

TERMINAL EVALUATION

for the CONSERVATION, MANAGEMENT of HABITAT,
SPECIES & SUSTAINABLE COMMUNITY USE OF
BIODIVERSITY

DINDER NATIONAL PARK

SUD/98/G41

Report to: UNDP-GEF

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ACRONYMS

APR	Annual Project Report
DNP	Dinder National Park
DNPP	Dinder National Park Project
GEF	Global Environmental Facility
GoS	Government of Sudan
HCENR	Higher Council for Environment and National Resources
LFM	Logical Framework Matrix
M & E	Monitoring and Evaluation
MoA	Ministry of Agriculture
MoEM	Ministry of Energy and Mining
MoEPD	Ministry of Environment and Physical Development
MoI	Ministry of Interior
MoIC	Ministry of International Cooperation
NHM	Natural History Museum
PIR	Project Implementation Report
QPR	Quarterly Progress Report
SECS	Sudanese Environmental Conservation Society
TPR	Tripartite Project Review
UNDP	United Nations Development Programme
VDC	Village Development Committee
WB	World Bank
WCGA	Wildlife Conservation General Administration
WECGA	Wildlife and Environment Conservation General Administration
WRC	Wildlife Research Centre
WWF	Worldwide Fund for Nature

Executive Summary

To counter the ongoing decline in wildlife, amongst other things by improving the livelihoods of local communities, the Dinder National Park project was started. The present terminal evaluation reports the progress made from 2000 till July 2004, when the Consolidation phase started. Although originally conceived as a full-fledged project, the budget was scaled down to a medium-sized project. Ambitions and scope of the project were not reduced accordingly however.

In the past, protection of Dinder National Park was largely based on repression, leading to violent clashes between park scouts and poachers. Through the Dinder National Park project, important progress has been made in reducing tensions between sedentary communities and park authorities. Relations of the wildlife administration with pastoralists remain, however, tense. We therefore advise the Dinder National Park project to increase its facilitation activities for the local pastoralist union.

This park conflict is only the “downstream” part of a much wider land use problem in which pastoralists are squeezed out of the areas neighbouring the national park states by the unauthorised expansion in (mechanised) farming. The project has made an important start in sensitising state authorities on the need for land use planning. All three states committed themselves to contribute not only technically but also financially to the land use planning activities proposed by the DNP Project. Because of the dominant role of the farmers unions in the land use politics, they should be fully involved in the pursued land use planning. Land use planning is essentially a political process. Although the technical approach of the DNP project should remain the main focus, possibilities to stimulate further political support for the started land use planning should be explored.

The evaluation mission team was pleased to note the important achievement of the formulation and subsequent approval of the management plan that constitutes a solid base for future management of Dinder National Park. The zoning of the national park into a core zone around the Dinder river drainage system, buffer zones and transitional zones will be an important tool in normalizing relations with local communities. There is a need to have a condensed “project document” version of the management plan. This abridged version not only serves communication purposes, but will also facilitate the search of additional financing for the implementation of the management plan. There is further a need to lay down the technical as well as financial responsibilities of the various institutions involved in the management of Dinder National Park and its surroundings. These responsibilities should include the provision of development services to local communities

Despite above cited achievements, the continuing downward trend in wildlife numbers since the late 1960 is worrying. The general reasons behind the changes are largely known (rainy season habitat disturbances, poaching, competition with livestock, reduced flooding etc.), but no information exists on their relative importance. Dinder NP continues to have major biodiversity assets however. We refer in particular to the intact vegetation that contrasts not only with the park’s surroundings but also with most of central Sudan, and acts as an important reference for other areas. DNP further harbours rich birdlife and remaining wildlife species such as reedbuck, the rare Heuglin’s gazelle, buffalo as well as lion.

The mission was impressed by the strong commitment of the Sudanese government to the conservation of Dinder National Park shown by the large number of park personnel. Support measures of the DNP project (communication system, solar energy, water pumps) have, to some extent, increased the intervention capacity of the Dinder National Park personnel. Yet despite this support, the intervention capacity of the park personnel remains of concern and should be subject of further attention of the DNP. There is, for example, a clear need to train the DNP staff (15 officers) in personnel management and leadership skills. In order to “mobilise” and “sensitise” the entire DNP personnel we advise to organise basic 2-3 day training - awareness session for all park personnel¹. This training also allows the selection of a few scouts, sensitive to work on community development.

The Wildlife Administration has a vital advocacy role to play on behalf of local, often isolated communities. The DNP project and its partners should stimulate the Wildlife Administration to set up immediately a Community Development unit. This unit receives the special attention of the project in training and coaching and should be made ready to take up several of the post-project tasks related with community development work. One of the special tasks of the Community Development Unit will be the facilitation of a (sub) committee to be created that provides a forum of representatives of local communities (including pastoralists) and park authorities. This committee should discuss park management interventions that have an impact on neighbouring communities. This committee will also give its practical inputs to the Park Council in which higher-level authorities are represented.

The high costs and (visa-) regulations involved in visiting Sudan and Dinder NP, makes neighbouring East Africa with more facilities and spectacular wildlife, a much more attractive tourist destination. However, domestic tourism, targeting both nationals and expatriates residing in Khartoum, should be further developed. The necessary infrastructure has already been put into place by the DNP project.

The evaluation mission would like to express its appreciation of the quality of the assistance delivered by the Dinder National Park Project team with relatively limited human and financial resources. Also partners such as SECS and the Wildlife Administration have shown a real commitment to the implementation of the DNP project.

Given the above considerations, UNDP is to be praised of having taken the initiative to finance the consolidation phase 2004 - 2007 of the DNP Project. We recommend UNDP to consider applying GEF and other financing for assistance to the rehabilitation of the Sudanese protected area system, building upon the Dinder National Park experiences. In the upcoming post-conflict situation major developments are expected to take place (return process of displaced people, new infrastructures, consideration of finalisation of the Jonglei canal etc.) that will have a decisive impact on wildlife. The experiences obtained with the management of Dinder National Park should play an important role in the further development of the Sudanese wildlife management system.

¹ We understand that this has been scheduled for in April-June 2005.

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1. INTRODUCTION

1.1 GENERAL INTRODUCTION

Dinder National Park, covering an area of approximately one million ha, is the oldest national park in Sudan. The area is situated in the centre of Sudan and bordered by Blue Nile State (South East), Sennar State (North) and Gedaref State (North East). Its southern border is contiguous with the national border with Ethiopia. In 1935 when the DNP was created, the area was reported to be teeming with wildlife: lion, hyenas, buffalo, giraffe, roan, tiang, hartebeest, reedbuck, oribi and the rare Soemmerings gazelle. Elephant was a regular wet season visitor. Also in the late 1960s, the park was still considered as one of the outstanding African wildlife areas.

When Dinder NP was created its boundaries were demarcated for reasons of administrative convenience rather than any clear understanding of the ecological realities of the areas. The wild animals in the national park depend for their survival, during part of the year, on extensive grazing areas adjoining the national park. Especially during the wet season large numbers of animals migrate outside the park's boundaries and return to the park during the dry season months from December to May. Since the 1970s, however, the environs of areas around the park have been cleared and replaced by large mechanized rain-fed farms or irrigated areas. In places not cleared for agriculture, large stretches of bushland have been cleared for charcoal production. Owners of mechanized farms are said to supplement the meat supplies of their workers through poaching, a practice almost out of control of the national park authorities. Traditionally great herds of livestock have moved to the Butana grasslands to the north of the park in the wet season and return to the banks of the Rahad and Dinder rivers during the dry season. Pastoralists grazed their animals as they moved over the extensive areas that are now occupied by mechanised farming, but are increasingly bringing their animals into the park itself. Here livestock not only competes with wildlife for scarce dry season forage and water, but are also responsible for outbreaks of anthrax and rinderpest that decimated antelopes and buffalo (Whitney and Mograby 1983). Livestock is likely to be the direct cause for spread of invasive species as well.

Against this background, it will not come as a surprise that wildlife populations have dropped steadily during the last decades. In addition, relations between the national park authorities and local communities and pastoralists have degraded considerably, often out of pure frustration, from both sides, with the uncontrollable changes in land use.

It is against the background of this continuing deterioration of the conditions in and around Dinder national Park, that a UNDP-GEF project was conceived. The overall objective of the Dinder National Park Project (DNPP) was to rehabilitate the park ecosystems to enhance the conservation of its wildlife. The project integrates the local community living in DNP and its borders, in the sustainable use of natural resources to improve their standard of living and to enable them to participate in the management of the resources. The local community is encouraged to participate in community oriented conservation projects, provide them with a source of income and envisage sustainable multiple use of natural resources.

1.2 INTRODUCTION TO THE EVALUATION MISSION

All regular and medium-sized GEF projects are subject of terminal evaluations. In addition, this evaluation was considered by UNDP-Sudan as a means to receive feedback on the proposed approach taken in the consolidation phase, that started mid 2004.

Key issues that received attention during this evaluation mission were, amongst others (see Terms of References, Annex 1):

- To review the relevance of the DNP project and the effectiveness and efficiency of its design and implementation
- To evaluate the effectiveness of the Village Development Committees (VDC) and the revolving funds that have been provided
- To assess the threats to biodiversity and how these can be addressed

As a general tool for GEF projects, the World Bank/WWF Management Effectiveness Tracking Tool has been applied for the first time for Dinder National Park to track and monitor progress in its future management achievement, see Annex 7.

This terminal evaluation mission was conducted by Paul Scholte (The Netherlands), ecologist and protected area management specialist, and Mustafa Babiker (University of Khartoum), Anthropologist. The present mission was held from 3-18 February 2005, followed by a period of reporting in the home countries of the consultants.

At arrival, the mission was briefed in Khartoum by the project and its various partners (ministries, research organisations and NGOs). During the subsequent field visits, the mission visited Blue Nile, Sennar and Gedaref States and the ministers of agriculture and their officials, as well as the governor of Gedaref State. All main inhabited areas around DNP were visited and discussions were held with communities from the South East (Kadalu and Magana village), Sennar State villages at the entry of DNP and the Rahad River area. In Dinder National Park, discussions were held with park's personnel, the park was visited allowing discussions on the state of wildlife and an appreciation of the various infrastructures and interventions organised by the DNPP. All together, the evaluation mission had ample opportunities to discuss with the field mission members, the DNP director, representatives of WCGA, MoIC as well as the project manager, the WCGA counterpart and the project's rural development specialist.

Towards the end of the mission, three debriefing sessions were held, with the Minister of Interior, senior UNDP staff and subsequently with the project personnel and associated state services and NGOs. See annex 2 for a more detailed itinerary.

