanic landscape, made up of peaks, ridges and deep valleys. The vegetation on the lower slopes is a continuation of the valley grassland and scrub, becoming more dominated by trees with increasing altitude.

Close to the higher summit ridges and peaks, arid montane forest dominates. This is a rare and declining habitat and is under considerable threat of modification from fire. In the deeper valleys, where limited moisture will be retained for longer periods and where fire penetrates less frequently, a more substantial forest canopy persists. These valleys are important as refuges for the flora and fauna of the forest, which is seriously under threat from the continued and too frequent burning.

Water makes a limited and seasonal impact on the landscape. Only in the Narus Valley does standing water persist throughout the year, with associated pools and small areas of marshy ground. Running water only becomes a significant feature during the wet season, when watercourses fill and flow.

Within the valley systems there are almost no man-made structures intruding into the landscape. Apart from the domestic, administrative and maintenance area at Apoka, the only other constructed features are the outstations. These are mainly made from natural materials and become visible only at close range. A short distance from Apoka, the airstrip necessarily intrudes a low building and a windsock into the landscape.

In the Narus Valley, roads are a necessary feature and a limited intrusion into the landscape. They are unpaved and surfaces are constructed only from locally derived, natural materials.

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4. Points of focus within the plan - conservation features & others

4.1 Identification/confirmation of nature conservation features

4.1.1 List of recognised conservation features

The Uganda Wildlife Authority has carried out an evaluation of habitats and species occurring in the Park. Details are contained in The Wildlife Protected Area System Plan for Uganda - volumes 1 & 3. The following list of habitats and species selected as conservation features in the Kidepo Valley National Park (see 4.1.4 below) is based on these two volumes.

Habitats

Habitat features (from The Vegetation of Uganda and its bearing on land use by I. Langdale-Brown, H.A. Osmaston and J.G. Wilson, 1964)

Kidepo Valley National Park is evaluated as being of regional importance for diverse large mammal and plant communities in Volume 3, Table 4.5 that are listed below:

- B3 High Altitude Dry Montane Forest, *Juniperus - Podocarpus* High Altitude Dry Montane Forest; internationally important plant community (IUCN Plant Listing)
- M2 Palm Savanna, *Borassus - Hyparrhenia dissoluta*
- N11 *Acacia combretum* dry savanna
- P2 Dry Acacia savanna, *Acacia - Hyparrhenia - Themeda*
- R1 Tree and grass steppes, *Acacia*
- R2 Tree and grass steppes, *Lannea - Acacia*
- T1 Bushlands, *Acacia mellifera*
- T6 Bushlands, *Lannea - Acacia - Balanites*
- T7 Bushlands, *Acacia - Albizia - Dichrostachys*

Species

- | | | |
|-----------------------|---------------------|------------------------|
| • Lion | • Klipspringer | • Eland |
| • African hunting dog | • Guenther's dikdik | • Hartebeest |
| • Cheetah | • Bohor reedbuck | • Rothschild's giraffe |
| • African elephant | • Mountain reedbuck | • Greater kudu |
| • Zebra (common) | • Lesser kudu | • Ostrich |

4.1.2 Provisional list of additional conservation features

Additional species features have been included where:

- They are considered to be of importance in the context of the Park and surrounds
- They are considered to be indicative of the general condition of all game in the Park. **Note:** If these species survive/or utilise the Park at stipulated levels then we can safely assume that the other smaller species known to occur are also at favourable status. The smaller species are generally less attractive to poaching and consequently less vulnerable.
- They are considered to be 'attractive' species in the context of tourism. These include: leopard; striped hyena; spotted hyena; buffalo; warthog; crocodile
- They are of particular ecological significance to the savanna ecosystem (for example, the impact of elephant on tree cover).
- Species now extinct, believed extinct or almost extinct, from the Park, but for which re-establishment is considered appropriate (that is they are known to have been present in significant numbers in the fairly recent past) have also been included: roan antelope; beisa oryx; black rhinoceros; Grant's (Bright's) gazelle

4.1.3 Evaluation of additional features

Not required

4.1.4 Confirmed list of the conservation features

Habitats

The vegetation of Kidepo Valley National Park is a complex mosaic of different savanna types and montane forest. In both cases, the type of vegetation that occurs in any given area is dependent on natural factors. These include physiography, soils types, geology and climate, which are all largely static, as well as burning and grazing/browsing. Currently, the populations of game are too low to have a significant impact on the vegetation. However, if management is successful and game numbers increase, their impact on the vegetation could change quite dramatically. The recommended surveillance plots will detect these changes and management may need to be adjusted.

Even if National Park management was able to exert total control over unplanned fires, all of these factors would continue to influence the composition of the Park's vegetation. Natural wild fires will still occur, as will controlled burning on a rotational basis to maintain the mosaic of savanna conditions. The objectives for the habitat, therefore, become largely operational and are governed by controlled burning. On this basis, there can be little justification for differentiating between the various savanna vegetation types as separate features. Consequently, all of the vegetation types making up the Park (see 4.1.1 above) will be treated as a single savanna ecosystem, comprising **savanna communities** at lower altitudes and **montane forest** at higher altitudes.

Species (animal)

List of confirmed species showing the reasons for their inclusion as species conservation features in the Kidepo Valley National Park

Species	International	Uganda	Park & surrounds	Of tourism interest
Lion	■	■	■	■
Leopard			■	■
Striped hyena			■	
Spotted hyena	■		■	
African hunting dog	■	■	■	■
Cheetah	■	■	■	■
African elephant	■	■	■	■
Buffalo	■	■	■	■
Zebra (common)			■	■
Rothschild's giraffe	■	■	■	■
Ostrich		■	■	■
Eland	■	■	■	■
Hartebeest	■		■	■
Klipspringer	■	■	■	
Guenther's dikdik			■	
Bohor reedbuck	■	■	■	

Mountain reedbuck	■	■	■	■
Lesser kudu	■	■	■	
Greater kudu	■	■	■	
Warthog			■	■
Crocodile			■	■
Roan antelope	■	■	■	■
Beisa oryx		■	■	■
Black rhinoceros	■	■	■	■
Grant's (Bright's) gazelle		■	■	

For the purposes of management planning, objective setting and recording, the following species have been aggregated into groups:

Group	Component species
Carnivores	Lion, leopard, striped hyena, spotted hyena, African hunting dog, cheetah
Elephant	African elephant
Larger ungulates (those that can be monitored using aerial transects)	Buffalo, zebra (common), giraffe (Rothschild's), ostrich, eland, hartebeest
Smaller ungulates (surveillance/monitoring of sample areas by dedicated patrol)	Klipspringer, Geunther's dikdik, Bohor reedbuck, mountain reedbuck, lesser kudu, greater kudu, warthog
Crocodile	Crocodile
Potential re-introductions	Roan, oryx, black rhinoceros, Grant's (Bright's) gazelle

4.2 Landscape & wilderness values

4.2.1 Evaluation

The Kidepo Valley National Park is an outstanding landscape area possessing qualities of peace and wilderness rarely encountered in the modern world. The valley grasslands and scrub extending to the base of remote and slightly mysterious mountains instil in the visitor a sense of awe for the natural world.

However, even the remote Kidepo Valley has not remained free from the influence of man. Decades of poaching and burning have impoverished the diversity of life and imposed a sense of emptiness on a vista that should be teeming with the game animals that formerly filled these valleys.

Sympathetic environmental management could redress the balance and restore diversity to its earlier quality. However, management cannot be achieved without some intrusive intervention that will detract from the wilderness qualities.

Management facilities have been accommodated at the Apoka headquarters in the middle of the Narus Valley near the south-western corner of the Park. Other man-made structures such as roads, Park gates, outposts and a safari lodge have been introduced into the Park. The inappropriate location, style of

construction and, in some instances, poor maintenance of buildings and other structures, has resulted in an unacceptable intrusion into the landscape.

The Apoka headquarters, domestic and administrative complex is the largest and therefore the most individually intrusive feature in the Park. Essential management activities create a considerable need for supplies, equipment and materials and also produce a substantial quantity of waste, which unfortunately clutters the area.

At some time in the past, trees and shrubs were planted around the perimeter of the camp to screen the structures. Unfortunately these have failed or have not been maintained and, consequently, they make only a small contribution towards reducing the visual impact.

Several of the buildings in the domestic area are in a bad state of repair and decoration. The church is in a particularly poor state. They do not give a good impression to visitors.

One of the first buildings encountered on the approach to Apoka is the fuel station and workshop; this area is surrounded by abandoned and wrecked vehicles. This facility should be screened or relocated and, in the short term, tidied up.

The Apoka rest camp was built in 1967 to attract the upper end of the tourist market. It has fallen into some disrepair and does little to enhance the landscape. Protected area managers now seek to harmonise buildings and infrastructure with the landscape; the rest camp is a relict of the 1960s and not appropriate for the first decade of the new millennium.

The construction of the Katurum Safari Lodge was completed in 1977 but the breakdown of political stability prevented its use. The building has since been looted of its contents and much of its fabric and is now in a state of ruin. Ideally, the ruin would be demolished and removed so that the site could return to a natural condition, but the costs would probably be prohibitive.

Roads are essential for the protection and management of the Park and for tourism. Fortunately, they do not impose significant visual intrusion from the ground except at very close quarters. The present road network needs to be reviewed. Those that are not considered essential to future management and access should be closed and allowed to disappear naturally.

In order to maintain the road system to the required standard, murrum is used to provide a compacted surface. Currently, the murrum is obtained within the site by digging the material from pits in suitable areas. Existing pits within the Park are visually unobtrusive, resembling natural features, and they provide bonus wildlife habitats which mimic river banks.

A number of buildings in the Apoka vicinity, including those associated with the former military occupation and the old Chief Warden's house, have been abandoned and are now redundant. These have become an unacceptable intrusion into the landscape and should be demolished and removed.

The frequency of large tracts of recently burned vegetation throughout the Park has a major impact on the landscape and wilderness qualities of the Park. Large areas of burned trees, bushes and bare soil with blackened tussocks offend the eye. Unfortunately, burning mostly occurs during the dry season which coincides with the tourist season.

In conclusion, the Kidepo Valley National Park is an area of outstanding natural and semi-natural landscape, where most serious visual distractions are a consequence of measures intended to protect and promote the area.

4.3 Identification/confirmation of services & facilities

4.3.1 Provisional list of services & facilities

- Relationship with the local community
- Tourism & access
- Interpretation

4.3.2 Evaluation of services & facilities

• Relationship with the local community

Local communities have considerable potential to make a major contribution to the management and future of the Park. Equally, the recent escalation of their traditional activities, caused by increasing population and the introduction of firearms to the area, demonstrate the potential for a considerable negative impact on its vegetation and fauna. Local people need to understand the importance of the Park for wildlife, but they should also be aware of the benefits that will accrue to them and their lifestyles through the presence of a successfully managed Park.

The Park has made some progress recently in embarking on a Community Conservation programme, but it recognises that this needs to be expanded and developed. Current resources are insufficient to implement an all-encompassing programme. Given the essential nature of the programme, this must be afforded an extremely high priority. Partnership with extension oriented NGOs will help to increase the effort.

For the same reasons, the establishment of an adequately planned and resourced local education programme, particularly for children, must become a high priority.

The problem of how to influence people that affect the Park from across the international border must be addressed, although this may only be possible at Government level.

• Tourism & access

Please refer to the zonation map and section on zonation in the description (3.1.7 above).

While provisions for tourism must be encouraged under national and site specific policies, any such provision must not be permitted to threaten or interfere with the key Park function of protecting the landscape, wilderness and wildlife interests. In order to ensure that the opportunities for tourism are optimised, and that the impact of tourism is minimised, the Park has been divided into 5 zones including a tourist zone, a wilderness zone, montane forest zone and buffer zone. Each zone has ground rules for tourists:

Tourist zone

The area currently suitable for the main tourist activities is the Narus Valley (excluding the Montane Forest Preservation Zone) and the area 1km to the east of the road to the hot springs (Natabalokure - Kananarok Road) which is a popular tourist destination. Management can include ensuring ease of viewing wildlife by managing areas of vegetation. Regular planned burning provides open areas of fresh grass which are attractive to herbivorous game. Tourists will be allowed to camp within the tourist zone at authorised camp sites, but will not be allowed to drive off the road.

If tourism here becomes popular, limits may be needed on numbers of visitors permitted at any one time, in order to retain the quality of the wilderness experience for tourists.

Wilderness zone

The area identified for the wilderness zone is the entire Kidepo Valley and the hills between that and the Narus Valley, extending to 1km east of the road to the Hot Springs (Natabalokure - Kananarok Road) which is the boundary with the tourism zone.

No designated campsites, only fly camping, will be allowed. Visitors will only be allowed in on foot and only when prior permission has been obtained. A permit system should be established to control the total numbers allowed within a specified period and the total at any one time. A locked barrier will control access to the road with only authorised vehicles and individuals being allowed entry.

Dry montane forest preservation zone

This zone is located in the surrounding hills above the 1,400m contour. Due to the fragility of this habitat, tourists will not be allowed to camp in this zone, although access to it will be allowed because of its particular bird and plant species interest.

• **Interpretation**

Evaluation for site specific interpretation

Given that so few people visit the site, elaborate interpretation facilities and provisions are not essential.

The Park landscape is so spectacularly beautiful that it has to be seen first hand to gain a true impression. Interpretation has only limited potential to enhance this experience.

The wildlife is very accessible and the most interesting species are so easily identified that interpretation is hardly necessary.

The site is potentially dangerous; some of the larger species such as buffaloes and elephants are of particular concern. Snakes are also a threat to unwary and inexperienced tourists. Some sort of low-key information may be appropriate. An additional concern is that unaccompanied tourists could get lost. The provision of a route map and low-key unobtrusive way markers would be useful.

Evaluation to deliver corporate interpretation

Despite the fact that Kidepo is exceptionally equipped with a wide range of spectacular and accessible features of enormous interest to tourists and other visitors, it is unable to attract tourists. This is not a reflection of the Park or its managers, but a consequence of many factors outside their control. The site is extremely remote and difficult to visit; roads are poor and currently unsafe. Uganda does not, at this time, feature as an important tourist destination. This situation may change through the implementation of a rigorous publicity and marketing strategy by the Uganda Wildlife Authority and the Uganda Tourist Board. If the situation improves nationally park management may need to provide appropriate interpretation facilities.

4.3.3 Confirmed list of services & facilities

- Relationship with the local community
- Tourism & access
- Interpretation

Section 2 – Planning

Feature/facility 1 - Savanna communities

1.1 Description

Most of the Park comprises a mosaic of savanna communities, including dry combretum savanna, palm savanna, impeded drainage savanna communities, tree and shrub steppe, bushland and dry thicket. In more recent years, increased burning and illegal cattle grazing has degraded much of the forest, savanna and steppe component to bushland and dry thicket. This is particularly the case in the Kidepo Valley. In the more mountainous regions of the Park (above 5000 ft), small areas of high altitude forest occur, but this has been largely modified through excessive burning to a forest/savanna mosaic or to dry savanna.

1.2 Favourable status

A future where there would be no concern about the composition and structure of the vegetation providing that the following conditions were met:

- The vegetation consists of a dynamic shifting mosaic of savanna woodland, scrub and grassland, for which the composition and structure is governed both by natural processes and limited intervention management in the form of rotational patch burning
- There is, and will continue to be, a large extent of habitat containing a dynamic range of conditions, sufficient to ensure the survival of its natural and dependent animal populations for the long term
- The size and distribution of the various populations will be governed, as far as possible, by natural processes

1.3 Factors & limits

The existing mosaic of savanna habitats that occurs at Kidepo Valley National Park is the combined result of:

- Natural factors that are largely un-changing, for example, physiography, soil types, geology and climate
- Variable natural factors, such as grazing and browsing by wild animals, and natural wild fires
- A long and varied history of human intervention, including burning, grazing with domestic livestock and removal of game, has also contributed to the current condition.

This habitat must, therefore, be regarded as plagioclimactic and consequently, if not subject to occasional burning, will become progressively more afforested. Wild animals, in particular elephant, may affect the rate of afforestation. However, they are currently insufficient in number and range over a large area, including land outside the Park boundary, and consequently, they cannot be relied on to provide the necessary impact. If management is successful and populations of grazing and browsing animal increase, the need for burning management may decrease.

Emphasis must be placed on ensuring that the range of conditions that the various animals require is maintained. The most practical way of achieving this is through the controlled and planned use of fire. However, some types of savanna community will benefit more from fire than others. Careful intervention management will be required to ensure that the most vulnerable communities are safeguarded.