2. PROJECT BACKGROUND

2.1 GENERAL BACKGROUND TO THE DINDER NATIONAL PARK PROJECT

The Dinder National Park (DNP) project was originally conceived as a full-fledged project. Because of reigning restrictions, it was ultimately scaled down to a medium size project. The project document was signed in October 1999 and the implementation started in June 2000 for a duration of three years, extended till the end of 2003. The project total budget was US\$ 1.25 million funded by the Global Environmental Facility (US\$ 750,000), and the United Nation Development Programme UNDP (US\$ 590,000). The Government of Sudan contribution was SD 97.2 million and 0.2 million in kind. UNDP funding was generally directed to community related activities while GEF funding was more generally directed to biodiversity conservation. The Ministry of Energy and Mining also contributed to the solar energy installations in the park and surrounding villages, for an amount of USD 28,000.

The project was executed by the Government of Sudan and implemented jointly by the Higher Council for Environment and Natural Resources (HCENR) and the Wildlife Conservation General Administration (WCGA). The HCENR housed the project. By the end of 2003, a six months transition period was started. From July 2004, UNDP has taken the initiative to finance the consolidation phase of the DNPP that will last till 2007.

2.2 PROJECT OBJECTIVES AND EXPECTED OUTPUTS

During its formulation phase, the DNP project was scaled down to a medium size project, as least as far its budget was concerned. The ambitions of the project were not reduced accordingly however. This held especially for the extensive project area (over a million ha) with poor accessibility, the number of local communities (over 50 000 people) and their livestock (a million cattle). In addition the range of proposed activities of the project varied from ecological conservation and technical park management to rural development and land use planning.

The overall objective of the project was “The conservation of biodiversity in the Dinder National Park by encouraging species conservation and the sustainable use of resources through the integration of local communities in the utilisation and management of natural resources”. Three specific objectives were formulated, respectively,

1. Conservation of the Biodiversity of the park through development and implementation of a management plan.
2. Long term sustainable conservation of biodiversity in the established park by encouraging species and habitat conservation and maintenance of the park as a coherent ecosystem.
3. Long-term sustainable management of the Buffer Zone through the integration of the local communities living inside and along the borders in the sustainable utilisation and management of the natural resources of the park. Enhancement of the livelihoods of the communities living in and around the border of the Park by

encouraging them to participate in community oriented projects, which will provide them with renewable resources on a long-term basis.

Although the original project document did not contain a logical framework, this was corrected by the organisation of a workshop in 2001, in which a number of stakeholders (WEGCA, WRC, SECS, NEX-MSU, HCNER) drafted a logframe that has been used as planning base for the project in subsequent years. No changes were made with regard to above general and specific objectives. Outputs and activities as described in the original project document were updated, reorganized and developed into a reasonably coherent logical framework matrix. This logframe has served as planning and monitoring base for the project in subsequent years. The present mission has used this logframe as base for its analysis as well (chapter 4). It should be mentioned that although much more realistic than the original project document, also this logframe has been over ambitious given the budgetary and logistical restrictions.

2.3 RELEVANCE OF THE PROJECT TO DEVELOPMENT PRIORITIES IN SUDAN AND UNDP-SUDAN THEMATIC AREAS

National priorities

The project is certainly relevant to development priorities as outlined in the most recent policy document, i.e. the National Comprehensive Strategy (NCS) 1992-2002, which covers all economic and social sectors and spheres. The NCS has shown serious concern for poverty alleviation and sustainable development which incorporate participation of the local communities and indigenous knowledge. The NCS includes the national environmental strategy whose policies and directives call for sustainable productivity of resources, adoption of environmentally and culturally appropriate technology, inclusion of environmental impact assessment in the project document whenever a project is likely to affect the environment, revision and updating of environmental legislation, provision of concession for environmentally friendly activities and the establishment of a national body, i.e. the Higher Council for Environment and national resources (HCENR) , entrusted with the coordination and supervision of environmental activities in the States.

UNDP-Sudan thematic areas.

The UNDP (2003) Sudan country strategy mentions explicitly the capacity building support to Dinder National Park and the local, state and regional authorities under its outcome 2.3. “Environmental management capacity of local, state and regional authorities enhanced”, that falls under immediate objective 2 “improving the capacity of local, state and regional governments to promote pro-poor, gendered, environmentally sensitive development. Given the nature of the DNP project, one may add contributions to immediate the objective 3.1 “ empowering local communities to consolidate peace and social cohesion while attaining sustainable human development” as well.

International Conservation Recognition

As far as international conservation is concerned, Dinder National Park was proposed as Important Bird Area (Robinson 2001) and designated as Ramsar site in 2005. The presence of especially Heuglin gazelle also makes it an important area for mammal conservation (East 1998).

3. ANALYSIS OF PROJECT IMPLEMENTATION, per expected output

In this chapter, we analyse the expected outputs of the Dinder National Park project (2000 – 2004), as indicated in the logical framework (HCENR/WECGA/UNDP/GEF, 2001). The analysis of each output is based on the following criteria that we used as checklist:

- Effectiveness: The relation between the planned and subsequently attained results in terms of quality and quantity.
- Efficiency: The relation between the attained results and the financial as well as human resources used.
- Impact: The effects of the results (on the target groups).
- Participation: The involvement of stakeholders.
- Viability: Sustainability of the impact.

Complying to minimum GEF evaluation criteria, each section is terminated with a rating of the implementation approach, monitoring and evaluation, sustainability and attainment of the outputs. Ratings may vary from Highly Satisfactory (HS), Satisfactory (S) to Marginally Satisfactory (MS). None of the criteria was rated as unsatisfactory, see also Annex 1.

3.1. ANALYSIS OF OUTPUTS UNDER OBJECTIVE 1.

Intermediate Objective 1

Conservation of the biodiversity of the Park through development and implementation of the Management Plan for DNP

Indicators

- *The Management Plan and Implementation Strategy are approved and ready for implementation*
- *The baseline data necessary for the development of ecological indicators are available*

MOV: HCENR, WECGA records; baseline document

Assumptions: stakeholders cooperate to finalise MP

Output 1.1

- *DNP has a functioning organisational set up*

Indicator

- *Project Steering Committee holding regular meetings and controlling project operations*

MOV: Minutes of Steering Committee Meetings

Assumptions: Stakeholders motivated to cooperate

Within a short period of time, the project has been able to start. The national project team, composed of experts in ecology, protected area management and community development, has set high, internationally compatible, standards. The presence and experience of the Dinder National Park project are, after four years, felt in almost the entire project area, with possible exception of the South East (Kadalu villages in Blue Nile State) where activities could only start in 2003 when security was enhanced by the ceasefire agreement between the GoS and SPLA/M on the eve of the recently concluded peace talk negotiations.

It was a wise decision to have the project based at the Higher Council for Environment and Natural Resources, a “neutral” body at some distance of the Wildlife Administration. In addition, the placement of the project under the Higher Council was not conditioned by overhead fees. The wildlife administration is represented at the DNP project by an attached staff member, who as, wildlife management specialist and former DNP director has intimate knowledge and experiences of the situation. In the field, the contacts with the Dinder National Park director and its staff, are well established.

The quasi-totality of the project partners the mission encountered (annex 2) were satisfied on the communication with the DNP project. The role of the Park Council seems at present limited to its role as steering committee for the project only. The proposed creation of a sub committee with local representatives (see under output 1.2) may constitute an important occasion to enhance its dynamism.

The originally formulated DNP project proposal had a budget a multitude of the finally approved project that, because of the political situation, was of medium size only. The project area and objectives were not scaled down accordingly however. The

DNP has taken several initiatives to formulate and market (sub) projects to take up the many remaining challenges. For example a project proposal was drafted with the United Nations Volunteers on the recruitment of five experts in the field of wildlife management and community development (international) as well as pastoralism, conflict resolution and (national). The political situation in 2002 did not allow any follow-up, despite the various requests made by UNV.

The so-called consolidation phase of the DNP project has started in July 2004 and will last till 2007. The tasks ahead are of such nature, that sustainability of the activities undertaken should be one of the most important criteria in the selection of the project's activities.

Rating: Approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 1.2

A detailed Management Plan is developed

Indicator

- *By June 2003, a Management Plan that addresses sustainable use of natural resources and biologic conservation for the benefit of all stakeholders of the DNP is submitted for review*

MOV: *MP document*

Assumptions: *Know-how secured*

Management plans are important tools for the daily management of protected areas around the world. Management plans have multiple functions, the most frequently cited of which are the identification of management needs for a protected area, the setting of its management priorities, and organising an approach to its future (see Annex 5. for more background on management plans).

The management plan, the first not only for Dinder NP but for the whole of Sudan, was finalised in September 2004 and subsequently approved by the director of the Wildlife Administration. At the time of our mission, 400 copies of the plan, in Arabic as well as English, were in press. The initial time schedule seems to have been over optimistic and the 2½ year the MP formulation has taken is still rather short. Dinder National Park was designated as a Biosphere Reserve in 1979. In line with this, the management plan proposes a zoning of the national park into a core zone around the Dinder drainage system, a buffer zone and a transition zone, mainly in the north (Rahad River area) and the SE (Kadalu area). Contrary to most other biosphere reserves, the buffer and transition zones are inside the national park boundaries (for more details see output 3.3). The evaluation mission finds that this choice is justified given the size of the national park and the low wildlife densities in the proposed transition zones that only very locally may play a role as rainy season habitat. Furthermore these transition zones can play a key role in the collaboration with local communities (output 3.3). We would, however, strongly recommend caution with respect to the extraction of resources such as fish from the core and buffer zones. A direct competition exists between the park's birdlife and fishermen. This also holds for the cropping of guinea fowl that should be limited to areas outside the national park boundaries, with possible exception of the transition zone.

The management plan is well written and rich in information, experiences and ideas. Some of the proposed activities in the management plan; most notably game ranching and the reintroduction of species are in our opinion not relevant in the present Sudanese context. Experiences from African countries with a comparable ecological and socio-economic setting could have produced more relevant ideas on both park management (patrolling, logistics) and development activities (for a between protected area authorities and local communities, "support role" of park authorities for isolated communities, etc.). Some of our other comments on the management plan deal with the lengthy presentation of especially part A and B, overshadowing some of the main proposals in part C and D. Under output 3.3 we discuss in more detail the proposed zoning for the involvement of local communities.

An efficient choice has been made with the selection of the national management plan formulation team. Its members have a vast experience in especially ecological

fieldwork in Dinder National Park, and are liased with institutions such as the University of Juba and Khartoum, the Wildlife Research Institute (WRC), SECS as well as the DNP project. Through the institutions associated with the management plan formulation, the DNP Management Plan, the first approved one in Sudan, may have an impact beyond Dinder NP.

Authorities of the three states and representatives of local communities have, to some extent, been implicated in commenting parts of earlier drafts. To enhance the influence of local communities, we would recommend the creation of a committee that brings representatives of local communities in direct contact with the park authorities. This platform can be linked to the Park council, in which authorities are represented, as sub-committee. Elsewhere, such platforms have shown to be strong agencies of sustainability.

Ultimately the success of a management plan is measured by its implementation. In the following section, we will discuss the strategy to implement it. In annex... additional comments on the management plan will be given.

Rating: Approach (S), M&E (HS), Sustainability (HS), Attainment of output (HS).