1.4 Attributes & limits

There can be little purpose in selecting performance indicators when intervention management will determine the condition of the vegetation. Providing the management is carried out as prescribed, the habitat will be maintained in the required condition. Thus, in order to ensure that the work is carried out, compliance must be recorded in the management project. The prescribed management will be a planned pattern of early rotational burning and the prevention, as far as possible, of unplanned illegal burning.

In the main areas where the vegetation has been previously degraded by fire and overgrazing, for example the Kidepo Valley, a programme of surveillance to record the recovery of bushland and thicket to savanna communities is required. Aerial photography and fixed vegetation plots should provide an adequate methodology.

1.5 Objective 1 To maintain the savanna communities at favourable status (via controlling burning)

1.5.1 Factor list

1 - Over frequent burning

RH90/01-Collect data, other activities - SURVEILLANCE OF UNCONTROLLED FIRES

2 - Illegal grazing - See objective for illegal grazing

RF02/01-Collect data, vegetation, survey - SAVANNA RECOVERY SURVEILLANCE

1.5.2 Attribute list

1 - Distribution of savanna communities

RV20/01-List/collect/commission photographs aerial - AERIAL PHOTOGRAPHS

RF02/01-Collect data, vegetation, survey - SAVANNA RECOVERY SURVEILLANCE

2 - Area occupied by savanna communities

RF02/02-Collect data, vegetation, survey - VEGETATION SURVEY

1.5.3 Current status

31/01/2000 - Unfavourable - Declining

The status of the feature is unfavourable & declining. This is due to over frequent illegal burning.

1.5.4 Rationale & prescription

There will be no tolerance of poaching and illegal burning.

The key factor is uncontrolled, excessive burning. To a much lesser extent, illegal grazing by cattle may have some localised impact. If these activities can be controlled, even the degraded vegetation communities, bushland and thicket will have the potential to revert to a more valued form of dry savanna vegetation. Montane forest may also recover.

Some types of savanna community will benefit from fire, while others should not be burnt at all. A full habitat survey of the site and a revision of existing survey information is needed to establish which areas should not be burnt and which areas should be included in a planned pattern of rotational burning. Details of the planned burning regime should be illustrated on a map. The frequency of burning, and size of the areas to be burnt at any one time, must be determined. The planning process must take into account the recent history of burning in the Park.

In the future, if management is successful and game numbers increase, the need for burning management may decrease.

The following communities must not be burned:

- R1 Tree and Shrub Steppe
- R2 *Lannea* - *Acacia* Tee and Shrub Steppe
- W8 *Acacia* - *Setaria* Savanna

All three types of vegetation occur as natural climax communities and require no additional management to maintain them.

An area not exceeding 25% of the following community should be included in a 10-year planned pattern of rotational burning:

- N8 *Combretum* - *Acacia* - *Themeda savanna*

This community type is derived from montane forest by repeated burning. While of some interest in their own right, cessation of burning will allow for reversion to the more valued montane forest community.

An area not exceeding 50% of the following community should be included in a 20-year planned pattern of rotational burning:

- M2 *Borassus* - *Hyparrhenia dissoluta* palm savanna

This palm savanna probably occurs as a fire climax community in the Park. It is recommended that half be allowed to mature to a natural climax, while the remainder is managed through a fairly long pattern of rotational burning.

An area not exceeding 50% of the following communities should be included in a 10-year planned pattern of rotational burning:

- N5 *Combretum* - *Acacia* - *Hyparrhenia* dry Savanna
- N11 *Acacia* - *Combretum* savanna
- N13 *Lannea* - *Combretum* - *Lonchocarpus* savanna
- P2 *Acacia* - *Themeda* - *Setaria* savanna
- T1 *Acacia* - *Lannea* Bushland
- T6 *Lannea* - *Acacia* - *Balanites* Bushland
- T7 *Acacia* - *Albizia* - *Dichrostachys* Bushland
- V Dry Thicket

Most are fire climax communities. Others are seral communities which succeed savannas where dry season burning has ceased. It is recommended that half be allowed to mature to a natural climax, while the remainder is managed through a short-term pattern of rotational burning.

Grazing animals, particularly the smaller ungulates, will benefit from controlled, small-scale early burns of savanna vegetation on a 3-4 year rotation. This will continue to provide fresh growth for forage and security from predation. This practice will also facilitate game viewing for monitoring and tourism purposes.

The maximum size of any single burn area should not exceed 2 sq. km. The total area burnt in any one season should not exceed 100 sq. km and some controlled burning should be carried out at least every 3 years.

These figures are calculated from the suggested pattern of rotational burning for the various community types and are necessary to ensure that the implementation of burning management is, to some degree, spread out across the period of the burning rotation.

Any pattern of planned rotational burning should also take account of burning which takes place as part of the fire control programme (please refer to *project AP30/01 - fire control plan*).

Steps must be taken to control illegal burning and grazing. This will be obtained through the ranger service and will be dealt with in a later section in the plan. In addition, education, the maintenance of a good relationship with the local community and interpretation may contribute, in the longer term, towards minimising the impact of illegal activities.

1.6 Prescription list

3 - Manage Savanna communities

MH11/01-Manage habitat, grassland, by controlled burning - ROTATIONAL BURNING MANAGEMENT

4 - Control illegal burning

MH11/01-Manage habitat, grassland, by controlled burning - ROTATIONAL BURNING MANAGEMENT

5 - Carry out research on vegetation

RF05/01-Collect data, vegetation, research - GENERAL APPLIED RESEARCH ON VEGETATION

Feature/facility 2 - Montane forest

2.1 Description

Most of the Park comprises a mosaic of savanna communities, including dry combretum savanna, palm savanna, impeded drainage savanna communities, tree and shrub steppe, bushland and dry thicket. In more recent years, increased burning and illegal cattle grazing has degraded much of the forest, savanna and steppe component to bushland and dry thicket. This is particularly the case in the Kidepo Valley. In the more mountainous regions of the Park (above 5000 ft), small areas of high altitude forest occur, but this has been largely modified through excessive burning to a forest/savanna mosaic or to dry savanna.

2.2 Favourable status

A future where there would be no concern about the composition and structure of the montane forest vegetation providing that the following conditions were met:

- The vegetation consists of the full range of montane forest communities
- The size and distribution of the various communities will be governed, as far as possible, by natural processes

The following objective - to maintain the montane forest (B3 Juniperus - Podocarpus Dry Montane Forest & F1 Protea gaguedi – Faurea saligna forest/savanna) at favourable status via natural processes and with no deliberate burning - is based on existing survey and past burning information; it may need to be revised as further, more contemporary, information is collated.

2.3 Factors & limits

This is a rather more natural habitat. It is fragile and not considered particularly tolerant of burning. Burning in this habitat should be prevented.

At present, degradation of both the savanna and montane forest habitat is occurring as a consequence of illegal burning. The activity is over frequent and provides only for short-term gains in cattle productivity. Illegal burning must be controlled in order to realise the vision for the future. Control can only be achieved by increasing the levels of law enforcement in the Park and by establishing a system of firebreaks. Planned and controlled burning can also be used to reduce the vulnerability of the habitats to illegal burning.

With the exception of elephants, grazing and browsing by wild animals is not currently considered a significant factor in terms of the vegetation communities. Some illegal cattle grazing, by people from the adjacent areas, has occurred in recent years. Over frequent burning may result in further degradation of the vegetation.

Uncontrolled burning of the Park surrounds, particularly the once afforested hills, will reduce the water-holding capacity of these areas. This has potential eventually to reduce the level of the water table within the Park, with consequent degradation of the vegetation in these areas to more arid communities.

2.4 Attributes & limits

As is the case for the savanna communities, there is little purpose in selecting performance indicators. The restriction of unplanned, illegal burning, in those areas that have been degraded is the only option if the habitat is to survive. If burning continues, there is little point in monitoring simply to confirm that the habitat is unfavourable. A programme of vegetation surveillance is required to record changes in the montane forest cover. All fires illegal, accidental and natural must be recorded.

2.5 Objective 2 To maintain the montane forest at favourable status (via modification by natural processes only and with no deliberate burning)

2.5.1 Factor list

1 - Over frequent burning

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

2.5.2 Attribute list

1 - Distribution of forest communities

RV20/01-List/collect/commission photographs aerial - AERIAL PHOTOGRAPHS

RF02/01-Collect data, vegetation, survey - SAVANNA RECOVERY SURVEILLANCE

RF02/02-Collect data, vegetation, survey - VEGETATION SURVEY

RF12/01-Collect data, trees/shrubs, survey - MONTANE FOREST RECOVERY SURVEILLANCE

2 - Area occupied by forest communities

RF02/02-Collect data, vegetation, survey - VEGETATION SURVEY

2.5.3 Current status

31/01/2000 - Unfavourable - Declining

2.5.4 Rationale & prescription

The key factor is uncontrolled excessive burning. If this activity can be controlled, the montane forest may recover.

The following communities must not be burned:

- R1 Tree and Shrub Steppe
- R2 *Lannea - Acacia* Tee and Shrub Steppe
- W8 *Acacia - Setaria* Savanna

All three types of vegetation occur as natural climax communities and require no additional management to maintain them.

Steps must be taken to control illegal burning and grazing. This will be obtained through the ranger service and will be dealt with in a later section in the plan. In addition education, the maintenance of a good relationship with the local community and interpretation may contribute, in the longer term towards minimising the impact of illegal activities.

2.6 Prescription list

1 - Control illegal burning

MH11/01-Manage habitat, grassland, by controlled burning - ROTATIONAL BURNING MANAGEMENT

MH11/02-Manage habitat, grassland, by controlled burning - BURNING MANAGEMENT

2 - Undertake vegetation research

RF05/1-Collect data, vegetation, research project - GENERAL APPLIED RESEARCH ON VEGETATION

Feature/facility 3 - Carnivores

3.1 Description

All population figures are estimates and may be subject to error. Furthermore, several of these carnivorous species are very mobile and may reside mainly on the Park's peripheries or outside the Park.

Lion - A population of up to 10 Lions are resident in the Park. These animals tend to be centred in the Narus Valley area. Numbers were higher in the past (circa 20+) but have been reduced through disease.

Leopard - Population figures for leopards are very unreliable. Park staff estimate that up to 30 may utilise the Park and surrounds, mostly occurring in the more forested peripheries of the site.

Striped & spotted hyena - Very few striped hyena occur in the Park. There have been a few recent sightings, but generally speaking both these species are more prevalent outside the Park where they are able to poach domestic animals, cattle and goats.

African hunting dog - In recent years a small pack of hunting dogs (5+) has been recorded in the north-western corner of the Park. This is believed to be a transient population which resides also in southern Sudan and the Lipan Controlled Hunting Area to the west.

Cheetah - This species is occasionally sighted in the Park. Numbers are not known but it is probably less than 5. It is not clear whether these are fully resident or transient, possibly moving into southern Sudan and other areas.

3.2 Favourable status

All the following species should occur in the Park or its surrounds in viable populations:

- Lion
- Leopard
- Striped & spotted hyena
- African hunting dog
- Cheetah

Note: It is not possible to identify performance indicators at this stage. Thus the objective will focus on operational limits:

- No carnivores or prey species are lost to poaching
- There is no loss of suitable habitat through illegal burning
- The availability of water bodies in the dry season will not reduce to below that recorded in 2000.

3.3 Factors & limits

Carnivore populations are dependent on the availability of appropriate prey species. If the numbers and availability of prey species decline, so too will the carnivore populations; as the prey increases, so will the predators.

Disease is a potentially serious problem for carnivorous species, particularly when they exist in such small and isolated populations. Carnivore species may be vulnerable to diseases found in domestic animals, e.g. canine distemper. The close proximity of settlements around the Park presents a potential risk to these animals. Feline AIDS is a potential problem in lion populations.

African hunting dogs, and to a lesser degree hyena, are subject to persecution; snaring and poisoning account for many losses in East Africa as a whole.

Many of the carnivore species require a very large area; African hunting dogs in particular require an extremely large range, e.g. 10,000 sq. km. Consequently, these animals will almost certainly utilise areas beyond the Park boundary, increasing their vulnerability to poaching, persecution, snares and poisoning.

A loss of suitable habitat through unplanned persistent and frequent burning will restrict the distribution of these animals within the Park. However, a controlled and planned pattern of rotational early burning will be of benefit to all the mammal populations by maintaining a broad range of savanna vegetation and habitat conditions.

Illegal or unplanned frequent burning of the areas surrounding the Park, particularly of the once afforested hills, will reduce the water-holding capacity of these areas. This will eventually lead to a reduction in the availability of water sources (watering holes), both within and outside the Park, especially during the dry season.

3.4 Attributes & limits

It is not currently possible, or sensible, to attempt to set population limits for any of the carnivore species that utilise the Park. At this stage, the primary concern is that viable populations should be present in the Park or surrounds, and that they are able to adapt to the changing Park conditions, particularly an increase in prey species. Surveillance of these carnivore species should be carried out periodically. This requirement will be met by the Ranger Patrol carrying out a species recording project.

In the longer-term, if and when carnivore populations recover, some means of measuring or estimating population sizes and assessing their distribution within the Park may need to be developed.

3.5 Objective 3 To maintain the carnivore populations at favourable status - no losses of carnivores or prey species to poaching; no loss of suitable habitat through illegal burning; water body availability (dry season) not less than per year 2000

3.5.1 Factor list

1 - Risk of disease from domestic animals

MS30/02-Manage species, mammal - EXCLUDE DOMESTIC PETS DOGS & CATS

2 - Illegal hunting, snaring and poisoning

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

3 - Availability of water

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

3.5.2 Attribute list

1 - Population size

2 - Population distribution

RA02/01-Collect data, mammals, survey - SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION

3.5.3 Current status

31/01/2000 - Unfavourable - Not known

The status of the feature is currently unknown but must be considered unfavourable given the low numbers of prey species in the Park.

3.5.4 Rationale & prescription

Habitat management will not be discussed for a species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section. The combined requirements of the various species that qualify as features will be taken into account at that stage.

The key to encouraging and maintaining populations of carnivorous mammals is to ensure the presence of appropriate prey species. Given that most prey species are also recognised as important conservation features, provisions for their management will be dealt with separately.

The control of poaching and the consequential disturbance is important for all species - carnivore and prey. The loss, or inappropriate distribution, of potential prey is the most obvious consequence, but direct disturbance must also be of some concern. An operational objective will be included for poaching control.

Water sources, both within and outside the Park, are threatened by inappropriate, and usually illegal, burning. This will impact on prey and predator. An operational objective will be included to deal with illegal burning.

Disease is a potentially serious problem for carnivorous species, particularly when they exist in such small and isolated populations, and are in contact with domestic animals. As far as possible, all domestic animals including pets, should be banned from the Park.

Many of the carnivore species require a very large area and will almost certainly utilise areas beyond the Park boundary. African hunting dog, and to a lesser degree hyena, are subject to relentless persecution. Control of poaching is difficult within the Park and impossible outside. The only possible, but unlikely, solution is a long-term education programme. There is a project under community relationships concerned with providing education.

Management will be indirect and obtained through appropriate habitat management and law enforcement (please refer to the law enforcement objectives).

3.6 Prescription list

1 - Control illegal poaching

2 - Maintain suitable habitat

Feature/facility 4 - Elephant population

4.1 Description

There is a population of approximately 390 animals. When resident in the Park, this population currently resides primarily in the Narus Valley area. The population may be absent from the Park for several months at a time. The age structure of the population is relatively immature (over 80% are probably less than 30 years old), the more mature animals having been lost to poachers.

4.2 Favourable status

A viable population of around 1500 animals with a more natural age/sex structure, ranging across all suitable areas of the Kidepo Valley National Park.

4.3 Factors & limits

Poaching is the primary reason for past declines in the numbers and distribution of elephant within the Park.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park is another factor.

4.4 Attributes & limits

- Total numbers of animals (adults & young) utilising Park as part of their range - target 1500; lower limit 800

Conducting a total population count is the only reliable way of assessing whether the population is changing. Sampling is not feasible as the population is very unlikely to be evenly distributed across the Park and distribution cannot be predicted. Note that no upper limit has been set. If the population reaches levels where elephant have a detrimental impact on the vegetation then action may be needed.

- Distribution within the Park - present in both Narus & Kidepo valleys

An increase in the distribution of elephants and many other animal species is desirable and will provide a good indication of the success of poaching control.

- Age/sex structure of the population

The current age structure is relatively immature due to poaching in the past. The presence of maturing animals in the population will indicate that a reduction in poaching is being achieved.

4.5 Objective 4 To maintain the elephant population at favourable status (population number, distribution & age/sex structure)

4.5.1 Factor list

1 - Poaching

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD
POACHING ACTIVITY

2 - Loss of water sources

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

4.5.2 Attribute list

1 - *Total number of elephants utilising the park as part of their range*

RA03/01-Collect data, mammals, monitor - MONITOR SIZE OF LARGE MAMMAL & OSTRICH POPULATIONS

2 - *Distribution of elephants within the park*

RA02/01-Collect data, mammals, survey - SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION

3 - *Age structure of elephants in the park*

RA03/02-Collect data, mammals, monitor - MONITOR ELEPHANT AGE STRUCTURE

4 - *Sex structure of the elephant population in the park*

RA03/03-Collect data, mammals, monitor - MONITOR THE SEX STRUCTURE OF THE ELEPHANT POPULATION

4.5.3 Current status

29/01/2000 - Unfavourable - Not known

The current population size is only 50% of the lower limit.

The current level of security from poaching is such that none of these species are able to range across all suitable areas of the Park, and all are still vulnerable to losses through poaching. Elephants must therefore be considered to be at unfavourable status.

4.5.4 Rationale & prescription

Habitat management will not be considered for the species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section.

Poaching is the primary reason for past declines in the numbers and distribution of elephant within Park. An operational objective to control poaching is included.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park. An operational objective has been included to deal with illegal burning.

Management will be indirect and obtained through appropriate habitat management and legal enforcement.

4.6 Prescription list

1 - *Control illegal poaching*

2 - *Maintain suitable habitat*

Feature/facility 5 - Larger ungulates

5.1 Description

Buffalo - A population of approximately 1500 animals. This population currently resides primarily in the Narus Valley area.

Zebra (common) - A population of 300+ animals. This population currently resides primarily in the Narus Valley area.

Rothschild's giraffe - A population of 8 animals which currently resides in the Narus Valley area. This small group comprises 6 animals remnant from the larger population that occurred in the past (up to 400 animals) and 2 animals which were translocated from Kenya in 1997 to reinforce the population.

Hartebeest - A population of approximately 130 animals. This population currently resides primarily in the Narus Valley area.

Eland - A small relic population of 15-20 animals. The range of these animals is currently confined to the area immediately east of Apoka.

5.2 Favourable status

The populations of all of these larger ungulates should range across all areas of suitable habitat within the entire Park. The population levels should be broadly comparable with those occurring in the 1970s, i.e. before poaching significantly reduced numbers (see target levels).

5.3 Factors & limits

General for all large ungulate species

Poaching is the primary reason for past declines in the numbers and distribution of these animals within the Park.

Habitat management will not be considered for species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section. The combined requirements of the various species which qualify as features will be taken into account at that stage.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park.

Livestock in and around the Park can potentially spread disease to populations of wild animals, e.g. rinderpest and tuberculosis from cattle.

Predator/prey relationships - the current low numbers of animals arguably places undue predator pressure on the more vulnerable prey species e.g. young/newborn zebra. This pressure should be alleviated as numbers of other prey species increase.

The very low numbers of some species, such as giraffe and eland, renders these species extremely vulnerable to any losses.

5.4 Attributes & limits

- Total numbers of animals (adults & young) utilising Park as part of their range
 - Buffalo (current approx. 1500) - lower limit 500; target 2000
 - Zebra, common (current 300+) - lower limit 350; target 500
 - Rothschild's giraffe (current 8) - lower limit 50; target 200
 - Hartebeest (current 130) - lower limit 1000; target 1500
 - Eland (current 15-20) - lower limit 100; target 200

Conducting a total population count is the only reliable way of assessing whether the populations of these animals are changing. Sampling is not feasible as the populations are very unlikely to be evenly distributed across the Park, and their distribution cannot be predicted.

NB. Current population figures are based on *A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96* and ranger patrol records for 1999 (maximum counts). Suggested lower limits/targets based on 1967-72 and 1981/82 figures from '*A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96*' and on figures provided by Claus Okongo (out-going Chief Park Warden), Mateo Apayal (Acting Head Ranger) and Thomas Loware (Acting Operational Commander).

- Distribution within the Park - both Narus & Kidepo valleys
An increase in the distribution of these and many other animal species is desirable and will provide a good indication of the success of poaching control.

5.5 Objective 5 To maintain the populations of each of the larger ungulate species at favourable status (species populations & distributions)

5.5.1 Factor list

1 - Poaching

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

2 - Loss or damage to habitat

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

3 - Disease from domestic animals

MS30/02-Manage species, mammal - EXCLUDE DOMESTIC PETS DOGS & CATS

4 - Predation

RA04/01-Collect data, mammals, count/estimate/measure/census - RECORD PREDATION

5 - Availability of water

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

5.5.2 Attribute list

2 - Distribution of animals within the Park

RA02/01-Collect data, mammals, survey - SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION

RA03/04-Collect data, mammals, monitor - MONITOR DISTRIBUTION OF LARGER UNGULATES IN THE PARK

3 - Total numbers of animals utilising the park

RA03/01-Collect data, mammals, monitor - MONITOR SIZE OF LARGE MAMMAL & OSTRICH POPULATIONS

5.5.3 Current status

29/01/2000 - Unfavourable - Not known

Buffalo - current populations are above the lower limit.

Zebra (common), Rothschild's giraffe, hartebeest & eland - current populations are below the lower limits.

The current level of security from poaching is such that none of these species are able to range across all suitable areas of the Park and all are still vulnerable to losses through poaching.

All larger ungulates must therefore be considered to be at unfavourable status.

5.5.4 Rationale & prescription

Current population figures are based on *A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96* and ranger patrol records for 1999 (maximum counts). Suggested lower limits/targets based on 1967-72 and 1981/82 figures from '*A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96*' and on figures provided by Claus Okongo (out-going Chief Park Warden), Mateo Apayal (Acting Head Ranger) and Thomas Loware (Acting Operational Commander).

The primary threats to the continued maintenance and recovery of the population of these species are poaching and loss of suitable habitat through illegal burning. These will be dealt with through the operational objectives for poaching control and the control of illegal burning.

Management will be indirect and obtained through appropriate habitat management and law enforcement.

Refer to habitat management project (*MH11/01 - rotational burning management*) and to the law enforcement, poaching and illegal burning projects.

The translocation of other animals to re-enforce the populations of giraffe and eland might be considered if population levels fail to recover. **However, there can be no justification for such an action until the Park is sufficiently secure from poaching.**

5.6 Prescription list

3 - Control risk of disease from domestic animals

4 - Maintain habitat

5 - Control poaching

6 - Control illegal fires

AP30/01-Prepare/revise plan, fire protection/control - FIRE CONTROL PLAN

Feature/facility 6 - Smaller ungulates

6.1 Description

Population estimates are shown in brackets. These may be subject to significant error and are possibly superficial given the transitory nature of some of these species:

Geunther's dikdik (100+); klippspringer (30+); Bohor reedbuck (50-100); warthog (70-80); mountain reedbuck (20+); lesser kudu (<10); greater kudu.

Lesser and greater kudu may also be considered for re-introduction/population re-enforcement if numbers fail to recover with control of poaching (refer to objective for potential re-introductions).

6.2 Favourable status

The populations of all of these smaller ungulates should range across all areas of suitable habitat within the entire Park and surrounding hills. The population levels should be broadly comparable with those occurring in the 1970s, i.e. before poaching significantly reduced their numbers (see target levels).

6.3 Factors & limits

General for all small ungulate species

Habitat management will not be considered for species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section. The combined requirements of the various species which qualify as features will be taken into account at that stage.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park.

Livestock in and around the Park can potentially spread disease to populations of wild animals, e.g. rinderpest and tuberculosis from cattle. This can, and in the past has, led to major a reduction in animal numbers in African parks.

Predator/prey relationships - the current low numbers of animals arguably places undue predator pressure on the more vulnerable and favoured prey species, for example, young warthog. This pressure should be alleviated as numbers of other prey species increase.

The very low numbers of lesser and greater kudu means that they are extremely vulnerable to any losses.

6.4 Attributes & limits

NOTE: It must be stressed that due to their dispersed nature and/or the degree of cover, it is not currently possible to accurately census the numbers of these smaller ungulates present in the Park at any given time. Emphasis must therefore be given to monitoring the numbers of the larger ungulate species (refer to objective 5 - Larger ungulates). It can be assumed that if these species occur in numbers at or above the lower limits and that they range throughout the Park then the smaller ungulates will fare likewise. The rationale behind this assumption is that poaching is the main factor limiting their numbers; larger animals are the more favoured prey for the poachers and therefore more vulnerable.

• Total numbers of animals utilising Park as part of their range

Surveillance of these smaller ungulate species should be carried out periodically. This requirement will be met by some modification to the ranger patrol species recording.

- Distribution within the Park

An increase in the distribution of these and many other animal species is desirable and will provide a good indication of the success of poaching control.

6.5 Objective 6 To maintain the populations of each smaller ungulate species at favourable status (species populations & distributions)

6.5.1 Factor list

1 - Poaching

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

2 - Loss or damage to habitat

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

3 - Disease from domestic animals

4 - Predation

RA04/01-Collect data, mammals, count/estimate/measure/census - RECORD PREDATION

5 - Availability of water

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

6.5.2 Attribute list

1 - Distribution of animals within the park

RA03/05-Collect data, mammals, monitor - MONITOR DISTRIBUTION OF SMALLER UNGULATES IN THE PARK

2 - Total number of small ungulates in the park

RA02/01-Collect data, mammals, survey - SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION

RA03/05-Collect data, mammals, monitor - MONITOR DISTRIBUTION OF SMALLER UNGULATES IN THE PARK

6.5.3 Current status

31/01/2000 - Unfavourable - Not known

The current level of security from poaching is such that none of these smaller ungulate species are able to range across all suitable areas of the Park and all are still vulnerable to losses through poaching. All populations of smaller ungulates must therefore be considered to be at unfavourable status.

6.5.4 Rationale & prescription

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park. An operational objective has been included to deal with illegal burning.

However, the smaller ungulates in particular will benefit from controlled, small-scale early burns of savanna vegetation on a 3-4 year rotation. This provides fresh growth for forage and security from predation. This practice will also facilitate game viewing (refer to tourism objective).

The translocation of other animals to reinforce the populations of lesser and greater kudu might be considered if population levels fail to recover. *However, there can be no justification for such an action until the Park is sufficiently secure from poaching.*

Management will be indirect and obtained through appropriate habitat management and law enforcement. Refer to habitat management project (*MH11/01 - rotational burning management*) and to law enforcement, poaching and illegal burning projects.

6.6 Prescription list

1 - Control risk of disease from domestic stock

2 - Maintain habitat

MH11/01 Manage habitat, grassland, by controlled burning - ROTATIONAL BURNING
MANAGEMENT

3 - Control poaching

4 - Control illegal fires

AP30/01-Prepare/revise plan, fire protection/control - FIRE CONTROL PLAN

Feature/facility 7 - Ostrich population

7.1 Description

In January 2000 there was a population of 20-25 ostriches. These birds reside primarily in the north-western sections of the Park and into Sudan. Counts are unreliable due to the transitory nature of the birds. 3 immature birds are being reared at Apoka as part of a programme to re-enforce the existing population and to extend their range within the Park to include the Narus Valley area.

NB. Current population figures are based on *A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96* and ranger patrol records for 1999 (maximum counts). Suggested lower limits/targets based on 1967-72 and 1981/82 figures from 'A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96' and on figures provided by Claus Okongo (Out-going Chief Park Warden), Mateo Apayal (Acting Head Ranger) and Thomas Loware (Acting Operational Commander).

7.2 Favourable status

The populations of ostriches should range across all areas of suitable habitat within the Park. The population levels should be broadly comparable with those occurring in the 1970s, i.e. before poaching significantly reduced their numbers (see target levels).

7.3 Factors & limits

Poaching is the primary reason for the past declines in the numbers and distribution of these animals within the Park.

Habitat management will not be considered for species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section. The combined requirements of the various species which qualify as features will be taken into account at that stage.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park.

Livestock in and around the Park can potentially spread disease to populations of wild animals. Coccidiosis from chickens is a particular problem. This can, and in the past has, led to major reductions in ostrich numbers in African parks.

Predator/prey relationships - the current low numbers of animals arguably places undue predator pressure on the more vulnerable prey. This pressure may be alleviated as numbers of other prey species increase.

The currently very low numbers of ostrich renders these species extremely vulnerable to any losses.

7.4 Attributes & limits

- Total numbers of animals utilising Park as part of their range - no target set; lower limit 100
Conducting a total population count is the only reliable way of assessing whether the population of ostriches is changing. Sampling is not feasible as the population is very unlikely to be evenly distributed across the Park the distribution cannot be predicted.
- Distribution within the Park - present in both Narus & Kidepo valleys
An increase in the distribution of ostriches is desirable and necessary. The monitoring of distribution will provide a good indication of the success of poaching control.

7.5 Objective 7 To maintain the ostrich population at favourable status (population number & distribution)

7.5.1 Factor list

1 - Poaching

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

2 - Loss or damage to habitat

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

3 - Disease, coccidiosis, from domestic chickens

MS40/01-Manage species, bird - CONTROL DOMESTIC CHICKENS

4 - Predation

RA04/01-Collect data, mammals, count/estimate/measure/census - RECORD PREDATION

5 - Availability of water

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

7.5.2 Attribute list

1 - Total number of Ostriches utilising the Park

RA02/01-Collect data, mammals, survey - SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION

2 - Distribution of Ostriches in the Park

RA03/01-Collect data, mammals, monitor - MONITOR SIZE OF LARGE MAMMAL & OSTRICH POPULATIONS

7.5.3 Current status

31/01/2000 - Unfavourable - Not known

The ostrich population falls below the lower limit. Ostriches are able to range across all suitable areas of the Park but because of the current levels of poaching they are extremely vulnerable. The ostrich population must therefore be considered unfavourable.

7.5.4 Rationale & prescription

The primary threats to the continued maintenance and recovery of the population of ostriches are poaching and loss of suitable habitat through illegal burning. These will be dealt with through the operational objectives for poaching control and the control of illegal burning.

Management will be indirect and obtained through appropriate habitat management and law enforcement. Refer to habitat management project (*MH11/01 - rotational burning management*) and to the law enforcement, poaching and illegal burning projects.

The translocation of animals to reinforce the populations of ostrich might be considered if population levels fail to recover. *However, there can be no justification for such an action until steps have been taken towards ensuring that the Park is secure from poaching.*

7.6 Prescription list

1 - *Control risk of disease from domestic chickens*

MS40/01-Manage species, bird - CONTROL DOMESTIC CHICKENS

2 - *Maintain habitat*

3 - *Control poaching*

4 - *Control illegal fires*

Feature/facility 8 - Crocodile population

8.1 Description

There is a population of up to 10 adult animals. These are confined to 3 separate permanent water holes, Logirangole, Kalabi dam & Narus, all in the Narus Valley. It is believed that there is no movement of animals between these 3 locations. There has been no confirmation of successful breeding in recent years.

8.2 Favourable status

The present population of up to 10 adult animals continues to occupy the 3 present locations and their productivity is adequate to maintain the population.

8.3 Factors & limits

The availability of suitable permanent water bodies limits the numbers of animals and restricts this species to 3 locations within the Park. There are concerns over the lack of confirmed breeding for over 20 years. Poaching is not believed to be an issue with regard to this species.

8.4 Attributes & limits

- Total numbers of animals utilising the 3 permanent water holes - lower limit 10
A total population count is the only reliable way of assessing whether the populations of these animals is changing and is relatively easy to carry out.

- Distribution within the 3 water holes - adults present at all 3 locations
Given the limited number of locations, it is important that all 3 continue to support crocodiles.

- Productivity - research required
There are some concerns that this population has not reproduced for some considerable time. An assessment of productivity is therefore merited.

8.5 Objective 8 To maintain the crocodile population at favourable status (population number, distribution & productivity)

8.5.1 Factor list

1 - *Loss of fresh water habitat*

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

8.5.2 Attribute list

1 - *Total number of crocodiles present*

RA23/01-Collect data, herpetofauna, monitor - MONITOR CROCODILE NUMBERS & DISTRIBUTION

2 - *Distribution of crocodiles*

RA23/01-Collect data, herpetofauna, monitor - MONITOR CROCODILE NUMBERS & DISTRIBUTION

3 - *Productivity*

RA25/01-Collect data, herpetofauna, research project - RESEARCH ON CROCODILE PRODUCTIVITY

8.5.3 Current status

01/01/2000 - Unknown

Unknown, but the population is probably unfavourable.