Output 1.3

A strategy for the implementation of the Management Plan is developed

Indicator

By June 2003 a draft strategy for the implementation of the MP that covers the following aspects is ready for review by all stakeholders:

- *Institutional set up and roles*
- *M & E*
- *Capacity building*
- *Resources and financial mechanisms*

MOV: *None*

Assumptions: *Funding for implementation of MP secured*

With the somewhat optimistic initial planning, there has been some delay in formulating the management plan. The elaboration of a strategy for the implementation of the management plan has therefore also been pushed forward in time.

The project team has had high expectations of the international consultant to prospect future financing and other support to the implementation of the management plan. To the disappointment of the project team, these expectations have not been materialized so far however. The DNP project has established contacts with some of the main present initiatives in the region such as the Nile Basin Initiative (community participation – watershed management) and the Peace project (Arab League). These

as well as other initiatives may in future contribute to financing of the management plan.

To enhance the impact of the management plan the project should consider producing a condensed “project document like” version of the management plan, essentially dealing with part C and D as well as the zoning part of the management plan. This document should also reflect the priorities of the various proposed measures.

With the start of the activities programmed for in the consolidation phase of the DNPP, a start is made with the implementation of the management plan. In addition to this UNDP commitment, there is a need to clearly lay down the responsibilities of the Wildlife administration, state services and authorities and other institutions in the implementation of the management plan. The Park council is an ideal forum for these discussions. Based on the information we have at our possession, the responsibilities should be included:

- Committed governmental funding through the wildlife administration: Park personnel as well as basic logistical support (offices, cars, etc)
- State and Federal financing of services to (health, education, etc)
- Consolidation phase of the DNP project: training of park personnel and community representatives, catalysing community development activities, monitoring and evaluation, temporary material assistance to the wildlife administration and other state services.
- Additional funding through the attraction of small development projects in collaboration with local and international NGOs
- Additional funding through the attraction of small grants for environmental projects, often through national NGOs (e.g. SECS).
- Tourist company: maintenance of tourist facilities, tourist promotion, etc

Rating: Approach (S), M&E (S), Sustainability (S), Attainment of output (MS).

3.2. ANALYSIS OF OUTPUTS UNDER OBJECTIVE 2.

Intermediate Objective 2

Long-term sustainable conservation of biodiversity in the established Park by encouraging species and habitat conservation and maintenance of the Park as a coherent ecosystem

Indicators

To conserve all species available inside the Park till June 2003

MOV: Surveys and Studies

Assumptions: Positive response from communities towards conservation; stable and positive state policies

Output 2.1

The personnel and the local communities are sensitised to the importance and significance of the biological and ecological processes taking place in the Park and improved management practices are set in place

Indicator

Trained members from VDCs in targeted villages is carried out between April-December 2001

MOV: project records

Assumptions: Stable and positive state policies; impacts of natural and manmade disasters minimum

Note: below we will only discuss the “intervention capacity of national park personnel part” of this output. The sensitisation of local communities will be discussed under objective 3. The material support to raise the patrolling quality of park personnel is discussed under output 2.3.

The mission was impressed by the strong commitment of the Sudanese government to the conservation of Dinder National Park, indicated by the large number of park personnel (285 scouts, 15 officers) and important materials (a.o. cars). Yet despite this support, the intervention capacity of the park personnel remains of concern. This holds especially for the lack of presence of park personnel in strategic parts of the national park during the rainy season. This was highlighted by the incident where gunshots were found at the water pump at Abyad camp 20 km upstream of the Galegu camp. When park staff had abandoned the camp to join headquarters during the rainy season, trespassers had stayed here during the rainy season. Another reason of concern is the non-presence of the park authorities in much of the extended SE corner of the national park in both rainy and dry season. A sign of limited effectiveness of the park personnel was the lack of manual road maintenance between Galegu camp and Abyad camp, the main track for surveillance as well as tourism. Support measures of the DNP project (communication system, solar energy, water pumps, output 2.3) have, to some extent, increased the intervention capacity of the DNP authorities. Much remains to be done, however.

The DNP project has already initiated several training courses for park personnel with the objective to raise their intervention capacity. Small groups of officers and scouts have benefited from training courses in wildlife counts, construction methods, as well as several “training on the job”. One should also mention the short course training for 2 x 3 persons of the Wildlife Administration organised in Kruger National Park by the University of Pretoria. It is difficult to evaluate the effectiveness of implemented training and study visits, which is of an indirect nature only and has an impact on the long term only. Some participants explained us the difficulty to transpose experiences from South Africa into Sudan with entirely different cultural and ecological conditions. (see also management plan formulation). It is therefore worthwhile considering alternative protected areas in more comparable setting. A good candidate might be Zakouma NP in neighboring SE Chad (see annex).

One of the major difficulties in raising the intervention capacity of the DNP personnel, was the frequently change of park management officers, although this did not hold for the park scouts. The DNP project has on various occasions drawn the attention of the Ministry of Interior on this situation resulting in notable improvements. Another difficulty in the training of the personnel of DNP is the sheer number of park scouts (285).

The evaluation mission is of the opinion that the enhancement of the wildlife administration’s intervention capacity needs to be further addressed by the consolidation phase of the DNPP. This is justified given the crucial role of the personnel to implement the new orientations as laid down in the management plan. We think in particular in organising a comprehensive training course for ALL park scouts, the majority of which have only a military initial training and has served for over 10 years without any training. From above observations it is also clear that the 15 wildlife officers should be further trained to improve their skills in personnel management and leadership.

Apart from these general skills, there is a need to quickly proceed with the planned creation of a community development unit at the Dinder National park administration. This unit should, in our opinion, comprise at least two officers and several scouts, selected for their skills and attitudes in communicating with local communities. This unit receives the special attention of the project in training and coaching and should be made ready to take up several of the post-project tasks related with community development work.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 2.2

Sustainable development and management of water resources for better preservation of biodiversity in the Park through the rehabilitation/de-siltation of about 40 small wetlands to increase their water-storage capacity and attract more wildlife to the Park during the dry season

Indicator

To increase the storage potential of water and fodder to restore the biodiversity in three wetlands inside the Park by June 2002

MOV: Survey Assumptions: None

The condition of Dinder National Park is intrinsically linked to its wetlands. Especially the so-called mayas, backswamps connected with the main rivers through shallow feeders, contain water and pastures till deep into the dry season. These mayas play a crucial role for large mammals and waterbirds. During the last decades major changes have taken place in these wetlands. The increasing sediment load of the Dinder River and its tributaries, as well as their reduced discharges, have led to silting up of the mayas (Hamid Omer Ali 2001). A first attempt to counter this trend was made in 1984 with the cleaning of the Maya Sima'aya feeder. In the following years this resulted in an increase in flooding, inspiring the interventions initiated by the DNP project.

Based on studies conducted, especially by Abedel Hameed, in the 1990s, the DNP project commissioned a hydrological survey in 2001 (Hamid Omer Ali 2001). This study provides an excellent baseline with many details on the functioning of the hydrological system in DNP. Following the proposals in this study the project started in 2002 with a number of activities to increase the flooding in three of the park's main wetlands, most notably:

- Maya Abdel Ghani, near the Galegu camp: deepened in 2002, but largely silted up again (situation 2005)
- Beit Alwash, both the northern and southern feeders were cleaned, but were covered by trees and silt again (situation 2005), need further cleaning
- Gererrisa: some slight cleaning works on the feeders.

One should note that above indicated interventions are relatively cheap with potentially large impacts on the condition of the park's wetlands, as shown by the Maya Sima'aya case. The dynamic nature of the Dinder NP's water courses limits the sustainability of interventions. However the opening of the Maya Sima'aya feeders showed that its impact may last 20 years.

The DNP project has planned a follow-up study by an engineer to evaluate the present situation and propose a working programme. The DNP team rightly proposed that interventions should be limited to the mayas relatively close by the main camp or scouts posts to avoid increasing pastures for cattle only !. Despite above-mentioned studies, the hydrological functioning of DNP is still only partly understood. Rainy season observations by project team showed the importance of sheet flow, both from the Dinder river into the mayas and vice versa! There is further a need for a short study of the hydrological system during the rainy season.

Rating: approach (HS), M&E (S), Sustainability (S), Attainment of output (HS).

Output 2.3

*Improvement of water supply and sanitation services at the camps in the Park
[8 operational boreholes installed with hand-pumps that supply potable water according to UNICEF/WHO specifications for wardens, visitors and communities outside the Park]*

Indicator

To drill 5 wells to produce potable water matching international standards or visitors, human and animal population in the camps area by June 2002

MOV: Project records

Assumptions: Funds secured

Note: we interpreted this output as all assistance to the well-functioning of patrolling scouts (for training see output 2.1).

Boreholes were drilled and handpumps were installed in nine park camps: Galegu, Abyad, Ras El Fil, Um Kuraa. Borehole trials at in Gerri, Erraija, Farsh Alneam and Magano did not give positive results so far. Two more water pumps in park are planned during the consolidation phase. Besides these pumps destined for park personnel uses, 14 handpumps in 9 villages were installed, see output 3.6. With a cost of approximately 2000 USD, hand pumps provide for relatively low costs a tangible improvement in living conditions for the park personnel.

All (semi-) permanent camps mentioned above have also been equipped with radio powered by solar energy.

The DNP project also intervened in reviving camel patrolling that was practised till the early 1980s. Sixteen camels were purchased and old camel patrolling scouts trained a group of scouts who volunteered to become part of the camel patrolling unit that were based at the Ras el Fil camp.

Rating: approach (HS), M&E (HS), Sustainability (S), Attainment of output (S).

Output 2.4

The overall infrastructure development of the Park increases in efficiency and accommodates management of the resources on a scientific basis [the low cost working and living accommodation of the Park's at Dinder town and Galegu camp, and the wardens' camps at all posts are improved; firebreaks created and rehabilitated]

Indicator

To improve the working environment inside the Park for personnel, visitors and researchers by developing the relevant infrastructures and information and documentation facilities by June 2003

MOV: Project records

Assumptions: None

Till recently tourist reception facilities in Dinder NP were limited to temporary (straw) huts. Through the interventions of the DNP project there are now adequate facilities for tourists as well as visiting researchers and other visitors who find an appropriate environment for training workshops, meetings etc. Supervised by a project-contracted architect, park scouts implemented most of the construction of the buildings. For the more specialized parts of the construction work, craft men from Khartoum were contracted, sometimes with great difficulty to motivate them working in such a remote area. The tourist facilities consist of six rondavels (round houses), each with two large bedrooms with toilet and shower, a common room and kitchen. Power is assured by solar panels. An auxiliary building houses restaurant facilities as well as an exhibition room that is also used as meeting and lecture room. The DNPP also supplied a solar pump and additional water tanks for the water supply of the Galegu camp.

The costs of the Galegu camp were approximately USD 100 000, calculated as US 156 per m², much lower (3/5) than the average construction costs in Khartoum. The DNP project commissioned a consultancy firm, Newtech, for a second opinion on the state of the constructed buildings. Newtech (2003) concluded that the reduction of costs may not have been the best gain and proposed several adjustments in the construction as well the finishing (plastering walls, windows and doors not closing properly, etc.).

The DNP project has handed over the facilities to the wildlife administration who commissioned a private/parastatal to assure the daily tourist management. The mission appreciates this strategic decision. One rondavel has remained available for project personnel. Despite the adequate facilities and services, tourism has remained quasi inexistant in Dinder National Park. During the 2004-2005-tourist season so far (December – Early February), only 50 tourists had used the facilities. We did however, notice the start of an advertisement campaign for 5-day trips to Dinder NP in the national English newspapers that circulated in Khartoum.

The choice for the Galegu camp as site for the construction of the tourist camp was explained by the presence of a deep well (60 m) and its strategic location for patrolling. The site is however problematic with its deep cracking Black Cotton Soils, devastating for the condition of buildings. Alternatives are, however, rare and limited to some rare Dar Hilla location, i.e. mounds with loamy soils but with signs of former

location that may pose problems from an archeological point of view. With the Black cotton soils, problems in sustainability of the buildings are to be foreseen despite precautions taken such as the replacement of the upper 80cm soil by sand. Indeed several cracks already appeared in the buildings. It would therefore be important that the wildlife administration sets apart a maintenance budget to assure the proper state of the buildings in upcoming years².

On tourism, we would like to advise the project to make maximum use of the visitor's guide to Dinder National Park (Arabic and English language print-ready copies available).

Firebreaks

The DNP project commissioned a one-week field study of A.M. Hamid (2004) of the Range and Pasture Administration (Khartoum) that discusses the impact of fire on the Dinder National Park ecosystem and proposes a fire management policy. Hamid (2004) concluded that the parts of the park that are mostly subjected to annual burning are:

- The northern and western parts neighboring the mechanized schemes
- The areas close to the Rahad river villages
- Areas around the main routes

The ecosystems mostly affected are the woodland (Dahra) where much of the fires occur and to a various degree the riverine and mayas areas.

Hamid (2004) argued that fire setting and burning is one of the main problems the park faces since its establishment. This conclusion seems to be justified, although uncontrolled fire has, contrary to poaching and domestic grazing, a medium to long term impact only. In other words, uncontrolled burning does not explain the continuing reduction in numbers of wildlife.

Hamid (2004) proposed fire lanes of a length of 147 km in the Riverine and Maya habitat and 640 km in the woodland zone of Dinder National Park (including 300 km on the borders). Hamid estimated costs at 15 000 SD per linear km: corresponding to a total cost of 5 900 and 38 000 USD in the riverine and woodland habitat respectively. Annual recurrent costs are obviously lower but may be tentatively set at 15%, i.e. approximately 7 000 USD. Because of the long-term impact of fire measures, interventions should be conceived with efficiency as a leading criterion. Fire is a crucial agent of vegetation change and potentially one of the main factors of degradation. Nonetheless, we do not consider it a priority given its long-term impact only !

The use of herbicides to maintain firebreaks is totally unsustainable, from an ecological as well as financial point of view. Also annual recurrent costs of 7 000 USD for riverine and woodland habitat protection does not seem to be feasible given the financial constraints. Investing in such a fire policy for the duration of the project only has little rationale when the wildlife administration has not the financial resources to assure its continuation.

² To be financed by the income generated from tourism, of which 20 USD per tourist per night is transferred to the wildlife administration.

In the 2004-5 dry season the DNP Project started with a fire lane trial near the Galegu main camp with a length of 3km, much narrower (8m) than proposed by Hamid (20m). This trial already showed the difficulty to install fire lanes. Experiences from North Cameroon in comparable ecosystems, showed the potential of early dry season fires to create a mosaic of burnt and non-burnt sites, that reduces the risk of large dry season fires with devastating impact on especially riverine habitats. Experiences with the 3 km fire lane and further experiments on early dry season mosaic burning may guide the further development of a cost-effective fire policy for Dinder National Park.

The improved relationships between wildlife administration and local communities has already resulted in reduced fire breaking out of inhabited areas. In the long term, this might be the most sustainable way of reducing uncontrolled bush fires.

Rating: approach (HS), M&E (HS), Sustainability (MS), Attainment of output (S).

Output 2.5

- *Applied research for the evaluation of the effects of management changes on population dynamics and behaviour of resident and migratory wildlife species using the Park*
- *A system to monitor the effects of rehabilitation of wetlands on population dynamics of different species is established*

Indicator

To execute 3 research projects and surveys through research students for the monitoring and follow-up of the dynamics of biodiversity inside the Park, until June 2003

MOV: *Research reports*

Assumptions: *Funding for research secured; competent capacities available*

For feed-back on the management of a national park it is crucial to monitor its condition. Not surprisingly this condition can best be followed by the state of its large mammal population, that is often the most vulnerable part of its ecosystem. Much attention has therefore been paid to counting techniques to assess the population sizes of large mammals. The main challenge is however not to conduct the most reliable counting but to develop a method that can be easily and reliably repeated in time. Repeated counts allow to detect any trend in wildlife, which is of greater importance than any absolute population estimate figures.

In Dinder National Park, road counts have been conducted since the early 1970s, allowing to follow the development of its large mammal populations, see Figures 1-3. The DNP project has taken the initiative to re-vitalise these counts with the participation of park staff and scouts, university staff and students and the Wildlife Research Institute. These counts allow detecting any trend in wildlife populations. Species that depend strongly on the park's wetlands, Reedbuck (Fig. 1), Buffalo, Tiang, and Waterbuck (Fig.2) show a dramatic drop in numbers between 1972-2000. Dry land species such as Gazelle, Roan and Bushbuck (Fig. 3) do not show any trend, or in some cases (Gazelle) suggest even an upward trend. Surprisingly Oribi, a woodland species also shows a decrease.

Figure 1. Development of numbers of Reedbuck, a still regularly encountered antelope that is almost “sedentary” in the park’s wetlands (Mayas).

A major drop in numbers of reedbuck has taken place, most notably between the 1970s and 1990s. In 1994 - 2000 – 2004, reedbuck numbers have probably remained relatively stable, the changes indicated in Fig. 1 are probably due to count biases.

The interpretation of road counts should be followed with caution, because of changing methodology. The 2001 count, for example, was based on the total area of the park, whereas for other years maya and riverine habitat were estimated at 700 km² and that area was used for the estimations. These and other biases are taken into account of continuing analysis of count data.

**ROAD COUNTS DINDER NP
(data source: project documents)**

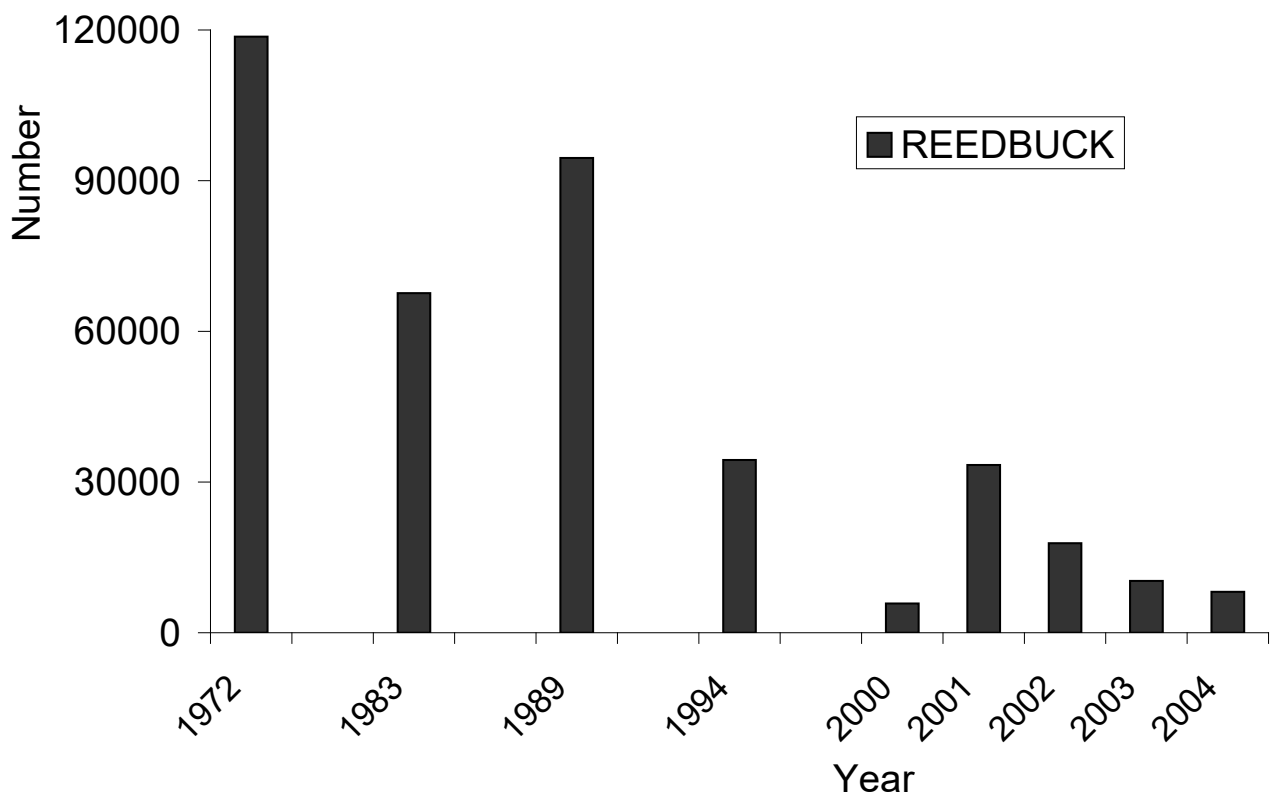


Figure 2. Development of numbers of species with declining numbers.
 (see also remarks under Fig.1.)

With notable exception of oribi, this figure depicts the developments of species that strongly depend on the park's wetlands (maya's) during the dry season. The decline in numbers of waterbuck, buffalo and tiang seems to have taken place somewhat later than reedbuck (Fig. 1). The development of numbers of oribi is difficult to explain and is biased by its difficult identification from a distance. Tiang leaves the wetlands and more generally the clayey plains and woodlands during the rainy season when it needs upland habitat, not found within the park boundaries. This renders this species particularly vulnerable for poaching and is also the reason of its dramatic decline in Western Africa.