8.5.4 Rationale & prescription

The primary threat to the continued presence of this species in the Park is the availability of suitable permanent water bodies. Illegal burning, both within the Park and the surrounding areas, reduces the water-holding capacity of these surrounding areas which may eventually lead to the loss of some permanent water within the Park. This would obviously have a very detrimental impact on crocodile populations. These activities must therefore be controlled.

Management may be indirect and obtained through appropriate habitat management and law enforcement.

8.6 Prescription list

1 - Maintain habitat

2 - Control illegal fires

Feature/facility 9 - Species currently extinct in the park/potential re-introductions

9.1 Description

The following species have been identified as having the potential for re-introduction to the Park:

- **Roan antelope** - currently extinct in the Park; once present in large numbers (120 in 1967-72); last remaining animals were lost to poachers in 1995.
- **Beisa oryx** - believed extinct from the Park; some small remnant populations may occur in the surrounding hills but this is doubtful; last recorded in the 1960's.
- **Bright's gazelle** - believed extinct from the Park; once present in large numbers (250-500 in 1967-72); last remaining animals were probably lost to poachers in 1960's.
- Black rhinoceros - currently absent from the Park; once present in large numbers (50 - 1967-72); last remaining animals were lost to poachers in 1983. However, it is unlikely that conditions necessary for their reintroduction will be obtained in the near future, consequently consideration of the reintroduction of black rhinoceros will be deferred.
- Eland, lesser and greater kudu may also be considered for re-introduction/population re-enforcement if numbers fail to recover with control of poaching (refer to objective for smaller ungulates).

While re-introductions may be desirable in the longer term, the conditions listed in section 9.5.4 below must be adhered to.

9.2 Favourable status

The re-establishment of these species throughout all suitable areas of the Park at population levels which are broadly comparable with those which occurred in the recent past, i.e. before poaching significantly reduced their numbers (see target levels).

9.3 Factors & limits

General for all species

Habitat management will not be considered for species unless any particular requirements are noted. The site will be equipped with a habitat objective and appropriate management will be identified in that section. The combined requirements of the various species which qualify as features will be taken into account at that stage.

Poaching is the primary reason for the past declines in the numbers and distribution of animals within the Park. An operational objective to control poaching is included in the plan.

A loss of suitable habitat and potential reduction of water sources, particularly watering holes, through unplanned and frequent burning both within and outside the Park.

9.4 Attributes & limits

- Total numbers of animals utilising the Park as part of their range
 - Roan antelope (currently extinct in the park) - lower limit 30; target 100
 - Beisa oryx (currently believed to be extinct in the park) - lower limit 15; target 80
 - Bright's gazelle (currently extinct in the park) - lower limit 100; no target set

NB. Suggested lower limits/targets are based on 1967-72 and 1981/82 figures from 'A Survey of The Wildlife Protected Areas of Uganda - Kidepo Valley - 1995-96' and on figures provided by Claus Okongo

(Out-going Chief Park Warden), Mateo Apayal (Acting Head Ranger) and Thomas Loware (Acting Operational Commander).

The only reliable way of assessing change these species is by conducting a total population count. Sampling is not feasible as population distribution will be unpredictable and uneven.

- Distribution within the Park - both Narus & Kidepo valleys
The population, following re-introduction, should become distributed widely throughout the Park. This is essential for their long-term survival. When populations are restricted to small areas they are extremely vulnerable and cannot be considered viable.

9.5 Objective 9 - to restore & thereafter maintain at favourable status populations of each of the named potential re-introduction species

9.5.1 Factor list

1 - Poaching

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

2 - Loss of water sources

RP13/01-Collect data, hydrological, monitor - MONITOR AVAILABILITY OF WATER

9.5.2 Attribute list

1 - Total number of each species in the Park

RA03/06-Collect data, mammals, monitor - MONITOR ROAN ANTELOPE POPULATION

RA03/07-Collect data, mammals, monitor - MONITOR BEISA ORYX

RA03/08-Collect data, mammals, monitor - MONITOR BRIGHT'S GAZELLE

2 - Distribution of species

RA03/04-Collect data, mammals, monitor - MONITOR DISTRIBUTION OF LARGER UNGULATES IN THE PARK

9.5.3 Current status

01/01/2000 - Partially destroyed

Currently extinct/believed extinct from the Park.

9.5.4 Rationale & prescription

Currently (January 2000) a channelling agreement exists between the National Authorising Officer/EU represented by the Uganda Ministry of Tourism, Trade and industry and the Uganda Wildlife Authority. This agreement is primarily concerned with the translocation and reintroduction of Roan antelope and oryx. Unfortunately, there is some ambiguity concerning other species. It would appear that provision is also included for ostrich, giraffe, eland, greater and lesser kudu and Bright's gazelle. The agreement also provides for the re-opening of management roads, revision of the management plan and technical assistance.

The proposed reintroduction of species is a controversial issue and must be given serious attention. There are a number of key issues that must be addressed before any such programme can commence:

1. *The habitat must be suitable for reintroduction*

Before any reintroduction programme begins, management must be able to demonstrate that sufficient habitat in the required condition exists, and will exist in the long term, in order to sustain viable populations of the target species.

An earlier objective deals with the condition of the habitat in the Park. Overall, the condition of the habitat must currently be regarded as unfavourable. However there are significant areas, particularly in the Narus Valley, where the habitat is in an excellent condition. For a habitat to be considered optimal it must meet the required condition and managers must be confident that they will be able to maintain those conditions in the long term. Currently, the scale and impact of uncontrolled burning, both inside and adjacent to the Park, has resulted in unfavourable status over extensive areas. The Kidepo valley is particularly badly affected. The longer-term impacts are more threatening. The destruction of the montane and other forests will have an impact on the hydrology and consequently water holes will become unreliable.

The control of illegal fires both within and outside the Park must be of the highest priority. This will require the provision and maintenance of firebreaks and regular, effective patrols to control illegal burning.

2. *The Park must be a secure, undisturbed and safe environment for the reintroduced species*

The Narus Valley is currently the only area of the Park that can be considered partially secure; the Kidepo valley is completely uncontrolled. Any assessment must conclude that the current provisions are inadequate.

Before reintroduction work begins, managers must be able to demonstrate that the Park is secure and that effective control of poaching can be maintained. This means that the roadways must be brought up to the required standard and new ranger surveillance posts must be constructed. (Full details are included in the project descriptions, while the impact is considered in the landscape section) In addition, sufficient staff must be employed and adequately equipped to man the posts and ensure effective patrols.

3. *Specific species requirements must be met*

An assessment must be made of the taxonomic status of the individuals to be re-introduced; they should be of the same sub-species or race as those which were extirpated.

Studies should be made of the status and biology of any remaining wild populations in order to assess their critical needs, habitat preferences, adaptation to local conditions, social behaviour, group composition, home range, foraging and feeding behaviour, together with the impact of predators and disease.

4. *The impact on the landscape must be minimised*

The enclosed area in which the animals are to be retained must be constructed in such a way as to ensure the captive animals cannot escape and potential predators cannot enter it. The impact on the landscape must also be taken into consideration and every attempt should be made to minimise the intrusion. The area identified for the enclosure is not close to and cannot be seen from current tourist routes. However, the channelling agreement makes reference to the proposed enclosure serving as a tourist attraction and suggests that a watch-tower should be constructed to provide viewing. This is an inappropriate suggestion. The Kidepo Valley National Park is not a zoo and tourists visit the site to enjoy seeing wildlife in natural surroundings. In addition, given that one of the most important attractions of the Park is its outstanding natural landscape, the provision of intrusive structures of any kind must be avoided. There can be no justification for constructing the tower.

IMPORTANT: The resources, in particular manpower, allocated to the reintroduction projects must not be at the expense of maintaining effective anti-poaching control and the supporting infrastructure. There can be no justification for reintroducing animals to feed the poachers, nor can existing populations be placed at risk while resources are diverted to reintroduction.

The priority in the immediate future (2 – 3 years) is to secure the park, improve the habitat and rehabilitate/improve the infrastructure and equipment.

Roan antelope - within Uganda the population of roan antelope is currently restricted to a small group (5-8 at the last count in 1998) confined to a corner of a heavily encroached Wildlife Reserve south of the Park. This group is also under threat of extinction. A captive-breeding programme is the only way of ensuring that this species does not become extinct in Uganda. The Park has been identified as a suitable location for such a breeding programme, provided the necessary security can be assured and financial resources obtained.

Beisa oryx - oryx were found in the Park up until the late 1960s. Today this species is extinct in Uganda but does occur in the wild, in good numbers, in northern Kenya. Oryx of the same race are commercially farmed in Kenya and it would be fairly inexpensive to translocate animals from this source.

Bright's gazelle - this species was once present in the Park in large numbers (250-500 in 1967-72). Today this species is extinct in Uganda but does occur in the wild, in good numbers, in northern Kenya.

Black rhinoceros - black rhinoceros are an internationally endangered species and are extinct from Uganda. They were present in the Park in good numbers (up to 50 in the early 1970s) but became extinct through poaching for rhinoceros horn - the last animals were shot in 1983. The re-establishment of this species in the Park would be highly desirable in the longer-term. However, for the present, poaching control and the associated infrastructure required to ensure the security of this vulnerable species is not yet in place. *Re-introduction of the Black Rhinoceros should be deferred for the present and reconsidered when conditions are more suitable.*

The management of these species will be obtained, in part, through habitat management and the control of illegal activities. Refer to the habitat management project (MH11/01 - rotational burning management) and to law enforcement, poaching and illegal burning projects.

9.6 Prescription list

4 - Manage reintroduction programme

MS30/01-Manage species, mammal - MAMMAL REINTRODUCTION PROGRAMME

Feature/facility 10 - Landscape & wilderness values

10.1 Description

See 3.4 Landscape & wilderness section for full description

The Kidepo Valley National Park comprises 2 broad shallow valley systems. The vegetation is predominately savanna grassland, with a sparse canopy of associated shrubs & low trees. The mountains that fringe the perimeter of the park are abrupt, steep & rocky. Close to the higher summit ridges & peaks arid montane forest dominates. Water makes a limited & seasonal impact in the landscape. Only in the Narus valley does standing water persist throughout the year. Within the valley systems there are almost no man-made structures intruding into the landscape.

10.2 Favourable status

10.2.1 Policy

The outstanding landscape and wilderness qualities of the Park will not be compromised. All management operations, including the provision of facilities for tourists, will be designed to minimise their impact on the Park.

10.2.2 Favourable status

A future where the landscape exhibits minimum anthropogenic influence and the wildlife and the local communities are living in harmony as an integrated component. The landscape and wilderness values will be restored, as far as possible, by removing and relocating all inappropriate man-made structures, buildings and other artefacts. The only roads and tracks maintained in the Park will be those essential for management, protection and the provision of low-key tourism. The roads will be maintained to the minimum standard required to meet their function.

10.3 Factors & limits

The Park, in common with most areas containing game species, is a target for poachers. In order to protect the game, the most important feature of the site, it is essential that a range of facilities and an infrastructure are provided. Without these provisions, there would be little purpose in retaining the Protected Area status.

Unfortunately, the most significant and intrusive factors arise as a consequence of legitimate past and present Park management. An infrastructure, comprising a range of buildings and other structures, roads and an airfield, has been developed over the years. Planning and positioning of the facilities has not always taken into account the need to protect the outstanding landscape and wilderness values of the area. A planned retreat needs to be implemented but not at the cost of high priority wildlife management and protection. Only essential facilities should remain and these should be constructed to the minimum standard required to meet their function. Care must be taken to minimise the visual impact.

The only other factor is the visual impact and diminution of the wilderness values arising from the presence of huge tracts of burned vegetation. Some of the burning is a consequence of essential habitat management but it is mainly the result of illegal burning which appears to serve no legitimate purpose. The Kidepo valley is particularly badly affected.

10.4 Attributes & limits

Performance indicators are not strictly necessary, except for illegal burning, since these landscape restoration activities will be carried out by Park managers. These activities will be identified in the rationale and described in the management projects. Each management project will contain a requirement for compliance reporting.

Fire control is a key management activity and, consequently, all monitoring and management activities will be covered in other sections of the plan.

10.5 Objective 10 To restore the outstanding natural landscape and wilderness qualities of the entire site and thereafter to ensure that management and any other activities do not compromise these values

10.5.1 Factor list

1 - *The need to maintain a Park infrastructure*

2 - *Inappropriate past management*

10.5.2 Attribute list

10.5.3 Current status

Anthropogenic factors and artefacts currently diminish the landscape values of the Park. The condition of the landscape is considered to be **unfavourable**. Prevention of frequent burning and camouflaging and screening buildings etc. will restore favourable status.

10.5.4 Rationale & prescription

The buildings and other constructions all require attention in order to remove or minimise the impact that they have on the landscape and wilderness qualities of the Park.

1. The Apoka headquarters, domestic and administrative complex

This is the largest and therefore the most individually intrusive feature in the Park. However, the Park would not be able to function without it and so it must remain in some form. Its location in the centre of the Narus Valley and on the internal route which every visitor to the Park must take increases its intrusion. It is a large site, accommodating the entire working and domestic requirements of 370 people. Inevitably, this creates a considerable demand for supplies, equipment and materials and produces a substantial quantity of waste that needs to be stored, disposed of or removed.

From the point of view of a wilderness landscape, this facility has a considerable impact and should not be located within the Park. From the point of view of wildlife protection under the current resource regime, its presence is the main factor in the retention of wildlife in the Narus Valley. This is born out by the current lack of game in the Kidepo Valley where resources and remoteness do not permit effective protection. However, resources may improve and an improved infrastructure would enable effective protection throughout the area in the future. When this ideal situation is achieved and functioning, it is suggested that the existing administrative complex is completely demolished and the site is allowed to recolonise naturally. The site would then accommodate only a semi-permanent tourist accommodation facility guarded by a manned ranger outpost, which would also fulfil the wildlife protection function. A custom built administrative complex, located outside the Park boundary at a suitable village such as Natabalokure-picket, should replace it. This would remove the need for an entire village within the Park.

Staff and their families would be integrated with the local village. It would enable the Park to contribute towards improving facilities within the village, for example a school, dispensary and church.

It is recognised, however, that this would be an extremely expensive undertaking and in the present financial climate is unlikely to be pursued. It must not be pursued at the expense of essential programmes, such as road improvements and wildlife protection.

Retained in its present location, the complex must be made much less visually intrusive. The planting of trees throughout can reduce visual impact. Trees and hedges should be established around the perimeter of the camp to screen all the structures in the main area and the adjacent isolated buildings. All buildings and structures need to be maintained in an acceptable state of decoration.

A number of buildings in the domestic area are in a poor state of repair and decoration, e.g. the church. A critical appraisal of all buildings is required, resulting in a prioritised action plan to bring all buildings up to an acceptable condition of repair and appearance.

One of the first buildings encountered on the approach to Apoka is the fuel station and workshop. The screening suggestions apply but in addition, critical appraisal should be undertaken of the dump of redundant vehicles. It is suggested that all of those vehicles and machines that can no longer be used are stripped of their re-usable or valuable parts, that the carcasses be dismembered and useless parts removed from the Park.

The airfield is an essential feature of the function of the Park and is not significantly intrusive. If the Apoka complex were to be removed to the area of the main gate, it would follow that a new airstrip would be required in that area.

2. Apoka rest camp

This was built in 1967 to attract the upper end of the tourist market. It has fallen into some disrepair and its facilities would not now satisfy that market. Substantial capital sums would be required to bring it up to the necessary standard. Less expensive, and significantly less intrusive, high quality semi-permanent tented encampments would provide an equivalent and no less secure wildlife experience, while still satisfying the target market. It is suggested, therefore, that the existing structures be demolished and replaced by a secure tented encampment. Semi-permanence also provides the additional benefit to the Park that it may be relocated when the need for replacement or habitat recovery dictate.

3. Katurum Safari Lodge

The construction of this lodge was commenced in response to an aspiration that was never realised. On completion in 1977, the breakdown of political stability prevented its use. The building has since been looted of its contents and much of its fabric and is now in a state of ruin. The capital cost of restoration would be enormous and re-building is not an option. Ideally, the ruin would be demolished and removed and the site permitted to recover to a natural condition. However, in view of the high cost of this, it is suggested that the structure be reduced to a safe ruin by the removal of the timber structures to leave only the solid structures in a safe condition. Screening by planting trees in front of the lodge would remove its already slight effect on the landscape.

4. Roads

Roads are essential to the protection and management of the Park as well as for tourism. They are intrusive in that they permit access by vehicles and people but they do not impose significant visual intrusion, except at very close quarters. The present road network needs to be reviewed. Those that are not considered essential to future management and access should be closed and allowed to disappear naturally. Existing roads which have fallen into disrepair but which serve a management purpose require re-grading and surfacing with local materials. Given the existing network, new roads are not required. Roads should be maintained in the minimum condition suitable for their intended use.

5. Murram pits

Maintaining the road system to a high standard is an essential requirement for protection and management. Murram is used to surface the roads and is currently obtained within the site by digging the material from pits in suitable areas. Existing pits within the Park are visually unobtrusive, resembling natural features, and provide bonus wildlife habitats. Given the minimal visual impact of the pits, there is little to be gained from abandoning this procedure. The option of bringing murram in from outside the Park is expensive in fuel, time and wear and tear on trucks and would be at the expense of protection patrols. It would also considerably increase the time required to maintain or construct, roads. It is recommended that murram extraction in the Park should continue. Carefully sited murram pits should be screened by trees and shrubs to minimise the visual intrusion.

6. Ranger surveillance posts

These facilities are essential for the protection of the Park. They are insufficient at present, especially in the Kidepo Valley where there are none. Having been reviewed, the existing posts will be re-located and two new ones will be established in the Kidepo Valley. All new posts are proposed to be permanent buildings. Every effort must be made to minimise their impact on the landscape. Better still, they should be located at the periphery of the Park.

7. Redundant buildings

A number of buildings in the Apoka vicinity have been abandoned and are now redundant, including the old Wardens' houses. All buildings and structures which fall into this category should be demolished and removed

8. Burned vegetation

The frequency of large tracts of recently burned vegetation throughout the Park has a major impact on the landscape and wilderness qualities. Large areas of burned trees, bushes and bare soil with blackened tussocks are unsightly. Unfortunately, burning is mainly confined to the dry season which happens to coincide with the tourist season. Visitors need to be informed about the essential nature of fire in the management of the vegetation in order to encourage game and to maintain the plagio-climax vegetation communities.

Priority work is the amelioration of landscape quality by the screening of existing human artefacts and the construction of low impact Ranger surveillance posts. The re-location of HQ and tourist accommodation must not be carried out at the expense of wildlife protection and fire control projects which are high priority.

10.6 Prescription list

1 - Manage Park infrastructure in appropriate manner

- MA00/01-Manage habitat, artificial, by planting/sowing/ propagating - ESTABLISH & MAINTAIN SCREENING HEDGES
- ME03/01-Remove structures - RELOCATION OF PARK HEADQUARTERS
- ME04/01-Remove rubbish - REMOVE SURPLUS/DERELICT VEHICLES & EQUIPMENT
- ME10/01-Buildings, general - REMOVE SURPLUS/DERELICT BUILDINGS
- ME11/01-Buildings, construct - CONSTRUCT & MAINTAIN RANGER SURVEILLANCE POST BUILDINGS
- ME12/01-Buildings, maintain/improve - MAINTAIN APOKA STAFF RESIDENTIAL ACCOMMODATION
- ME12/02-Buildings, maintain/improve - MAINTAIN APOKA SERVICE BUILDINGS
- ME12/03-Buildings, maintain/improve - MAINTAIN APOKA TOURIST ACCOMMODATION
- ME12/04-Buildings, maintain/improve - MAINTAIN PARK GATEPOST BUILDINGS
- ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM

Feature/facility 11 - Relationship with local communities

11.1 Description

See 3.3.1 Public interest/relationship with local communities for a full description

Local communities & interest groups

The Kidepo Valley National Park has, until recently, been regarded as a no-man's land, constantly disputed by the various Ugandan tribes & others from the Sudan. The resources of the park remain a tempting supplement to a subsistence existence. Consequently, various illegal activities occur: cattle grazing, vegetation burning, poaching, collection and cutting of vegetation, gold collecting and encroachment of agriculture & settlements.

Past & current measures to improve relationships

- Revenue sharing policy since 1996
- Participatory rural appraisal
- Liaison & direct involvement with park management
- Education
- Direct assistance

Community relations across the international border

Park staff cannot cross the international border. Poaching/raiding parties are often large and always heavily armed.

11.2 Favourable status

11.2.1 Policy

Park managers will work towards developing harmonious relationships with the local communities. Levels of mutual understanding and co-operation with the local communities will be achieved. The Park will, as far as possible, optimise the benefits that it can provide for the local community. The local community will recognise the relevance of the Park towards maintaining a sustainable local environment for their benefit and, in return, local people will contribute directly and indirectly to Park management and protection.

11.2.2 Favourable status

To obtain levels of mutual understanding and co-operation with the local community which will, without compromise to the conservation interests, make a positive contribution towards the maintenance of the wildlife and landscape features of the Park at favourable status, while also optimising benefits for the local communities.

11.3 Factors & limits

Location and access

All communities are remote and roads are poor. The programme must reach all of these, even if the population is very small, resulting in a large staff time input.

Legal or traditional rights

The Napore people (the majority of people around the Park) are the only people who hold traditional rights of grazing and hunting in the Park, but have adapted their lifestyle to one of cultivation. They are happy with the existence of the Park as it has restored their security and has provided jobs, but they clearly expect further compensation.

Employment

Most of the employees of the Park are from the Napore people, resulting in considerable understanding, on their part, of the Park and its purpose. However, other peoples can be reached through employing members of their communities and exclusion may lead to negative attitudes.

Volunteers

Recruitment of further volunteers from all local peoples for local wildlife protection vigilante groups and other roles will help to integrate the Park into their community.

Environmental education

These programmes, especially aimed at children, will assist considerably in understanding of the Park's purpose in the future. Efforts must be made to extend this to all communities, near and remote, whether they have a school or not.

Control of dangerous and destructive wildlife

Control of dangerous and destructive wildlife directly through rangers, or indirectly through training, provides an excellent opportunity for establishing personal links between Park staff and local communities and fosters a positive attitude towards the Park. This must be extended to all communities affected.

Direct support/compensation

Many people living adjacent to the Park have a subsistence existence and must survive on what they can produce themselves or on the resources around them, including the resources of the Park which are used illegally. This may be preventable to some extent by providing certain resources, whenever possible. Where resource exploitation is legitimate and does not negatively impact on the Park, negotiations, and later agreements, can be made for the extraction and use of resources in order to improve and maintain good relationships with the communities. The necessary checks and balances must be in place for appropriate control and monitoring to avoid abuse.

11.4 Attributes & limits**Site related**

- Poaching is reduced to a level where populations of all animal species are increasing
- The frequency of illegal fires is reducing
- The frequency of illegal grazing incursions is reducing

Community related

- Number of complaints/compliments (questionnaire)
- Number of meetings with PMAC for each Parish
- Number of volunteers from each community
- Provision of environmental education - number of talks, etc., school visits to the Park and Park staff visits to schools.
- Complete direct control (by Park rangers) of problem elephants, i.e. all incidents are covered by rangers
- Reduced demand for direct support/compensation, i.e. number of cases reducing implies success
- An acceptable proportion of Park employees recruited from all local tribes

11.5 Objective 11 To obtain levels of mutual understanding and co-operation with the local community, as per favourable status

11.5.1 Factor list

- 1 - Location and access
- 2 - Legal or traditional rights
- 3 - Employment opportunities
- 4 - Environmental education
- 5 - Control of dangerous wildlife

11.5.2 Attribute list

- 1 - Control of Poaching
- 2 - Frequency of illegal fires
- 3 - Frequency of illegal grazing

11.5.3 Current status

01/01/2000 - Unfavourable - Recovering

The current condition of community relationships is less than perfect, but considerable progress has been made in recent years towards achieving an improvement. There are many opportunities for improvement and these should be pursued.

11.5.4 Rationale & prescription

Uganda, whence much of the illegal activity originates. This major problem can only be dealt with at Government level. Until this is done, illegal activities can only be controlled by maintaining a patrol presence. This serves as a limited deterrent and is dangerous for staff. At present (January 2000), there are insufficient rangers to patrol the Kidepo Valley. Once this is achieved, the satisfactory state of affairs that prevails in the Narus Valley should be achievable there also.

The failure of the Park to provide the promised share of revenue to the community will be furthering a negative attitude towards the Park.

Provision of compensation for loss of subsistence resources, in kind or in cash, must be given serious consideration by Park management to prevent illegal use of Park resources and legal activities outside which impinge on the Park.

The issue of shortage of staffing resources, particularly rangers for Community Conservation duties, must be addressed and resolved. Additional staff are required urgently to increase the Park's effort to reach all communities. Partnerships need to be forged with relevant NGOs to step up the effort in reaching the full range of people whose activities impact on the Park.

The Park must ensure that the Community Protected Area Committee meets regularly and that all the issues raised are addressed and resolved satisfactorily.

The Park should purchase as much as possible of its requirements locally.

The Park should work closely with the local people to ensure adequate crop protection against wildlife and help train the local people to safely deter wild animals from crop/property destruction.

The Park must maintain and improve its educational programme within the local communities to help local people to understand the need to conserve the wildlife of the Park and to appreciate why illegal activities are damaging and what benefits the community will gain from a well-managed Park. This programme must be aimed at adults and children within all ethnic groups.

The Park must ensure that staff and volunteers engaged in the community education programme receive adequate training. They must be able to understand fully the purpose of the Park and the need for maintaining good community relations. It is important that they are competent at making presentations and understand the importance of listening to contributions from the audience.

11.6 Prescription list

1 - Collect data on impact of local communities

RH80/02-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD POACHING ACTIVITY

RH90/01-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

2 - Inform local communities

MI00/01-Inform public, offsite - OFF - SITE EDUCATION PROGRAMME

MI10/01-Inform visitors, general - PROVISION OF GUIDED TOURS

MI20/01-Inform visitors, educational - SCHOOL/COMMUNITY VISITS TO PARK

3 - Prevent damage to property of local communities by elephants

MP00/01-Protect site/species by patrol - CROP PROTECTION PATROL OUTSIDE PARK

4 - Recruit staff and volunteers from local communities

RH90/02-Collect data, other activities, by owners/tenants/public bodies/neighb - COLLECT DATA ON VOLUNTEER NUMBERS

AE00/01-Employ staff, general - STAFF PROVISION & FUNCTION

6 - Make payments to local communities

AL20/01-Maintain holding, legal, by making/receiving payments - MAKE PAYMENTS TO LOCAL AUTHORITIES

7 - Liase with local communities

RH32/01-Collect data, public use, count educational groups - MONITOR PROVISION OF ENVIRONMENTAL EDUCATION

ML50/01-Liaise, local community/groups - LOCAL COMMUNITY QUESTIONNAIRE

AP80/01-Convene meeting, Site Management Committee/advisory group - COMMUNITY PROTECTED AREAS COMMITTEES

AT30/01-Train staff, other - STAFF TRAINING, PUBLIC RELATIONS SKILLS

Feature/facility 12 - Access & tourism

12.1 Description

See 3.3.2 Access & tourism section for full description

Year	1996	1997	1998	1999
Local residents	674	1316	1221	1112
Ugandan residents	233	200	210	114
Foreign visitors	600	522	375	250
Total	1507	2017	1806	1476

Local residents travel to the park by road; visitors from further away travel by road and/or air.

Visitors' books show interest in scenery, wildlife/birds, accommodation, remoteness & Hot Springs area.

The construction of the hotel 8km from Apoka began in 1971 but it was never formally opened. At January 2000 it is beyond economic repair. The Apoka Tourist Lodge complex was built in 1967 and is managed directly by the UWA. The Hostel was built in 1974 and accommodates 28 people.

No concession currently exists but the situation is under review by the UWA.

12.2 Favourable status

12.2.1 Policy

The roles and responsibilities of the Uganda Wildlife Authority are defined in The Ugandan Wildlife Statute No. 14, 1996. This statute contains the following policies in respect of tourism:

In consultation with other lead agencies, to control, develop or license the development of tourist facilities in wildlife protected areas

To enhance the economic and social benefits from wildlife management by establishing wildlife user rights and promoting tourism.

12.2.2 Current site-specific access policy (favourable status)

To encourage tourism and optimise the potential for generating income.

A future where tourism will be in harmony with the key Park functions of protecting the landscape, wilderness and wildlife interests. Tourist facilities will be self-financing and will generate income to contribute to management costs and to local community development projects. Visitors will be able to gain safe access to the Park along a network of unobtrusive roads. Limited high quality accommodation, located within the defined tourism zone, will be available.

12.3 Factors & limits

Features of interest

Much of the appeal of Kidepo Valley National Park is its remoteness and feeling of true wilderness. It is very much 'a piece of untamed Africa'. Visitors are also attracted by the wealth of easily viewed wildlife. Details of the species that are of particular interest are given above.

Recreational opportunities

The primary, and only, recreational use of this site is game viewing. This may be carried out either by vehicle along a defined network of roads and tracks or on foot. There is considerable potential for escorted foot safaris, particularly aimed at those visitors inspired by the wilderness appeal of the site. All such safaris would have to include both guides and armed guard(s).

A wide range of recreational activities has been suggested at various times. These include ballooning, hang gliding, off-road motoring, cycling and climbing. All have been considered and rejected. The Park is a spectacularly beautiful landscape and wilderness area; the maintenance of these qualities is one of the most important objectives of Park management. The inclusion of the range of recreational activities noted above, along with all other similar activities and their related infrastructure, would seriously diminish the landscape and wilderness values. By catering for small minority groups with specialist recreational interests, Park management would significantly diminish the quality of the experience that most people who visit Kidepo value.

Carrying capacity of the site features

The landscape and, in particular the wilderness features of the site, are by definition dependent on low levels of tourism and control of tourist activities. The habitat and species features of the site will be largely unaffected by tourism, provided that the numbers of people are moderate and that vehicles and walkers stick to defined routes.

Carrying capacity of the site

As above. The landscape and wilderness qualities of the site are the main limiting factors. In order to ensure that these are maintained the numbers, distribution and activities of visitors staying in the Park must be restricted. Currently, numbers of tourists are so low that there is little purpose in setting an upper limit. The carrying capacity should be determined by three factors:

- The point at which visitors have a detrimental impact on the site's conservation and landscape features
- The ability of Park management to maintain the infrastructure
- The point at which there are so many visitors that they begin to diminish each other's experience of the Park.

Actual & potential demand

The current demands for tourism are very low. This reflects both the problems of access to the site and the general lack of confidence in the security of Uganda and Ugandan National Parks that currently prevails (see access/site hazards below).

There is undoubtedly the potential to increase the levels of tourism at Kidepo Valley National Park through promotion and publicity, provided that the above issues are resolved. See also opportunities for generating income below.

Access & accessibility to the protected area

Access to the site is a major limiting factor. Travel by road from Kampala takes 2 days and at present can be dangerous due to the potential for armed robbery and inter-tribal conflict along the route. Chartering a private plane is the only reliable and comfortable means of travelling to the Kidepo Valley National Park. This takes a little over two and a half hours from Kampala (Entebbe). While flying in a small plane can

potentially be seen as an added tourist attraction, it does add significantly to the cost of visiting this site. A round-trip costs approximately \$500 US per person (including luggage and food).

Access within the protected area & suitability of the infrastructure

Roads

Vehicle access for game viewing is possible along a defined network of roads and tracks in the Narus Valley (see the 1972 Tourist Map). The condition of most of these roads is acceptable but will require on-going maintenance. There are a number of tracks not identified on the 1972 Tourist Map that have developed through unofficial use and which generally provide short cuts between the adjacent loop roads. All of these unofficial tracks should be taken out of use.

Road access is also possible by 4 wheel-drive vehicle from Apoka to the hot springs at Kananarok. Significant works are required on the Apoka - Kananarok road to return it to an acceptable condition for tourist use.

Tracks/pathways

There are currently no official footpaths. Promotion of walking safaris at this site may entail the creation and maintenance of new paths.

Accommodation

The Apoka Lodge and bandas require a facelift to bring the buildings and fittings up to the original standard. The Hostel bandas are similarly jaded and require minor works to satisfy requirements at the lower end of the tourist market.

These existing accommodation facilities compromise the landscape and wilderness qualities of the site and are inappropriate to the vision for tourist development at this site. In the longer-term they should be knocked down and replaced by a luxury tented camp facility. This should be located in the vicinity of Apoka but not necessarily at the current lodge location.

Site hazards

Animals

Several of the animals occurring in the Park are potentially dangerous, for example elephants, buffaloes and lions. People exploring the site on foot are particularly at risk and must be accompanied by an experienced guide and armed guard(s). Elephants are also potentially dangerous to visitors exploring the Park by vehicle.

The presence of large numbers of animals around the existing accommodation, and the lack of any restriction on their movement in this locality, is also potentially dangerous. For example, elephants frequently walk between the bandas at Apoka Lodge.

Other potential hazards include poisonous snakes and scorpions and care must be taken to avoid bites/stings.