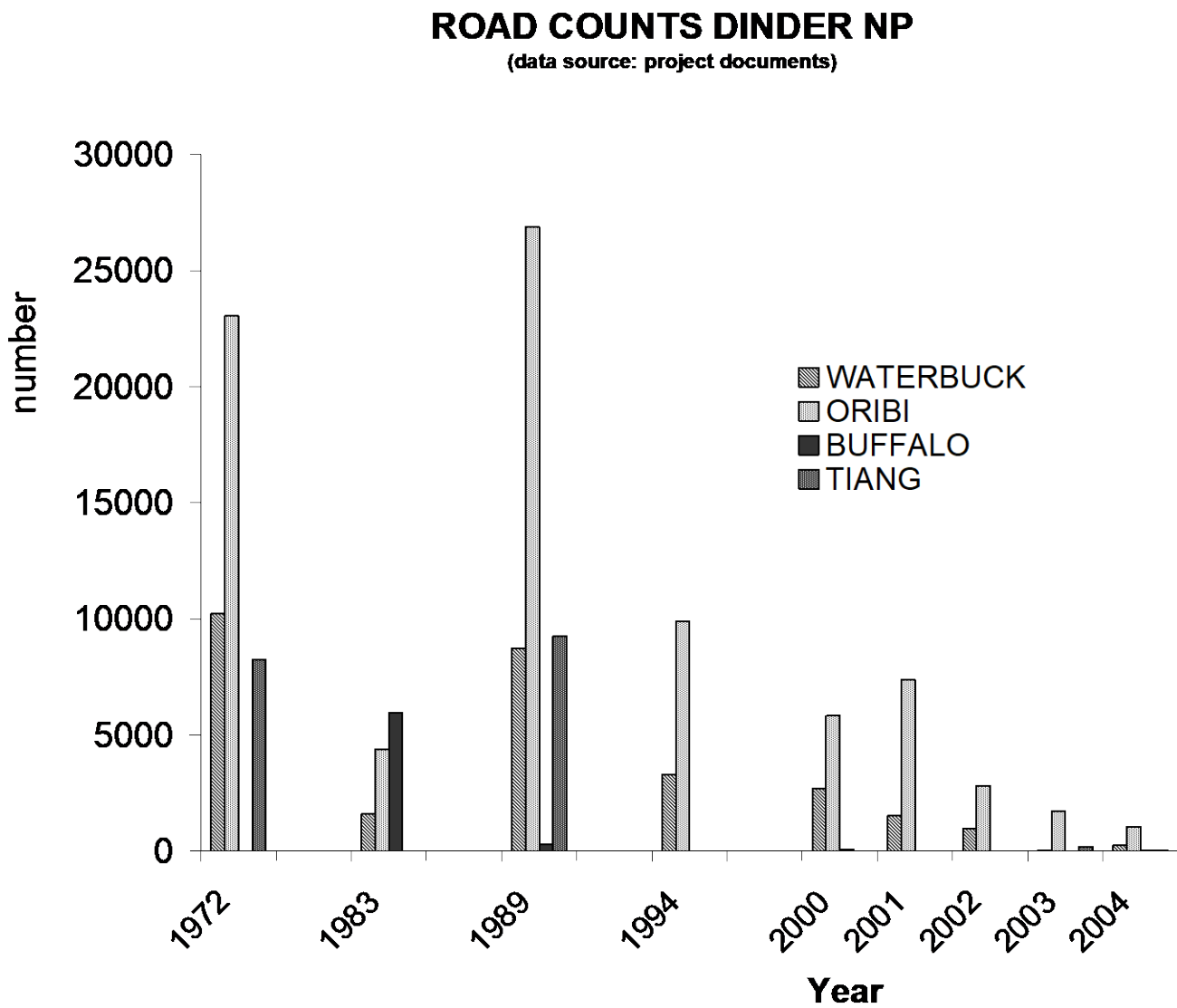
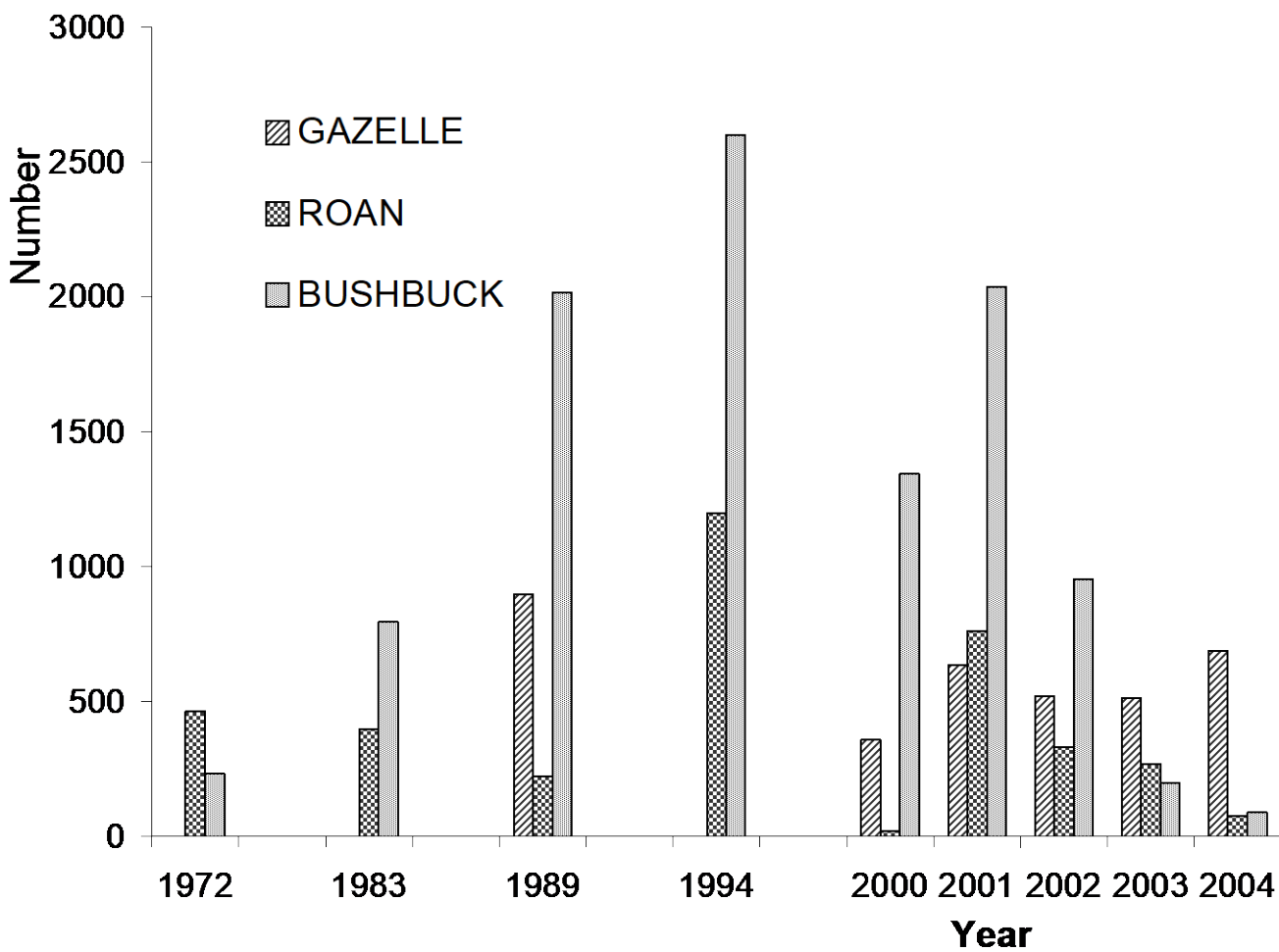


Figure 3. Development of woodland species, with relatively stable numbers.
 (see also remarks under Fig.1.)

Especially bushbuck is an elusive species, with highly fluctuating sight frequency of road counts that depend more on time and other circumstances than population densities.

ROAD COUNTS DINDER NP
 (data source: project documents)



In addition to these road counts, total counts are conducted in and directly around the handful of main mayas where wildlife is concentrated at the end of the dry season (June). Counts are carried out simultaneously, with 1 or 2 teams per maya, although this simultaneously is probably less important in Dinder NP than in areas with mobile mammals such as elephant, and giraffe. Because of the cost-effectiveness of the maya counts (limited manpower and limited transport), we would like to advise to extend the count to two days per maya, allowing some more appreciation of the counts' reliability. Because of the risk of early rains that disturb the effectiveness of the counts, it would also be better to conduct these maya counts during the month of May.

One of the conservation assets of Dinder National Park is its abundant birdlife. The changes that have taken place in numbers and diversity of birds seem to be limited to the disappearance of the characteristic Black crowned crane. We advise the project to organise waterbirds counts during the months of January (early February) in each of the main mayas. Apart from an assessment of the importance of the area for birdlife, this will also enable to monitor the impact of conservation measures, such as mentioned under output 2.2. A suitable partner would be the team of the Wildlife Administration and Wildlife Research Institute that annually carries out the Sudanese part of the continent wide waterbird counts (See annex 6 for a quick count of waterbirds during our mission).

Various other studies have been conducted in Dinder National Park, amongst which small mammals study by the Wildlife Research Institute in collaboration with UNESCO-MAB. The exposition room at the Galegu main camp could play an important role in presenting these reports and publications of these studies.

To assure the continuation of above-mentioned counts also beyond 2007, the DNP project should stimulate discussions on arrangements of responsibilities and related financial arrangements.

Rating: approach (HS), M&E (S), Sustainability (HS), Attainment of output (HS).

Output 2.6

Facilities to promote the use of the Park for future scientific research, domestic tourism and educational purposes are developed and functioning

Indicator

To double the number of researchers and tourists through the provision of monitoring, information and training facilities inside the park till 2003

MOV: Project records

Assumptions: Funds secured

Note: for tourism see also output 2.4.

Dinder National Park plays a vital role as “nursery” for wildlife management in Sudan. This holds for the Wildlife Administration that, through its local Dinder staff as well as its Khartoum based staff, has the opportunity to master new wildlife management techniques. This holds in particular for the community conservation approach and the experiences with the formulation and subsequent implementation of the first management plan in Sudan. The nursery function of Dinder National Park has also marked several generations of students. The large majority of wildlife management students at Juba University have done their practical work in DNP, the only accessible Sudanese protected area during most of the last decades. Several of the project outputs cited above, exposition room Galegu camp, research programmes, etc., have also benefited their practical work and research. The positive exchanges of the DNP project with the students of Juba University, as witnessed by the evaluation mission, merits to be further developed based on the experiences of the DNP project staff.

We would further like to note that the log frame indicator, to double the numbers of researchers and tourists, is not compatible with the nature of the activities initiated by the DNP project.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 2.7

Formulation of policy proposals to promote long-term sustainability of the Park ecosystem

Indicator

To work with the authorities in the 3 states to execute one study to set policies for natural resource and land use, until June 2003

MOV: States' policy records

Assumptions: States authorities cooperate

The dramatic increase in mechanised farming in the areas surrounding Dinder National Park forces pastoralists to move earlier south than in the past to avoid conflicts due to trespassing of their animals into the army guarded farms. This in turn results in earlier arrival in the area around the Park before mechanised and traditional farms were harvested (see Annex ... for more details). In this situation they have two options: either conflicts with farmers or avoiding that by invading the Park. The real number of livestock that annually trespasses the Dinder Park during the period January to June is difficult to estimate. However, the number of cases reported annually (see Management Plan, Table 10b, p. 56), by no means reflects the real threat imposed by livestock trespassing on the resources of the Park. These numbers exert enormous pressure on the Park resources, presently considered the main source of degradation of the Dinder National Park ecosystem (Annex 6). To reduce this pressure, there is a need to find alternatives. This requires working directly with pastoralists (downstream) as well as (upstream) on the larger issue of land use planning.