Security

Poaching of game is a serious and on-going problem in the Kidepo Valley National Park. Poachers are nearly always armed and often come in large groups. It is possible that visitors could be shot if they came into contact with them.

A lack of adequate security in Uganda generally, and in the Ugandan National Parks (for example tourists were killed in 1999 by rebels in Bwindi Impenetrable Forest), has resulted in a major drop in the numbers of tourists visiting Uganda. Many tour operators have suspended their operations in the country.

The security of visitors to Uganda and to the Kidepo Valley National Park must be assured if tourist numbers are to increase.

Stakeholder interests, rights & expectations

Local peoples have an expectation that they will benefit financially from the profits of tourism in the Park.

The Park Management are legally obliged to engage in revenue sharing, with profits being divided among the 4 sub-counties surrounding the Park (refer to *section 1 - 3.3.1 public interest/relationship with local communities*).

Availability of resources

There are no funds set aside for the development of tourism at this site. Any development should be self-financing, at least in the longer-term. There can be no justification for targeting funds towards the development of tourism, particularly if it diverts funds from other conservation management. However, tourism development could be 'kick-started' by a lump sum donation or investment of private money.

Opportunities for generating income

The remoteness and associated difficulties of access mean that the Kidepo Valley National Park will never be a heavily visited site and the resulting income from tourism never likely to be high.

One means by which the numbers of tourists visiting Kidepo could be increased would be to promote it along with several other Ugandan National Parks as a tourist package offering a wide variety of African experiences within one country. Alternatively, it could be packaged as an additional two-day excursion for people visiting the larger Parks - Queen Elizabeth and Murchison Falls Parks - and aimed at the wealthier end of the tourist market.

Impact assessment & level of provision

The need to maintain the landscape and wilderness qualities of the site, together with the access difficulties and the relatively high cost of visiting Kidepo Valley National Park, mean that it will never be a heavily visited site.

In order to maximise the financial income from tourism, promotion and facilities should be aimed at the wealthier end of the tourist market. There may also be a market for walking safaris, development of which should be considered in the future.

Facilities and access for tourists will be confined to the tourism zone. Visitors will be allowed to visit the wilderness zone and the dry montane forest zone on foot (with permission) but they will not be allowed to camp in these areas. This is to maintain the wilderness qualities of the former and the fragile habitats of the latter by reducing human impact.

12.4 Attributes & limits

The following have been selected as performance indicators for tourism at Kidepo Valley National Park:

- Annual numbers of visitors
- Income from tourism
- The quality of the experience enjoyed by visitors measured through regular questionnaires or visitor surveys.

NB. Given the current low levels of tourism in Uganda, there can be little point at present in setting targets for tourism at the Kidepo Valley National Park. If the situation improves significantly nationally this section of the plan must be revised.

12.5 Objective 12 To encourage the sustainable use of the site by tourists (self-financing and without compromising the condition of conservation features & landscape)

12.5.1 Factor list

12.5.2 Attribute list

1 - Number of tourists

RH34/01-Collect data public use, count visitors - RECORD VISITOR NUMBERS

2 - Income generated from tourism

AF00/01-Finance, general - FINANCIAL ADMINISTRATION

3 - Quality of tourist experience

RH33/01-Collect data, public use, recreation - VISITOR QUESTIONNAIRE

12.5.3 Current status

01/01/2000 - Unfavourable - Recovering

The number of tourists currently visiting the Park is very low and certainly well below that which the Park Management would like. Tourism at Kidepo Valley National Park must therefore be considered to be at unfavourable status.

12.5.4 Rationale & prescription

The need to maintain the landscape and wilderness qualities of the site, the access difficulties and the relatively high cost of visiting Kidepo Valley National Park mean that it will never be a heavily visited site. In order to maximise the financial income from tourism, promotion must be aimed at the wealthier end of the market. However, tourism at Kidepo may never have the capacity to generate a large financial income for the Park.

In the longer-term, and subject to funding that does not channel resources away from developing conservation management and species protection work, the Apoka Lodge and Hostel buildings should be replaced by a new and appropriate facility. This could be in the vicinity of Apoka but not necessarily at the existing Lodge location. This change would be co-ordinated with the removal of the HQ complex to an area outside the Park, if this becomes possible.

In the meantime, the current buildings must be restored to an acceptable standard and thereafter maintained in good order, but no further development or improvements should be funded.

12.6 Prescription list

4 - Provide tourist facilities

MI10/01-Inform visitors, general - PROVISION OF GUIDED TOURS

MI10/02-Inform visitors, general - SIGNS - PROVISION OF BASIC WAYMARKERS

MI10/03-Inform visitors, general - SIGNS - PARK HEADBOARDS

MI50/01-Provide interpretative material - PROVISION OF PARK LEAFLET

ME11/02-Buildings, construct - CONSTRUCT LUXURY TENTED CAMP

ME12/03-Buildings, maintain/improve - MAINTAIN APOKA TOURIST ACCOMMODATION

ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM

5 - Promote tourism

ML80/01-Liaise, others - LIAISON WITH TOUR OPERATOR

Feature/facility 13 - Interpretation

13.1 Description

See 3.3.3 Current interpretation provision for full description

There has been little organised attempt at providing interpretation in the park: the site is not currently equipped with signs; there are no site-specific leaflets or guides though a tourist leaflet is currently in preparation; a 1972 tourist map is available though it is no longer considered to be an appropriate sponsor; there is a small, poorly maintained museum on the site; visiting groups may undertake accompanied motorised or walking tours.

13.2 Favourable status

13.2.1 Organisational or corporate policies

- To ensure that visitors get value for their money by providing services that enhance their understanding of the Park areas visited through a combination of signage, reading materials, maps, panel exhibits and guided tours
- To help visitors to appreciate nature and to enjoy an experience of the Park which will carry a lasting impression
- Proper interpretation will enhance publicity and marketing, particularly for the more affluent visitors who are targeted in this plan.

13.2.2 Site-specific policies (favourable status)

To provide levels of interpretation sufficient to ensure the safety of tourists and other visitors and to help them understand and appreciate the value of the Park's environment and its features.

Given the very limited provisions envisaged, there is no need or justification for performance indicators.

Note; There should be no confusion between interpretation and education; they are similar but different provisions. Education will be dealt with in the section on relationship with local communities.

13.3 Factors & limits

13.4 Attributes & limits

13.5 Objective 13 To provide levels of interpretation sufficient to ensure favourable status

13.5.1 Factor list

13.5.2 Attribute list

13.5.3 Current status

01/01/2000 - Unfavourable - Recovering

The current provision is not satisfactory and does not meet the minimal requirements of the site.

13.5.4 Rationale & prescription

Levels of interpretation - *minimal provision*

There are opportunities for conveying corporate messages particularly on visitor safety and the spectacular landscape. These however, have to be kept simple.

This means that the only requirement will be the provision of basic signs and a simple leaflet containing a route map and safety information and in a few strategic points panel exhibits. The culture of the Karimojongs and their relationship with the Sudanic peoples as well as their attachment to the cow and co-existence with wildlife should be told.

Selection of audience(s)

There is little purpose in selecting an audience other than confirming that the leaflet will be aimed at tourists.

Availability of interpretative media

Given that the requirements are minimal there is only justification in considering the most basic media.

- *Leaflet*

The provision of a simple but attractive colourful leaflet that could be sold to tourists will meet most of the interpretation requirement.

- *Signs*

Basic, but Elephant proof way markers should be considered for road junctions, it is important that they are as unobtrusive as possible. Larger signs containing a site map and basic safety information could be sited at the 3 main gates.

- *Guided tours*

Despite the low numbers of tourists this seems to be the most appropriate means of meeting the interpretation objective. Currently a system is operational and should be maintained.

Rationale

The most important messages will be concerned with ensuring the safety of visitors by helping them to find their way around the Park without getting lost and to help make them aware of site hazards.

- *Leaflet*

The most effective way of conveying the above messages is by providing a simple leaflet. In order to offset costs, these could be sold to tourists. However, in order to make them attractive and saleable, they should also contain some information about the Park and its wildlife. The leaflet should be colourful and informative and must contain a route map with reference to the way-markers described below, as well as safety information. The remaining space should be taken up with information that will:

- Provide a very basic guide to the most spectacular wildlife
- Provide an insight into the purpose and practice of Park management
- Provide information about the tourist facilities in the Park
- Provide basic information about the Uganda Wildlife Authority

In order to minimise costs, there would be significant advantages in printing a reasonable quantity of leaflets. However, given that there will be limited demand, the leaflet should not contain information that will quickly become out-dated. If, for example, entry fees and other Park charges need to be incorporated, a separate photocopied sheet could be inserted.

- *Signs*

Way markers

Basic way-markers should be provided at junctions on routes where unaccompanied tourists are permitted. The signs must be as unobtrusive as possible but not obscured or difficult to see. They must also be elephant-proof. Elephants will invariably destroy posts unless they are extremely substantial. An

alternative to posts could be to attach plastic laminate signs to natural boulders. These could be collected from any location in the Park, prepared at the base and located as required. They would be cheap to make and maintain, nearly indestructible and, if moved by elephants, easily replaced. The use of natural local materials will minimise the visual intrusion.

Park entrance headboards

The three main gates should be equipped with a sign. These signs need not be elaborate but should have the name of the Park, the Uganda Wildlife Authority Logo, basic directions, a map and any relevant Park rules.

- *Guided tours*

This provision should continue as outlined in the description. Face to face contact is recognised as the best way of providing information to meet both the requirements of Park management and to satisfy the tourists.

13.6 Prescription list

1 - Provide interpretation

RV10/01-List/collect photographs, general - CREATE PHOTOGRAPHIC ARCHIVE

MI10/01-Inform visitors, general - PROVISION OF GUIDED TOURS

MI50/01-Provide interpretative material - PROVISION OF PARK LEAFLET

Feature/facility 14 - Health of employees

14.1 Description

See below

14.2 Favourable status

The Uganda Wildlife Authority will maintain a medical support facility for Kidepo Valley National Park sufficient to ensure that all minor injuries and illnesses are treated on site and immediate first aid treatment can be provided for all serious injuries.

14.3 Factors & limits

N.A.

14.4 Attributes & limits

N.A.

14.5 Objective 14 To maintain a medical support facility (all minor injuries/illnesses treated on-site; immediate first aid for all serious injuries)

14.5.1 Rationale & prescription

The Park is situated in a remote area of the Karamoja Region. The nearest villages are Karenga and Kapedo, located about 25km & 30km respectively from the Apoka Headquarters complex. Both have small communities and basic facilities. The nearest minor town is Kaabong, located about 65km from Apoka. All Park staff and their families live at Apoka. In January 2000, there were 91 staff plus families, giving a total of approx. 370 people living and working within the Park boundary. The majority of staff do not have access to private transport, and there is very little public transport. The most common mode of transport is walking.

The nearest hospital and doctor are at Kaabong (65km from Apoka), while the nearest regional hospital is at Mbale (approximately 500km from Apoka).

There are a number of common diseases and afflictions that affect staff, e.g. malaria, parasitic worms, venereal disease and birthing complications. The nature of the law enforcement operation is such that it is inherently dangerous. The Ranger Strike Force is frequently in armed conflict with poachers and trespassers and the potential for staff injury is considerable. Consequently, the incidence of illness and injury is relatively high.

The absence of nearby medical support outside the Park, the large number of people resident at Apoka and the relatively high incidence of illness and injury are all reasons which combine to justify the operation of an on-site medical support facility.

The two principles governing the nature of the site-based medical support operation are:

- The medical operation will deliver treatment of minor injuries, illnesses and first aid. Any patients with serious injuries/illnesses will be transported to the appropriate hospital.
- Pending a final decision on relocation of the Park HQ outside the Park boundary, the building supporting the medical operation will not be extended or significantly improved. It will be maintained in a serviceable condition appropriate for its function (see project [ME12/02](#)). This will effectively limit the development of medical services.

The Uganda Wildlife Authority provides medical support services free to all staff. When staff need to seek further medical attention for more serious illnesses, the Uganda Wildlife Authority will refund any medical expenses incurred.

14.6 Prescription list

1 - Provide on-site medical services

ME63/01-Provide/maintain medical facilities - MAINTAIN MEDICAL DISPENSARY

AE00/01-Employ staff, general - STAFF PROVISION & FUNCTION

Feature/facility 15 - Safety procedures

15.1 Description

See below

15.2 Favourable status

All operational procedures will comply with national health and safety legislation and Uganda Wildlife Authority health and safety policies. In the absence of relevant legislation and policies, procedures considered to be best health and safety practice will be adopted.

15.3 Factors & limits

N.A.

15.4 Attributes & limits

N.A.

15.5 Objective 15 All operational procedures to comply with relevant/agreed policies/legislation/procedures

15.5.1 Rationale & prescription

A significant proportion of operational practices within the Park are inherently dangerous. Of particular note are firearms handling, poaching and trespass control operations (which frequently result in armed conflict) and foot patrols which may encounter potentially dangerous animals (for example buffalo, elephant, lion and poisonous snakes).

The consequences of personal injury are compounded by the remote location of the Park and subsequent restrictions on access to comprehensive medical assistance. For these reasons, and reasons of legislative requirement, safety must be of the highest priority.

All operational projects will incorporate the requirements of national health and safety legislation and Uganda Wildlife Authority health and safety policies in working practices. Where relevant legislation or policies are absent, best practice will be adopted. Compliance will be achieved through a comprehensive training programme and adherence to operational procedures.

15.6 Prescription list

1 - Provide staff training

AT20/01-Train staff, use of machinery/equipment - STAFF TRAINING, FIREARMS

AT20/02-Train staff, use of machinery/equipment - STAFF TRAINING, OFF-ROAD DRIVING SKILLS

AT20/03-Train staff, use of machinery/equipment - STAFF TRAINING, HANDLING OF FUEL & LUBRICANTS

2 - Establish and maintain safe operating procedures

MP10/01-Law enforcement, maintain boundary gates - NATABALOKURE MAIN GATE POST

MP10/02-Law enforcement, maintain boundary gates - KATARUM GATE POST

MP10/03-Law enforcement, maintain boundary gates - KALAKUDO GATE POST

MP11/01-Law enforcement, maintain surveillance posts - RANGER SURVEILLANCE POSTS

MP12/01-Law enforcement, maintain staffing - MOBILE STRIKE FORCE OPERATION

MM20/01-Acquire/maintain tools/equipment - ARMOURY

Feature/facility 16 - Welfare of employees

16.1 Description

See below

16.2 Favourable status

Welfare facilities and support will be provided at the Park Headquarters sufficient to serve all Park staff and their families. The minimum level of facilities will be a welfare block, church and sports field.

16.3 Factors & limits

N.A.

16.4 Attributes & limits

N.A.

16.5 Objective 16 To provide & maintain welfare & support facilities for all park staff & families (minimum welfare block, church & sports field)

16.5.1 Rationale & prescription

The Park is situated in a remote area of the Karamoja Region. The nearest villages are Karenga and Kapedo, 25km and 30km respectively from the Apoka Headquarters complex. Both have small communities and basic facilities. The nearest minor town is Kaabong, 65km from Apoka. All Park staff and their families live at Apoka. In January 2000, there were 91 staff plus families, giving a total of approximately 370 people living and working within the Park boundary. The majority of staff do not have access to private transport and there is little public transport.

Without provision at Apoka, access to social facilities, recreational facilities and places of worship would be very difficult. The Uganda Wildlife Authority is therefore obliged to provide on-site welfare facilities and support for their staff and families. The minimum level of facilities will be a welfare block, church and sports field. All of these facilities are in place in 2000, but the welfare block is just an empty building and needs to be furnished. The sports field is a roughly graded area that requires improvement and a supply of equipment, e.g. footballs and goal posts.

16.6 Prescription list

1 - *Provide and maintain welfare facilities*

ME69/01-Provide/maintain fuel supply - WELFARE CENTRE

ME70/01-Provide/maintain religious centre - CHURCH

ME71/01-Provide/maintain recreational facilities - SPORTS FIELD

Feature/facility 17 - Operational procedures

17.1 Description

See below

17.2 Favourable status

A comprehensive set of operational instructions and records will be maintained for all biological monitoring and surveillance, major management, logistical support and personnel support projects. These instructions and records will be maintained in an organised system, facilitating rapid access to data.

17.3 Factors & limits

N.A.

17.4 Attributes & limits

N.A.

17.5 Objective 17 To maintain operational instructions & records as per favourable status

17.5.1 Rationale & prescription

The large scale of the logistical support and personnel support operation, and the importance of biological monitoring and surveillance, make it essential that the Park should have an efficient system for data management. A further requirement for this system relates to the significant funding provided for Park management by donor organisations and their need for a detailed account of expenditure to be maintained for audit purposes. Senior staff, working with the accounts assistant and clerks, will maintain detailed records of all operational instructions and records, financial transactions and biological monitoring and surveillance data. All records and data will be stored using an efficient data management system.

17.6 Prescription list

1 - Maintain operational procedures

RH80/01-Collect data, management, by owners/tenants/public bodies/neighbours - RECORD
PAST MANAGEMENT HISTORY

AR40/01-Record administrative details, e.g. staff appointments/visits - GENERAL
ADMINISTRATION

AF00/01-Finance, general - FINANCIAL ADMINISTRATION

Feature/facility 18 - Personnel support

18.1 Description

See below

18.2 Favourable status

The Uganda Wildlife Authority will provide personnel support services and facilities for all Kidepo staff. These will include on-site residential accommodation for staff and their families, domestic fuel supplies, on-site access to food and water and provision of an on-site school.

18.3 Factors & limits

N.A.

18.4 Attributes & limits

N.A.

18.5 Objective 18 To provide personnel support services & facilities for all park staff

18.5.1 Rationale & prescription

The Park is situated in a remote area of the Karamoja Region. The nearest villages are Karenga and Kapedo, located 25km and 30km respectively from the Apoka Headquarters complex. Both have small communities and basic facilities. The nearest minor town is Kaabong, 65km from Apoka. In January 2000, there were 91 staff working in the Park. The majority of staff do not have access to private transport.

As a consequence, residential accommodation must be provided for all staff and their families on-site. This will be located at Apoka. Separate accommodation should be provided for each family. This will be of an appropriate size and standard to house a family of 4 people. It would be entirely inappropriate for fuel wood supplies to be sourced from within the Park boundary. Consequently, all fuel wood will be brought in from outside the Park and supplied to staff. Similarly, it would be inappropriate to source food from within the Park. Meat must be provided to all staff, reducing the temptation for staff to poach larger mammals and birds in the Park for food. Other basic food substances must also be available for purchase on-site as it is impossible for staff or families to make regular visits to villages and towns outside the Park. Cultivation of food crops on-site would lead to possible introduction of non-native plant species and is also therefore inappropriate. Water must be supplied on-site through a series of suitably located water boreholes.

It is not possible for children of staff to attend schools outside the Park by virtue of the distances involved. A school facility must be located at Apoka. The Uganda Wildlife Authority will provide the building plus all school furniture, equipment and a proportion of educational materials. Parents will be required to provide uniforms. Teachers will be funded by Central Government.

18.6 Prescription list

1 - Provide personnel support services

ME12/01-Buildings, maintain/improve - MAINTAIN APOKA STAFF RESIDENTIAL ACCOMMODATION

ME62/01-Provide/maintain education facilities - MAINTAIN SCHOOL

ME66/02-Provide/maintain general stores - MAINTAIN CANTEEN FOR ALL STAFF & FAMILIES

ME66/03-Provide/maintain general stores - SUPPLY MEAT FOR STAFF

ME67/01-Provide/maintain water supply - MAINTAIN WATER SUPPLY

ME69/02-Provide/maintain fuel supply - PROVIDE FUEL WOOD

Feature/facility 19 - Site infrastructure, major operational & logistical support services

19.1 Description

See below

19.2 Favourable status

Site infrastructure will be developed to the minimum level required to ensure the efficient and effective management of the Park. As far as possible, facilities will be provided offsite but as close as possible to the Park.

19.3 Factors & limits

N.A.

19.4 Attributes & limits

N.A.

19.5 Objective 19 To develop site infrastructure to the minimum level required to ensure efficient & effective management of the park

19.5.1 Rationale & prescription

The remote location and large size of the Park (1442 square km) necessitates the development of a significant infrastructure to support management operations. The scale of the law enforcement operation and consequent need for a large staff compliment further increases the infrastructure requirement. In January 2000, there were 91 staff plus families, giving a total of approximately 370 people living and working within the Park boundary.

Since Park gazettelement in 1962, all management support services, tourist facilities and staff accommodation have been based within the Park boundary. The Park headquarters complex is located at Apoka, in the south-east of the Narus Valley. This is the administrative centre for the Park and the location of all management support services, permanent residential accommodation and tourist accommodation.

Buildings

The majority of buildings in the main complex provide residential accommodation facilities. They include 2 houses for senior staff, 63 'uniports' for junior staff, a 32-room bathroom and latrine block, an 18-room 'mabati,' a 30-room block for contractors and a kitchen block. Tourist accommodation in the form of 14 'bandas' and a kitchen/communal dining building is also contained within the main complex. Service buildings include the workshop/store, armoury block, medical dispensary, school, Park office block, museum block, general store block, church and welfare block.

These buildings all serve a useful purpose, except for the museum. The museum facility is very poor and has no future potential. This building is therefore surplus to requirements and should be knocked down.

The Apoka Lodge tourist facility consists of a main lodge building with service facilities and 16 bandas, accommodating a maximum of 32 tourists. Adjacent to Apoka Lodge is a large water tank.

Around the outskirts of the Apoka complex are various service buildings, e.g. generator buildings, water borehole buildings and various buildings that are no longer used and are in poor state of repair (e.g. former Wardens' houses). The buildings that are no longer in use should be knocked down.

The electricity supply for Apoka is provided by a series of generators and is restricted to parts of the main complex and the Apoka Lodge. Water is supplied from boreholes.

The majority of buildings at Apoka are in good serviceable condition but the complex is generally shabby and requires an external facelift. See the *ME12* project plans for further detail on buildings.

There are three Park gateposts located on, or close to, the Park boundary at Natabalokure, Katurum and Kalokudo. Each gatepost consists of a gatepost building or metal uniport and an accommodation building for staff. The gateposts are generally shabby and require an external facelift.

Two ranger surveillance posts, located at Morunyang and Morukaupwal, currently serve a critical law enforcement function. These posts will be relocated and additional ones established. See project *ME11/01 - construct & maintain ranger surveillance post buildings*.

Located approximately 2km from the boundary of the Park in the Loitanit area of the Narus Valley stands the derelict Grand Katurum Lodge and associated service buildings. Originally designed as a luxury tourist facility with a 100-bed capacity, construction works were abandoned in 1977, before it was opened. The main Lodge has been allowed to deteriorate since this date and is now a ruin, although the main structure remains sound. The service buildings have been utilised as accommodation for the Katurum Gatepost. There is no future use for the main Lodge building and further deterioration is inevitable. In the interests of safety, access to the building should be prevented through the use of strategically placed signs and road barriers.

Roads

The road system within the Park consists of a network of surfaced and unsurfaced roads, designed to service both management operations and tourism. The quality of surface is variable; the best roads meet Class 3 standards (mainly in the immediate vicinity of Apoka), while the worst are barely useable by 4 wheel drive vehicles. The majority of the network is suitable for use by 4 wheel drive vehicles only. The network is mainly confined to the Narus Valley, with the most northerly extension terminating at the Kananarok Hot Springs on the international border with Sudan. The Kidepo Valley used to be serviced by a road from Kanatarok to Pirre. This has not been used for many years and is in a very poor condition in 2000. The complete operational network in 2000 includes a total of approximately 140km of road.

The condition of the roads is critical in determining the effectiveness of law enforcement operations. Poor roads restrict, and at worst prevent, staff deployment for purposes of anti-poaching patrols or fire prevention patrols. These law enforcement operations are essential if large mammal populations in the Park are to be maintained. It is therefore essential that the road network be maintained in good condition. However, the policy statement determines that the impact of management operations must be minimal.

The following principle underlies the future retention/redevelopment of the Park's road network:

Roads will only be used and maintained if they essential for the operation of the Park, including law enforcement and tourism. Operational roads will only be used for these purposes. Measures will be taken to ensure that this is the case (see *project ME40/01 - maintain park road system*).

The road network, as identified on the 1972 tourist map, will therefore be maintained as follows (see road map in management plan).

Narus Valley

Approximately 18km of road will be taken out of the network and no longer used or maintained. Sections of road removed from the network will be allowed to degrade and re-vegetate over time. There are a number of tracks in the Narus Valley not identified on the 1972 tourist map which have developed through unofficial use. These often provide short cuts between adjacent loop roads. All of these unofficial

tracks will be taken out of use. All roads and tracks to be taken out of use will be clearly marked on the ground by signage at each road/track end. Significant works are required to the Apoka - Kananarok road to return the road to an acceptable condition. Tourist loop roads (see road map in management plan) will only be maintained as one way, single track roads. Signage will be provided indicating direction of traffic flow.

Kidepo Valley

The Kananarok - Pirre road will be redeveloped to facilitate law enforcement operations in the area of the Park. No other roads or unofficial tracks will be redeveloped or used.

Currently, the road network only facilitates management of the Narus Valley. Failure to implement the above will effectively prevent future management, particularly law enforcement, in the Kidepo Valley. Without protection from poaching, illegal grazing and uncontrolled fire, the Kidepo Valley savanna and steppe habitats will degrade to bushland and thicket, with no potential for re-establishment of large mammal populations.

For the Kananarok - Pirre road, mitigation measures are essential to minimise the environmental/landscape impact in this otherwise undeveloped area. These measures are identified in project *ME40/01 - maintain park road system*.

Roads outside the Park

There are two access roads outside the Park, which are lower priority but critical for service provision. These are:

- The redevelopment of the Pirre - Kaabong link road to Class 3 standard. This would be useful in servicing the proposed Pirre Ranger Surveillance Post.
- The development of the Natabalokure (main gatepost) - Kaikem track, also to Class 3 standard. This track is currently maintained as a graded firebreak. Development is required to facilitate ranger access to Kaikem and adjacent areas within the Park.

Development of these roads outside the Park will call for a partnership between UWA and the local district administration of Kotido.

Airfields

There is one official operational airfield within the Park, located close to Apoka HQ.

This is a graded bare earth airstrip, with margins where vegetation is maintained as a short sward. The airfield is only suitable for light aircraft with low load capacity. Two other airfields, now defunct and non-operational, are located at Apoka and Pirre. The Pirre airfield will be re-opened to support the new Ranger Surveillance Post at this location. The second airstrip at Apoka, near the rest camp, will not be re-opened.

Relocation of Apoka Headquarters outside Park

It would be desirable, in the long term, to relocate the majority of the Park Headquarters complex outside the Park boundary for the following reasons:

- The Apoka Headquarters complex is the most visually intrusive element of Park infrastructure (see *Feature/facility 10 Landscape & wilderness values - 10.5.4 rational & prescription* - for more details)
- The Apoka complex of buildings is in full view of visitors approaching the central Narus Valley from the Natabalokure main gate
- Transport costs to Apoka for all staff requirements are high
- It is undesirable to dispose of rubbish on-site at Apoka but disposal costs off-site are high because of transport costs
- Maintenance costs of staff support facilities at Apoka, such as the school, medical dispensary and welfare centre are high

- Essential liaison with other Government agencies, for example police, health and education authorities, is logistically problematic and expensive for all parties; meetings with these bodies require significant travel time for senior Park staff
- Future establishment of permanent Ranger Surveillance Posts will reduce the requirement for existing staff support infrastructure at Apoka

The financial cost of relocating the Park Headquarters will be very high. A full impact assessment will be required to confirm the advantages and disadvantages. Relocation should not go ahead at the expense of funding provision to maintain the law enforcement operation. Possible relocation sites include the Natabalokure area near the main gate to the Park and a site adjacent to Karenga Village.

In the event of Park Headquarters relocation, tourist accommodation would remain in the Park in the form of a tented camp facility (see *Feature/facility 12 Access & tourism* for more details).

19.6 Prescription list

1 - Provide and maintain services

ME64/01-Provide/maintain workshop - MAINTAIN WORKSHOP

ME67/01-Provide/maintain water supply - MAINTAIN WATER SUPPLY

ME68/01-Provide/maintain power supply - MAINTAIN ELECTRICITY SUPPLY

2 - Provide and maintain buildings

ME10/01-Buildings, general - REMOVE SURPLUS/DERELICT BUILDINGS

ME11/01-Buildings, construct - CONSTRUCT & MAINTAIN RANGER SURVEILLANCE POST BUILDINGS

ME12/01-Buildings, maintain/improve - MAINTAIN APOKA STAFF RESIDENTIAL ACCOMMODATION

ME12/02-Buildings, maintain/improve - MAINTAIN APOKA SERVICE BUILDINGS

ME12/03-Buildings, maintain/improve - MAINTAIN APOKA TOURIST ACCOMMODATION

ME12/04-Buildings, maintain/improve - MAINTAIN PARK GATEPOST BUILDINGS

3 - Provide and maintain roads

ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM

MM00/02-Acquire/service vehicles/boats - ROAD MAINTENANCE MACHINERY & EQUIPMENT

4 - Provide and maintain airfields

ME00/01-Estate fabric, general - AIRFIELDS MAINTENANCE

Feature/facility 20 - Poaching

20.1 Description

See below

20.2 Favourable status

Uganda Wildlife Authority will control all poaching to ensure that this illegal activity does not impact on the size and distribution of animal populations within the Kidepo Valley National Park

20.3 Factors & limits

N.A.

20.4 Attributes & limits

N.A.

20.5 Objective 20 To control poaching, ensuring no impact on animal populations & distributions within the park

20.5.1 Rationale & prescription

Poaching is a serious threat to all animal species listed as conservation features and also to the numerous smaller game species occurring in the Kidepo Valley National Park. It may occur anywhere in the Park, but is most prevalent in the Kidepo Valley where Park security has been least effective.

The main reasons for poaching are for profit or subsistence. However, opportunistic poaching can be carried out by anyone who enters the Park. Local peoples on both sides of the international border engage in various illegal activities, including cattle grazing in the Park, cattle rustling raids in both directions through the Park and drug smuggling. Legitimate travellers on the more secure routes through the Park, that is those not used by armed cattle raiders, may also shoot game.

Poaching is normally carried out using firearms which are very common in the area. All poachers travel on foot, not in motor vehicles. The poachers usually set fire to the vegetation to enable them to see both their prey and Park staff. They also burn vegetation to produce a flush of fresh grass that will attract game to the area in which they wish to poach in the future.

Poaching is the primary cause of the depletion (and in some cases eradication) of animals in the Kidepo Valley National Park. Animal numbers will not recover and spread into unpopulated areas of the Park until the entire Park area is made secure from poaching.

20.6 Prescription list

1 - Control poaching

- MP10/01-Law enforcement, maintain boundary gates - NATABALOKURE MAIN GATE POST
- MP10/02-Law enforcement, maintain boundary gates - KATARUM GATE POST
- MP10/03-Law enforcement, maintain boundary gates - KALAKUDO GATE POST
- MP11/01-Law enforcement, maintain surveillance posts - RANGER SURVEILLANCE POSTS
- MP12/01-Law enforcement, maintain staffing - MOBILE STRIKE FORCE OPERATION
- ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM
- ME64/01-Provide/maintain workshop - MAINTAIN WORKSHOP
- ME65/01-Provide/maintain fuel storage - MAINTAIN FUEL DEPOT
- ME66/01-Provide/maintain general stores - MAINTAIN RATION STORE FOR RANGERS
- MM00/01-Acquire/service vehicles/boats - ROAD VEHICLES
- MM20/02-Acquire/maintain tools/equipment - COMMUNICATION EQUIPMENT
- MM20/03-Acquire/maintain tools/equipment - PROVIDE UNIFORMS
- MM30/01-Acquire/service aircraft - PROVIDE & MAINTAIN AIRCRAFT
- MM30/02-Acquire/service aircraft - AIRCRAFT FUEL

Feature/facility 21 - Illegal burning

21.1 Description

See below

21.2 Favourable status

The Uganda Wildlife Authority will control all illegal burning to ensure that this activity does not impact on the vegetation of the Kidepo Valley National Park

21.3 Factors & limits

N.A.

21.4 Attributes & limits

N.A.

21.5 Objective 21 To control all illegal burning, ensuring no impact on vegetation of the park

21.5.1 Rationale & prescription

The whole of the Kidepo Valley National Park area is vulnerable to unplanned illegal burning, especially during the dry season. Many large areas of the Park are burnt every year and sometimes twice a year.

The main causes of unplanned burning are related to various illegal activities, for example, poaching, cattle grazing and drug smuggling. Fires also spread from adjacent areas. These fires are started by graziers in order to produce fresh growth of grass for their cattle and goats. The Sudanese Peoples Liberation Army may also set fire to path side vegetation for security reasons.

Persistent and frequent burning will degrade both the montane forest and savanna communities. This would result in an over dominance of fire-resistant tree, shrub and grass species and a subsequent reduction in biodiversity. Burning also has a major impact on invertebrates, especially termites, and on ground nesting birds during their breeding season.