Only in Gedaref state there is so far a clear (at least technical) effort whereby a land use plan was designed to cater for the interest of the pastoralists. This culminated in a Federal decision (No. 461) for the establishment of the "Rahad Reserve" (known popularly as Kersh El-Feel) in the southern part of the state to the eastern side of Dinder Park. The total area of the reserve is 462,000 feddan [231,000 feddan for farming, 184,000 feddan forest reserve, and 46,200 feddan rangeland]. The decision has not been implemented because of the resistance from the powerful Farmers' Union, which dominates the State Legislative Assembly (the Chairperson of the Assembly is also the Chairman of the National Farmers' Union). Sennar and Blue Nile states are lagging behind in this respect

The DNP project commissioned the preparation of an actual Land use map, based on Landsat TM 1996 satellite images. These maps were reproduced at scale 1: 450 000 (A0) for the 137 453 km² of the three states, Gedarif, Sennar and Blue Nile in addition to several smaller scale maps (Remote Sensing Authority October 2003). These maps are important tools in the discussion of land use planning with the state authorities.

The DNP project initiated a series of activities to bring the problematic land use under the attention of the state authorities. Especially the 2003 workshop at Galegu camp was frequently mentioned by the state ministries. The Ministers of Agriculture of the three states that participated in this workshop endorsed the land use proposals and submitted them to the Federal minister of Agriculture. Unfortunately the project has

not been able to assure its follow-up so far because of the minister's many occupations (including his tasks in the Darfur dossier).

The state ministries of agriculture visited by the evaluation mission (annex 2) were clearly sensitised on the need of land use management. The meeting convened by the Wali (governor) of Gedaref state with our mission is a clear indication of the interest shown by the highest state authorities in the land use planning. This also holds for the contribution of each of the three states to collaborate not only technically but also financially to the land use planning proposed by the DNP project (annually 25 000 USD per state). It is however still a long way ahead to assure the effective implementation of land use planning.

Land use planning has received a special interest in the consolidation phase that started in July 2004.

Rating: approach (HS), M&E (S), Sustainability (HS), Attainment of output (S).

3.3. ANALYSIS OF OUTPUTS UNDER OBJECTIVE 3.

Intermediate Objective 3

- *Long-term sustainable management of the Buffer Zone through the integration of the local communities living inside and along the borders in the sustainable utilisation and management of the natural resources of the park*
- *Enhancement of the livelihoods of the communities living in and around the border of the Park by encouraging them to participate in community oriented projects, which will provide them with renewable resources on a long-term basis*

Indicator

Positive relations developed between the beneficiaries and the protection authorities to enable the rational utilisation of resources and to promote environment-friendly approaches among 7% of the village population inside and around the Park by January 2003

MOV: *WCGA & project records*

Assumptions: *Community cooperates; integration and collaboration among stakeholders established*

The DNPP from its start has been concerned with the issue of land use planning, considered as a precondition for local people's livelihood security and ultimately the conservation of the park resources. In the process to addressing these issues, many activities were proposed. One of these was the organisation of community workshop with a view to soliciting people's own opinions on livelihood improvement, sustainable integrated land use plan and park management. About 40 representatives from all villages around and within the park and park authorities attended that workshop. The main objectives of the workshop were to increase the participants' awareness about the key concepts in the park management plan, CSO and CBOs and participatory planning and management; to introduce and apply the practical methods and tools of context analysis of land use planning and advocacy planning; and to explore with participants the potentials for integrated park management and appropriate land use systems.

The workshop depended mainly on brainstorming, concepts introduction, group work, general discussion and presentation. The main topic presented and focused in the workshop were; context and conflict analysis, advocacy and poverty reduction program participatory planning. Also the facilitator reviewed the available and relevant literature on socio-economic situation of people and the park management and development. Project staff and senior officers of WCGA from Khartoum, Dinder locality and the park had made significant contribution to the workshop, especially in raising participants' awareness with respect to the new conservation philosophy spearheaded by the project. One of the most important skills acquired by participants in this workshop were in the areas of participatory planning and in advocacy. Most community members interviewed during this evaluation have repeatedly confirmed this positive aspect of the sensitisation process.

Overall, the project has been instrumental in improving the relationship between the local communities and the Park authorities with a view to enabling a rational

utilisation of resources. This is evident in the case of the villages within the Park boundaries whereby residents are allowed small cultivation in the immediate zone surrounding each settlement at a radius of five kilometres. Community members are also allowed a limited collection of dead wood and small quantities of construction material upon the submission of formal request for such activities.

According to the park director, already tangible changes have taken place, most notably reduced firewood extraction, woodcutting (no longer large grain mortars on the Um Kuraa market) and reduced burning in the areas of the park neighbouring inhabited areas.

Output 3.1

- *Identification of a viable methodology for increasing villagers' participation in the use of natural resources in and around the Park with the intention of improving their household food security and community services*
- *An institutional framework is set-up and functioning, and local leadership is identified, working committees are formed to liaise with government bodies and mobilise the people and guide them in the management of natural resources*
- *VDCs in the selected villages are formed and functioning*

Indicator

8 VDCs in and around the Park area elected, trained, meet regularly and take decisions

MOV: *Project records*

Assumptions: *Community cooperates*

With the creation of 25 VDCs, the target of 8 villages out of the total number of villages (10 inside the Park and 38 outside the Park) was exceeded. Although increasing the number of villages does not match the resources available, it is often impossible for a project that provides tangible resources to work with a few communities with the exclusion of the majority. This is a general problem, that plagued many experimental rural development interventions. They find themselves under both "local" and "political" pressures to "dilute" their activities over several communities. However, the project personnel justified such a spread of activities by the need to cover as many communities in their awareness campaigns. Although an important activity, providing local communities with viable alternatives for the resources of the Park is more effective than "awareness raising" as far as conservation and protection are concerned. The "threat" openly voiced by the pastoralists that, unless a special dry season grazing with secured water supply sources is earmarked for their exclusive use they will continue using the Park, is a case in point.

Especially in the villages along the River Rahad, the success of the project has been remarkable in the identification of responsible, committed and innovative leadership. Most, if not all, VDCs in that area have proved to be efficient and effective in the utilisation of the meagre resources provided by the project for community services. This is evident in the range and diversity of both community and individual projects

However, threats by both the Kadalalu people and the pastoralists could be seen as a strategy by these communities to secure access to the already overstretched development resources. Thus the project should concentrate on working with the authorities in Roseries locality on the best and most effective means to solve Kadalalu people most pressing needs in the spheres of water supply, and education. This may be the only feasible solution to curbing the hostility displayed by the Kadalalu people and to winning militant elements among them as active agents in the conservation of the Park resources.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 3.2

A policy framework to promote the long-term sustainability and viability of the Park and lessen the pressure on its resources is developed and implemented

Indicator

Practical policies developed and approved by the authorities of the three concerned states to enforce environment-friendly use of natural resources based on socio-economic studies conducted, joint meeting recommendations in consultation with technical bodies and authorities

MOV: *Sennar, BN and Gedarif states official records*

Assumptions: *State authorities give priority to DNP policy concerns*

Note: see also under output 2.7

The project has worked relentlessly with the authorities of the three States on the importance of land use planning and the necessity for a clear land use policy. The commitment, both financial and technical, on the part of the authorities on the issue is the result of a series of consultation and meetings between representatives of the three states emphasising the necessity for coordination in the formulation of policies with respect to the management of natural resources. However, such activities are so far confined to the technical personnel with the result that recommendations are slowly, if at all, implemented. What is lacking is the political support at both the Federal and State levels for the technical solutions to be effectively implemented.

Land use is an extremely sensitive issue in the three states, but especially in Gedarif. Change in policy would require a long time and the involvement of all stakeholders. The project should therefore refrain from concentrating on the technical aspects of land use planning alone. The past experiences of the Gedarif state has shown that technical proposals for the most efficient and equitable land use planning are not scarce. What is at stake is the implementation of such proposals given the diverse and conflicting interests of various land users in a situation characterised by severe asymmetrical power relations. Such a situation requires careful handling and patience if an efficient and equitable land use planning is materialised. This might not be achieved in the lifetime of the DNP project; but the project should be commended for raising the issue and starting the ball rolling at the highest federal and state political levels.

Rating: approach (HS), M&E (S), Sustainability (HS), Attainment of output (S).

Output 3.3

A land use plan for the immediate Buffer Zone is developed and implemented by the project management in consultation with the VDCs to outline the schedule of activities, select the beneficiary recipients and the areas where the activities are to take place

Indicator

Villages practice the use of natural resources according to a realistic and practical plan for land use, executed by the project management and VDCs by the end of March 2002

MOV: Project records

Assumptions: Funding secured; buffer zone demarcated and approved by WECGA records

Note: see also output 1.2

According to the planning philosophy of the project, which recognizes the interests of the various communities living in and around the Park, a zoning pattern is designed with a view to promoting the successful integration of biodiversity conservation, and protection with sustainable development for the benefit to local people (see also under output 1.2 on management planning).

The current zoning pattern of the Park is as follows:

The Core Zone includes the riverine (the Dinder River, khor Galegu, khor Masaweek and khor Kenana) and maya ecosystems. It also includes the area of Daleib Mugadi, and the woodland (*daharra*) between River Dinder in the east and khor Galegu. All mayas are included in this zone. It also includes areas of special (historical/cultural) use i.e. Galegu Camp site for tourism, El Suneit and Al Abyad as wildlife forces camps and Al Tabya (as dry season for Magano people). Other activities such as patrolling, recreation tourist sight seeing, fishing in some selected pools is allowed (for the latter see our comments 1.2). Roads demarcate the boundaries of the core area.

The Buffer Zone includes almost all the woodland “*dahara*” ecosystem (except those included in the core area). Limited activities are allowed under the strict supervision of the Park guards. To the benefit of the village communities, such activities include removal of dead wood, collection of forest products, fruits, honey, etc. Careful management of this zone should be directed to the range and forest resources.