Illegal burning will be controlled by a system of firebreaks. In certain circumstances, for example the discovery of a recently lit fire, rangers will extinguish fires. Rotational patch burning management for savanna communities will also reduce the potential for extensive fires.

21.6 Prescription list

1 - Control all illegal burning

RH90/1-Collect data, other activities, by owners/tenants/public bodies/neighb - SURVEILLANCE OF UNCONTROLLED FIRES

MP10/01-Law enforcement, maintain boundary gates - NATABALOKURE MAIN GATE POST

MP10/02-Law enforcement, maintain boundary gates - KATARUM GATE POST

MP10/03-Law enforcement, maintain boundary gates - KALAKUDO GATE POST

MP11/01-Law enforcement, maintain surveillance posts - RANGER SURVEILLANCE POSTS

MP12/01-Law enforcement, maintain staffing - MOBILE STRIKE FORCE OPERATION

ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM

AP30/01-Prepare/revise plan, fire protection/control - FIRE CONTROL PLAN

Feature/facility 22 - illegal grazing & other incursions

22.1 Description

See below

22.2 Favourable status

The Uganda Wildlife Authority will control all illegal grazing and other incursions to ensure that these activities do not impact on the vegetation or on the size and distribution of animal populations within the Kidepo Valley National Park.

22.3 Factors & limits

N.A.

22.4 Attributes & limits

N.A.

22.5 Objective 22 To control all illegal grazing & other incursions, ensuring no impact on vegetation or animal populations/distributions within the park

22.5.1 Rationale & prescription

There are numerous occasions where people may enter the Kidepo Valley National Park other than specifically to poach game.

Local people to the south-east have frequently entered the valley with large numbers of cattle (10-15,000) in order to graze the 'blue grass' areas which are rich in salts and which they believe are beneficial for their animals. This has been happening for approximately 10 years. An additional consequence is that wood is felled for 'boma' (cattle pen) construction and for fuel. A possible solution to this problem is to provide an alternative source of salt in the form of salt licks. This potential solution should be pursued jointly with the local district administration of Kotido.

Domestic livestock in and around the Park can, potentially, spread disease (for example rinderpest and tuberculosis) to populations of wild animals. This can, and in the past has, led to major losses of animals in other African parks.

An illegal trade route runs through the eastern side of the Park; this is used both for drug smuggling and cattle rustling. People using this route often burn adjacent vegetation to reduce cover and to increase their security.

22.6 Prescription list

1 - Control illegal grazing and other incursions

MP10/01-Law enforcement, maintain boundary gates - NATABALOKURE MAIN GATE POST

MP10/02-Law enforcement, maintain boundary gates - KATARUM GATE POST

MP10/03-Law enforcement, maintain boundary gates - KALAKUDO GATE POST

MP11/01-Law enforcement, maintain surveillance posts - RANGER SURVEILLANCE POSTS

MP12/01-Law enforcement, maintain staffing - MOBILE STRIKE FORCE OPERATION

ME40/01-Provide/maintain paths/rides/roads - MAINTAIN PARK ROAD SYSTEM

Feature/facility 23 - Staff

23.1 Description

See below

23.2 Favourable status

A staff structure and complement for the Park will be maintained in order to facilitate the effective and efficient operation of all management functions, including fulfilment of all legal and other obligations and major operational and logistical support services. Management of the staff resource will be effective and efficient.

23.3 Factors & limits

N.A.

23.4 Attributes & limits

N.A.

23.5 Objective 23 To maintain staff structure & complement, as per favourable status

23.5.1 Rationale & prescription

The provision of an appropriately structured and effectively managed staff complement is essential for the achievement of all plan objectives.

The current complement of staff is insufficient for the purpose of law enforcement, one of the most critical functions of management. The law enforcement unit requires a total of 101 rangers to provide security for the gateposts, operate the surveillance posts and perform the various functions of the Strike Force (see projects MP10, MP11/01 & MP12/01 for details).

In January 2000, there were 54 rangers with a recruitment exercise for a further 21 rangers. After recruitment there will still be a shortfall of 26 rangers. Warden community conservation and warden engineering/works posts are vacant. These should also be filled. In order of priority, recruitment should be:

- a) 26 rangers
- b) Warden community conservation
- c) Warden engineering/works

After recruitment of these staff, the total staff complement will be 144.

Other minor changes to the staff structure, required to improve efficiency and effectiveness, are detailed in the project AE00/01 - *staff provision & function*.

Projects

Uganda wildlife Authority has developed a monitoring system, the Monitoring Information System (MIST). The system, run centrally at UWA headquarters is useful for recording and analysing an assortment of field data.

As far as is applicable all data collected under MIST projects herein will be entered and analysed in MIST. For that reason where data collection methods applied in MIST can lead to information required, the MIST method will be the preferred option. Where the MIST methods can not provide all the data required under a project, modification to take care of this will be made based on the advise of the Research and Monitoring Unit of UWA.

23.6 Prescription list

1 - Provide staff

AE00/01-Employ staff, general - STAFF PROVISION & FUNCTION

Annex A - Project Register

- RV10 /01 List/collect photographs, general
CREATE PHOTOGRAPHIC ARCHIVE
- RV20 /01 List/collect/commission photographs aerial
AERIAL PHOTOGRAPHS
- RP13 /01 Collect data, hydrological, monitor
MONITOR AVAILABILITY OF WATER
- RF02 /01 Collect data, vegetation, survey
SAVANNA RECOVERY SURVEILLANCE
- RF02 /02 Collect data, vegetation, survey
VEGETATION SURVEY
- RF05 /01 Collect data, vegetation, research project
GENERAL APPLIED RESEARCH ON VEGETATION
- RF12 /01 Collect data, trees/shrubs, survey
MONTANE FOREST RECOVERY SURVEILLANCE
- RA02 /01 Collect data, mammals, survey
SURVEILLANCE OF MAMMAL & OSTRICH DISTRIBUTION
- RA03 /01 Collect data, mammals, monitor
MONITOR SIZE OF LARGE MAMMAL & OSTRICH POPULATIONS
- RA03 /02 Collect data, mammals, monitor
MONITOR ELEPHANT AGE STRUCTURE
- RA03 /03 Collect data, mammals, monitor
MONITOR THE SEX STRUCTURE OF THE ELEPHANT POPULATION
- RA03 /04 Collect data, mammals, monitor
MONITOR DISTRIBUTION OF LARGER UNGULATES IN THE PARK
- RA03 /05 Collect data, mammals, monitor
MONITOR DISTRIBUTION OF SMALLER UNGULATES IN THE PARK
- RA03 /06 Collect data, mammals, monitor
MONITOR ROAN ANTELOPE POPULATION
- RA03 /07 Collect data, mammals, monitor
MONITOR BEISA ORYX
- RA03 /08 Collect data, mammals, monitor
MONITOR BRIGHT'S GAZELLE
- RA04 /01 Collect data, mammals, count/estimate/measure/census
RECORD PREDATION
- RA23 /01 Collect data, herpetofauna, monitor
MONITOR CROCODILE NUMBERS & DISTRIBUTION

-
- RA25 /01 Collect data, herpetofauna, research project
RESEARCH ON CROCODILE PRODUCTIVITY
- RH32 /01 Collect data, public use, count educational groups
MONITOR PROVISION OF ENVIRONMENTAL EDUCATION
- RH33 /01 Collect data, public use, recreation
VISITOR QUESTIONNAIRE
- RH34 /01 Collect data public use, count visitors
RECORD VISITOR NUMBERS
- RH80 /01 Collect data, management, by owners/tenants/public bodies/neighbours
RECORD PAST MANAGEMENT HISTORY
- RH80 /02 Collect data, management, by owners/tenants/public bodies/neighbours
RECORD POACHING ACTIVITY
- RH90 /01 Collect data, other activities, by owners/tenants/public bodies/neighb
SURVEILLANCE OF UNCONTROLLED FIRES
- RH90 /02 Collect data, other activities, by owners/tenants/public bodies/neighb
COLLECT DATA ON VOLUNTEER NUMBERS
- MI00 /01 Inform public, offsite
OFF - SITE EDUCATION PROGRAMME
- MI10 /01 Inform visitors, general
PROVISION OF GUIDED TOURS
- MI10 /02 Inform visitors, general
SIGNS - PROVISION OF BASIC WAYMARKERS
- MI10 /03 Inform visitors, general
SIGNS - PARK HEADBOARDS
- MI20 /01 Inform visitors, educational
SCHOOL/COMMUNITY VISITS TO PARK
- MI50 /01 Provide interpretative material
PROVISION OF PARK LEAFLET
- ML50 /01 Liaise, local community/groups
LOCAL COMMUNITY QUESTIONNAIRE
- ML80 /01 Liaise, others
LIAISON WITH TOUR OPERATORS
- MP00 /01 Protect site/species by patrol
CROP PROTECTION PATROL OUTSIDE PARK
- MP10 /01 Law enforcement, maintain boundary gates
NATABALOKURE MAIN GATE POST

- MP10 /02 Law enforcement, maintain boundary gates
KATARUM GATE POST
- MP10 /03 Law enforcement, maintain boundary gates
KALAKUDO GATE POST
- MP11 /01 Law enforcement, maintain surveillance posts
RANGER SURVEILLANCE POSTS
- MP12 /01 Law enforcement, maintain staffing
MOBILE STRIKE FORCE OPERATION
- MH11 /01 Manage habitat, grassland, by controlled burning
ROTATIONAL BURNING MANAGEMENT
- MH11 /02 Manage habitat, grassland, by controlled burning
BURNING MANAGEMENT
- MA00 /01 Manage habitat, artificial, by planting/sowing/ propagating
ESTABLISH & MAINTAIN SCREENING HEDGES
- MS30 /01 Manage species, mammal
MAMMAL REINTRODUCTION PROGRAMME
- MS30 /02 Manage species, mammal
EXCLUDE DOMESTIC PETS DOGS & CATS
- MS40 /01 Manage species, bird
CONTROL DOMESTIC CHICKENS
- ME00 /01 Estate fabric, general
AIRFIELDS MAINTENANCE
- ME03 /01 Remove structures
RELOCATION OF PARK HEADQUARTERS
- ME04 /01 Remove rubbish
REMOVE SURPLUS/DERELICT VEHICLES & EQUIPMENT
- ME10 /01 Buildings, general
REMOVE SURPLUS/DERELICT BUILDINGS
- ME11 /01 Buildings, construct
CONSTRUCT & MAINTAIN RANGER SURVEILLANCE POST BUILDINGS
- ME11 /02 Buildings, construct
CONSTRUCT LUXURY TENTED CAMP
- ME12 /01 Buildings, maintain/improve
MAINTAIN APOKA STAFF RESIDENTIAL ACCOMMODATION
- ME12 /02 Buildings, maintain/improve
MAINTAIN APOKA SERVICE BUILDINGS

- ME12 /03 Buildings, maintain/improve
MAINTAIN APOKA TOURIST ACCOMMODATION
- ME12 /04 Buildings, maintain/improve
MAINTAIN PARK GATEPOST BUILDINGS
- ME40 /01 Provide/maintain paths/rides/roads
MAINTAIN PARK ROAD SYSTEM
- ME62 /01 Provide/maintain education facilities
MAINTAIN SCHOOL
- ME63 /01 Provide/maintain medical facilities
MAINTAIN MEDICAL DISPENSARY
- ME64 /01 Provide/maintain workshop
MAINTAIN WORKSHOP
- ME65 /01 Provide/maintain fuel storage
MAINTAIN FUEL DEPOT
- ME66 /01 Provide/maintain general stores
MAINTAIN RATION STORE FOR RANGERS
- ME66 /02 Provide/maintain general stores
MAINTAIN CANTEEN FOR ALL STAFF & FAMILIES
- ME66 /03 Provide/maintain general stores
SUPPLY MEAT FOR STAFF
- ME67 /01 Provide/maintain water supply
MAINTAIN WATER SUPPLY
- ME68 /01 Provide/maintain power supply
MAINTAIN ELECTRICITY SUPPLY
- ME69 /01 Provide/maintain fuel supply
WELFARE CENTRE
- ME69 /02 Provide/maintain fuel supply
PROVIDE FUELWOOD
- ME70 /01 Provide/maintain religious centre
CHURCH
- ME71 /01 Provide/maintain recreational facilities
SPORTS FIELD
- MM00 /01 Acquire/service vehicles/boats
ROAD VEHICLES
- MM00 /02 Acquire/service vehicles/boats
ROAD MAINTENANCE MACHINERY & EQUIPMENT

- MM20 /01 Acquire/maintain tools/equipment
ARMOURY
- MM20 /02 Acquire/maintain tools/equipment
COMMUNICATION EQUIPMENT
- MM20 /03 Acquire/maintain tools/equipment
PROVIDE UNIFORMS
- MM30 /01 Acquire/service aircraft
PROVIDE AND MAINTAIN AIRCRAFT
- MM30 /02 Acquire/service aircraft
AIRCRAFT FUEL
- AL20 /01 Maintain holding, legal, by making/receiving payments
MAKE PAYMENTS TO LOCAL AUTHORITIES
- AP30 /01 Prepare/revise plan, fire protection/control
FIRE CONTROL PLAN
- AP80 /01 Convene meeting, Site Management Committee/advisory group
COMMUNITY PROTECTED AREAS COMMITTEES
- AR40 /01 Record administrative details, e.g. staff appointments/visits
GENERAL ADMINISTRATION
- AF00 /01 Finance, general
FINANCIAL ADMINISTRATION
- AT20 /01 Train staff, use of machinery/equipment
STAFF TRAINING, FIREARMS
- AT20 /02 Train staff, use of machinery/equipment
STAFF TRAINING, OFF-ROAD DRIVING SKILLS
- AT20 /03 Train staff, use of machinery/equipment
STAFF TRAINING, HANDLING OF FUEL & LUBRICANTS
- AT30 /01 Train staff, other
STAFF TRAINING, PUBLIC RELATIONS SKILLS
- AE00 /01 Employ staff, general
STAFF PROVISION & FUNCTION

Annex B - List of mammals

The most up to date information available on birds and mammals is available in the Uganda National Parks Bird and Mammal checklist (S.E. Wilson, 1995)

The following lists are copied directly from that publication. The provenance is not given and, consequently, the list should be used with caution.

Aardvark

Aardvark (ant bear)

Aardwolf & hyenas

Aardwolf
Spotted hyena
Striped hyena

Bats

African giant house bat
Heart-nosed bat
Somali serotine
Yellow-winged bat

Note: this is the confirmed list; there are many more present

Cane rats

Common (marsh) cane rat
Lesser (savannah) cane rat

Cats

African wild cat
Caracal
Cheetah
Leopard
Lion
Serval

Civets & genets

East African civet
Rusty Spotted genet
Small-spotted genet

Cricetid rats

Crested rat
Forest pouched rat

Dogs, jackals & foxes

Bat-eared fox
Black-backed jackal
Hunting (African wild) dog
Side striped jackal

Elephants

African elephant

Elephant shrews

Spectacled elephant shrew

Flying squirrels

Lord Derby's flying squirrel

Gerbils

African common dormouse
Emin's gerbil

Giraffe

Rothschild's giraffe

Hares

Bunyoro rabbit
Cape (brown) hare

Hedgehogs

Four-toed hedgehog

Horned ungulates

African buffalo
Bohor reedbuck
Bushbuck
Common (bush) duiker
Common eland
Defassa waterbuck
Grant's gazelle
Greater kudu
Gunthers dik-dik
Hartebeest (kongoni)
Klipspringer

Lesser kudu

Mountain reedbuck

Oribi

Oryx (lost)

Roan antelope

Uganda kob

Horses and zebras

Plains (Burchell's) zebra

Hyaxes

East Africa rock hyrax
Yellow-spotted rock hyrax

Mice & rats

African meadow rat
Black rat
Common striped grass mouse
Common thicket rat
Grey spiny mouse
Nile grass rat
Northern bush rat
Pygmy mouse
Pygmy spiny mouse
Sahel spiny mouse

Mongoose

Banded mongoose

Dwarf mongoose

Egyptian mongoose

White-tailed mongoose

Pangolins

Ground pangolin

Pigs

Bushpig
Warthog

Porcupines

Crested porcupine

Rhinoceros

Black rhinoceros

Rodents & other smaller mammals

Kenyan montane musk shrews
Small-footed musk shrew
Sudan savannah musk shrew

Squirrels

Gambian sun squirrel
Geoffrey's ground squirrel
Red-legged sun squirrel

Weasels, badgers & otters

Honey badger
Zorilla (striped polecat)