The Transitional Zone extends along the western bank of the River Rahad (except Daleib Mugdi, included in the buffer zone area), including the 10 villages within existing boundaries of the Park. A distinction is made between these villages and the 28 or more villages on the Eastern bank of the river and who depend partly for their livelihood on the resources of the park. For this reason five kilometres on each side of the boundary line are designated for this zone. This also applies to the other boundary lines towards Suneit- along the western and southwestern boarder, including El Gerri village. The Kadal area within its scattered resident villages is included in this zone. Although Limited activities (e.g. harvest of forest products as well as limited traditional subsistence agriculture), agreed upon with the village communities, are

allowed under the supervision of the Park scouts, the Kadalu people were the only community visited during this valuation who voiced their objection to the new boundary. They are only prepared to cooperate with the Park authorities on the basis of the old boundary. They were in no mood to accept any new demarcation that would render part of their traditional land within the transitional zone. This is a very hot issue, and the chief of the Kadalu people has already made plans to take the matter up to the highest political authorities in Khartoum. This is a very sensitive issue and should be handled with care and in manner that would not violate the provisions of the International Declaration on the Rights of Indigenous People for both cultural and economic survival.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 3.4

Community involvement is ensured in an organised fashion through various sub-committees composed of community members set to discuss the modus operandi of the work plans. The members will include sub-committees of women, fishermen, honey collectors, woodlots, social services, workers and farmers

Indicator

3 committees formed and trained in special aspects of income generation activities in each of the 8 targeted villages by the end of March 2002

MOV: *VDC records; project records; training records*

Assumptions: *Community migrations limited; effects of conflict minimised*

The VDC is taken as the modality for community involvement. The level of community involvement varies. There is active involvement in Gedaref villages, which can be explained by the impact of these villages on the park. Besides these villages house the largest part of the human population around DNP. The involvement of the VDC is modest in Sennar villages, may be due to the flood and subsequent dislocation and resettlement of many villages along the Dinder River. Involvement of VDC is low in the Blue Nile State villages, probably because of the late start of project interventions because of the closeness to the war zone. Other factors are the relative remoteness, poor roads and lack of enlightened leadership.

As we mentioned in several places, it is clear that the project management, in the context of limited resources, has been faced with the situation of making a difficult choice between achieving a short-term and perceptible impact by concentrating the developmental work among a few communities as against the long-term goal of raising local people's awareness about the importance of biodiversity conservation. It is clear from the number of communities covered so far that the project management has opted for the second option. It is not our intention to challenge that choice, but we still think that awareness raising, although a *necessary* condition for environmental conservation, by no means a *sufficient* condition. In a situation where poverty is rampant, and where the very survival of people is at stake, the provision of opportunities for alternative livelihood options is perhaps as equally crucial as, if not more important than, awareness raising. In this regard, we think that project has done a good job in Rahad River villages. We advise that future development assistance should focus on the people of Magano and Kadalalu to lift them up to the level of at least that of Rahad villages. This is the only guarantee for internalising a conservation culture among such persistently marginalized and disadvantaged communities.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 3.5

To increase the income of the surrounding villagers to decrease their invasion into the Park

Indicator

To increase the income of 100 households by 25% through revolving funds by the end of March 2002

MOV: *VDC records; project records*

Assumptions: *None*

There is a general feeling that the budget allocated for the revolving fund is too small as mentioned by various VDCs (depicted in the eagerness to get more funds from the project) as well as by the representatives of the Ministry of International Cooperation in the debriefing meeting. This goes back to the increase of the participating village communities from 8 to 25. However, the project management is of the opinion that such a shift in plan was dictated by the necessity to conduct biodiversity conservation awareness campaign among as larger as possible communities in the project area.

Given all the above, we think such an output is unrealistic and should have not been considered by the logical frame in the first place. We base this judgement on the inherent difficulties in assessing increase in income quantitatively given the ad hoc and volatile nature of income generation pursuit in the project area. Because of that, we believe it is impossible either the project or the VDCs to be able to provide quantitative information for assessing any changes in income. What we can say is only qualitative in the sense that the revolving funds definitely represent an injection of cash in a moribund village economy. This in turn provided an opportunity for local people to tap external resources other than the National Park's. Both villagers and the Park authorities spoke of at least a decrease in the number of people dependent on the Park's resources as a source for income generation. The use of butane gas as an alternative energy source, for example, may act as a disincentive for local people depending on the sale of firewood and charcoal as source of income. This is a positive change initiated by the project, which should no way be considered as responsible for its adoption in the entire project area. We anticipate that this long-term process and the demonstration effect helped by the project will results in a wider adoption of this alternative energy source in the future.

Rating: approach (HS), M&E (S), Sustainability (S), Attainment of output (HS).

Output 3.6

*Improvement of water supply and sanitation at 13 villages in the Park's Buffer Zone
[About 40 slim boreholes constructed, installed with hand-pumps and operational at
a minimum of 2 at a village to supply potable water for domestic uses*

About 800 private VIPs constructed to improve sanitation in the 13 villages

Indicator

To set-up 8 hand-pumps to provide 10 litres of clean drinking water per person per day, as well as 160 pit latrines (according to health standards) in 13 villages surrounding the Park by the end of March 2002

MOV: Community development projects record

Assumptions: Funds secured

Most villages are provided with hand pumps and training in their maintenance. A couple of villages (Kadalu and El Abeik) are provided with mechanical pumping equipment for horticulture and agro-forestry farming. The Kadalu people have not yet utilised their set because of the difficulty in finding sufficient groundwater in the nearby watercourse. There is some reasonable utilisation in El-Abeik because of the availability of surface water in pools on the bed of River Rahad. There is no evidence in the project records that any groundwork has been carried out with respect to pit latrines. This may be due to the fact that the limited project funds has been directed to the more pressing issue of water supply.

It is clear that the project has done a remarkable job in the area of water supply. More important than direct water provision, the project has been successful in sensitising and training the local communities to the importance of organising themselves and to form pressure groups with a view to securing water and other services from both the local and state authorities. The Blue Nile state recent serious effort to provide water to the communities of El Gerri, Kadalu, and other villages could be seen as a direct result of that effort on the part of the project.

Rating: approach (S), M&E (S), Sustainability (S), Attainment of output (S).

Output 3.7

Alleviation of the increasing negative pressure of the nomads and their livestock invasion into the Park seeking forage and water. Water, at a number of wetlands, and at dry season grazing grounds away from the boundaries of the Park, are made available

Indicator

To decrease the penetration of pastoralists into the Park by 10% by providing water through hafirs in pastoral areas and pass ways by the end of 2002

MOV: *WECEGA records*

Assumptions: *Nomads cooperate*

The increasing authorised as well as unauthorised massive expansion of large-scale mechanised rainfed farming has the effect that nomadic pastoralists are forced to move south earlier than before to avoid conflicts due to their animals trespassing into the army guarded mechanised farms. This in turn results in earlier arrival in the area around the Park before both mechanised and traditional farms were harvested. In this situation they have two options: either conflict with farmers or avoiding that by invading the Park. The number of livestock that annually trespass DNP during the period January to June is difficult to estimate. However, these numbers exert enormous pressure on the Park water and grazing resources that are barely sufficient to meet the needs of the wildlife population (see also Annex 6).

Nomads invasion of the Park may increase this year because of the poor rainy season. For example, the Lahaween camel pastoralists, who were last seen in the area in 1984, have come this year in the area. Nomads are willing to cooperate on the condition exclusive areas, supported with secured water supplies, are allocated for their grazing purposes.

The Project has already started to find means to address this problem at both local and state level. At local level, the DNP project started a dialogue with representatives of pastoralists in especially the Rahad river area. For instance the project participated at the Durban IUCN world park congress, with the local pastoralist union representative assisted by the project community development specialist.

At state level, the activities of the project are as follows. Several meetings with the concerned officials in the three states have resulted in their commitment towards conducting in-depth studies with a view to arriving at an appropriate land use plans emphasising the allocation of specific grazing reserves for the pastoralists. The results of such an important endeavour are yet to materialise into concrete actions on the ground.

However, in this respect, the Gedarif state is ahead of Sennar and Blue Nile states. This is because of the already existing Federal directives of the early 1990s, which ordered the regulation of land use in the southern part of the Gedarif state, emphasising the rights of pastoralists for dry season grazing grounds. The state has already started with demarcation of pastoral migration corridors. However, all pastoralists regard the corridors as too narrow to be effective in achieving the goal of avoiding conflict with farmers. The narrowness of the corridors and the failure to implement the 1992 Federal directive may be attributed to the sabotage and blocking

by the powerful Farmer Union [the Gedarif State Legislative Assembly is not only numerically dominated by mechanised farms owners, but also its President is at the same time the President of the powerful Sudanese Farmers' Union).

This is a sensitive political issue and requires enormous efforts to materialise the proposed land use plan. To speed up the process there is a need to bring the farmers on board. The project may start by launching an awareness campaign among the leaders of the powerful Farmers' Union with a view to lobbying them towards the support of the new land use planning initiatives.

Rating: Approach (S), M&E (S), Sustainability (S), Attainment of output (MS).

4. CONCLUSIONS AND LESSONS LEARNED

1. General word of caution: Development interventions associated with the management of protected areas have been criticised of commanding meagre resources compared to administrative costs (personnel, vehicles, etc.). Conservation projects, despite their experimental nature, encounter pressures to increase their coverage beyond resources already committed. Such pressures come from local communities as well as officials who conceive project interventions as services rather than experimental endeavours to be replicated in the future. Spreading the limited resources for community development interventions over a wider area characterised by a poor transportation and communication infrastructure not only increases the costs of the project, but also casts grave doubts on the sustainability of its impact.
2. The evaluation mission would like to express its appreciation of the quality of the assistance delivered by the Dinder National Park Project team with relatively limited human and financial resources. Also partners such as SECS and the Wildlife Administration have shown a real commitment to the implementation of the DNP project.
3. The institutional set-up of the project, based at the Higher Council for Environment and Natural Resources, seems to be appropriate. However, continuing attention of the project is needed to assure the full participation of the Wildlife Administration in the project's planning and implementation.
4. In the past, protection of Dinder National Park was largely based on repression, sometimes leading to violent clashes between park scouts and poachers. Through the Dinder National Park project, important progress has been made in reducing tensions between sedentary communities and park authorities, especially in the Rahad river area (Gedaref State). Project activities in the Kadalua area (Blue Nile State) have only just started. It is still too early to observe if there comparable changes are taking place.
5. Relations of the wildlife administration with pastoralists remain, however, tense, as shown by the continuing shooting of cattle intruding the national park, a sign of frustration of scouts confronted with fleeing herders. This park conflict is only the "downstream" part of a much wider land use problem in which pastoralists are squeezed out of the areas neighbouring the national park states by the unauthorised expansion in (mechanised) farming.
6. The project has made an important start in sensitising state authorities on the need for land use planning. All three states committed themselves to contribute not only technically but also financially to the land use planning activities proposed by the DNP Project. The evaluation team has a positive impression of the interest in land use planning shown by the highest authorities in Gederaf State. A major problem lies of course in implementing proposed intentions and plans.
7. The evaluation mission team was pleased to note the important achievement of the formulation and subsequent approval of the management plan that constitutes a solid base for future management of Dinder National Park. The zoning of the

national park into a core zone around the Dinder river drainage system, buffer zones and transitional zones, will be an important tool in normalizing relations with local communities.

8. The mission was impressed by the strong commitment of the Sudanese government to the conservation of Dinder National Park, indicated by the large number of park personnel (285 scouts, 15 officers) and important materials (a.o. cars).
9. Support measures of the DNP project (communication system, solar energy, water pumps) have, to some extent, increased the intervention capacity of the Dinder National Park personnel.
10. Yet despite this support, the intervention capacity of the park personnel remains of concern (lack of rainy season presence in strategic parts of the national park, non-presence in the SE national park corner, lack of manual road maintenance etc.). The DNP project needs to further address the enhancement of the wildlife administration's intervention capacity. A prerequisite will be to have a stable park management staff.
11. Despite above cited achievements, the continuing downward trend in wildlife numbers since the late 1960 is worrying (see Figs 1-3). To cite only one example: since the start of the project, tiang, an antelope that roams beyond the park boundaries during the rainy season, has gone extinct. The general reasons behind the changes are largely known (rainy season habitat disturbances, poaching, competition with livestock, reduced flooding etc.), but no information exists on their relative importance.
12. Dinder NP continues to have major biodiversity assets however. We refer in particular to the diverse, intact riverine and woodland vegetation that contrasts not only with the park's surroundings but also with most of central Sudan. In a nearby or distant future, when environment becomes a more important criterion for land use management, DNP will be the only remaining reference available. DNP further harbours rich birdlife and remaining wildlife species such as reedbuck, the rare Heuglin's gazelle, buffalo as well as lion.
13. The high costs and (visa-) regulations involved in visiting Sudan and Dinder NP, makes neighbouring East Africa with more facilities and spectacular wildlife, a much more attractive tourist destination. However, domestic tourism, targeting both nationals and expatriates residing in Khartoum, should be further developed. The necessary infrastructure has already been put into place by the DNP project and was handed over to the Wildlife Administration, which in its turn contracted a tourist company for the daily management.
14. The interventions of the project have reinforced the role of DNP as "nursery" for the wildlife authorities in new approaches to wildlife management. In addition, several generations of students in wildlife management (University of Juba amongst others) have benefited from field experiences in this national park that was for a long time the only accessible one in Sudan.

15. Given the above considerations, UNDP is to be praised of having taken the initiative to finance the consolidation phase 2004 - 2007 of the DNP Project. This will not only allow the consolidation of the project's achievements, but also to keep wildlife management on the agenda of post-conflict Sudan.

5. RECOMMENDATIONS

General

1. Local people and officials alike should be made aware of the fact that conservation projects can by no means command resources sufficient enough to provide every community in the project area with vital services such as water, health, education, credit, etc. The provision of these services is part of a government's responsibility towards its citizens. Conservation projects should provide such services on a limited and manageable geographical coverage. The project's main responsibility is to remind the authorities of what they should do to reduce local people' dependence on the resources of protected areas. This holds also for the Dinder National Park project in the implementation of the present consolidation phase, for which financing beyond 2007 is unsure.
2. The Wildlife Administration, at both the regional and central levels, could play an active role in making the demands of the communities within and around Dinder National Park for services among the priorities of both states and federal governments. The Wildlife Administration has a vital advocacy role to play on behalf of local, often isolated communities with respect to service provision, changes in land use patterns in the areas around the park in favour of increasingly squeezed and politically marginal pastoralists.

On relations with local communities and pastoralists³

3. The DNP project and its partners should stimulate the Wildlife Administration to set up immediately a Community Development unit with at least two officers and several scouts, selected for their skills and attitudes in communicating with local communities. This unit receives the special attention of the project in training and coaching and should be made ready to take up several of the post-project tasks related with community development work.
4. One of the special tasks of the Community Development Unit will be the facilitation of a (sub) committee to be created that provides a forum of representatives of local communities (including pastoralists) and park authorities. This committee should discuss park management interventions that have an impact on neighbouring communities. This committee will also give its practical inputs to the Park Council in which higher level authorities are represented.

³ Prerequisite is a stable park management staff

5. This Community Development unit should facilitate development activities in Magano village, an “indigenous people” village that requires special attention given its isolated, yet strategic position. Besides, a scout post is already located in this village.
6. The Dinder National Park project should increase its facilitation activities for the local pastoralist union (Rahad villages) to raise their dynamism. For the moment this should be a “neutral” project-related person, as the relations with the park authorities are still under strain.

On land use planning

7. Because of the dominant role of the farmers unions in the land use politics, they should be fully involved in the pursued land use planning. Leaving them out will speed up the discussions, but will give little perspective on a successful implementation.
8. Land use planning is essentially a political process. Although the technical approach of the DNP project should remain the main focus, possibilities to stimulate further political support for the started land use planning should be explored.

Ecological surveys and interventions

9. One of the conservation assets of Dinder National Park is its birdlife. We therefore advise the project to organise waterbirds counts during the months of January (early February) in each of the main mayas. Apart from an assessment of the importance of the area for birdlife, this will also enable to establish the impact of conservation measures.
10. In addition to continuing road counts, we recommend to extend the one-day maya count to two days to have a check on the reliability of this efficient counting method. It may also be wise to carry it out somewhat earlier (i.e. early –mid May) to avoid the disturbance of the first rains.
11. The DNP Project is advised to start monitoring the small group of elephants that are said to move around in the southern part of Dinder National Park near the Ethiopian border. In providing special protection to this small herd, a possible start can be made with the rehabilitation of this key species for the Dinder National Park.
12. Project interventions to increase flooding in the park’s mayas have been of mixed success so far. The limited costs involved and potential large impact justify, however, continued experimental oriented efforts.
13. Uncontrolled fire may be an important agent of vegetation degradation, but its long-term impact does not explain the dramatic changes in wildlife in DNP. High annually recurrent costs to implement the proposed fire policy should guide the

development of a more pragmatic approach with experimental fire lanes and early dry season mosaic burning.

Communication

14. It would be advisable to organise a workshop (from a budget still to be identified) to draw attention on the lessons learnt from Dinder NP particularly for other protected areas in Sudan. With the gradually improving situation in the south, new perspectives for protected area management will appear. This holds particularly for the proposed interventions in Boma NP.

Training⁴

15. There is a clear need to train the DNP staff (15 officers) in personnel management and leadership skills.
16. In order to “mobilise” and “sensitise” the entire DNP personnel we advise to organise basic 2-3 day training - awareness session for ALL park personnel. Subjects that should receive attention are the rationale of wildlife conservation, community development approaches, discipline, etc.). This training also allows the selection of a few scouts, sensitive to work on community development.
17. The Community development unit of the Dinder National Park administration should receive a special attention of the project in training and coaching.
18. Study tours to more similar protected areas in the region such as Zakouma NP in Chad, may provide park personnel new impulses on practical park management practises.

Tourism

19. Additional works are needed with respect to the gardening of the Galegu camp. This holds for the need of the construction of a terrace with view on the Khor, facilities to put beds outside during the hot season, etc.
20. Visitors will appreciate the possibility to exploit the area around Galegu camp by using a network of walking tracks (e.g. towards the confluence of Khor Galegu and Dinder River; also to Maya Abdel Rani). Obviously, attention should be paid to appropriate security measures.
21. The project should assure that responsibilities with regard to the maintenance of the tourist facilities are clearly laid down in the contract between the Wildlife Administration and the tourist company.

⁴ Again a prerequisite is to have a stable park management staff

Monitoring & Evaluation

22. In the consolidation phase, the project has taken the initiative to develop a Monitoring and Evaluation system. Above-mentioned ecological studies provide already tangible indicators on the condition of wildlife. As far as socio-economic conditions are concerned, additional (PLA) surveys may provide useful indicators.

Continuing assistance

23. There is a need to lay down the technical as well as financial responsibilities of the various institutions involved in the management of Dinder National Park and its surroundings. These responsibilities should include the provision of development services to local communities.
24. With the improved security situation, the Dinder National Park should reinstate contacts with United National Volunteer programme for personnel assistance, particularly in the field of pastoralism, land use planning and community development (Blue Nile State).
25. There is a need to have a condensed “project document” version of the management plan that essentially deals with part C and D as well as the proposed zoning. This abridged version not only serves communication purposes, but will also facilitate the search of additional financing for the implementation of the management plan.
26. The evaluation mission has not been able to study the possibilities for transboundary co-operation with Ethiopia. Nonetheless, the Dinder National Park project is advised to initiate exploratory visits and exchanges allowing an assessment of the potential of such collaboration.
27. We recommend UNDP to consider applying GEF and other financing for assistance to the rehabilitation of the Sudanese protected area system, building upon the Dinder National Park experiences. In the upcoming post-conflict situation major developments are expected to take place (return process of displaced people, new infrastructures, consideration of finalisation of the Jonglei canal etc.) that will have a decisive impact on wildlife. The experiences obtained with the management of Dinder National Park should play an important role in the further development of the Sudanese wildlife management system.
28. The evaluation mission recommends to UNDP to organise jointly with the Sudanese government, in the coming months a support mission on the institutional affiliation and organisation of the wildlife administration in post-conflict Sudan.

ANNEXES

1. Terms of References
2. Itinerary
3. List of people contacted
4. List of documents consulted
5. Background to Management Planning
6. The Pastoralists Issue
7. Results of quick Waterbird count Dinder National Park wetlands
8. WWF-WB management effectiveness tracking tool

ANNEX 1. TOR FOR TERMINAL EVALUATION

For

Conservation and Management of Habitat and Species and Sustainable Community
Use of Biodiversity in Dinder National Park
SUD/98/G41

1. Introduction:

The overall objective of Dinder National Park Project (DNPP) is to rehabilitate the park ecosystems to enhance biodiversity and preserve the wildlife of the area. It will integrate the local community living in DNP and its borders, in the sustainable use of natural resources to improve their standard of living and to enable them to participate in the management of the resources. The local community will be encouraged to participate in community oriented conservation projects, provide them with a source of income and envisage sustainable multiple use of natural resources.

The project document was signed in October 1999 and the implementation started in June 2000 for a duration of three years. The project total budget was US\$ 1.25 million funded by the Global Environmental Facility (US\$ 750,000), and the United Nation Development Programme UNDP (US\$ 590,000). Government contribution is SD 97.2 million and 0.2 million in kind. UNDP funding was directed to community related activities while GEF funding was directed to the biodiversity conservation in the Park. The Ministry of Energy and Mining also contributed USD 28,000 utilized for solar energy use in the park and for the surrounding villages. The project is executed by the Government of Sudan and implemented jointly by the Higher Council for Environment and Natural Resources (HCENR) and the Wildlife Conservation General Administration (WCGA).

2. Objectives of the Evaluation:

In accordance with UNDP/GEF M&E policies and procedures, all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation.

This terminal evaluation is initiated to provide the GEF and other project sponsors ie UNDP and GOS with an independent review of the status, relevance and performance of the DNPP as compared to the project document, the logical frame work document and project work plans. In addition to reviewing technical and managerial aspects, the evaluation will assess the project success in accomplishing its objectives. The impact and sustainability of the project outcome will also be examined. However, from UNDP perspective this evaluation could also be considered as a midterm evaluation, since UNDP Sudan has decided to provide new additional resources to continue another consolidation phase of the project to address some of the threats to the park such as pastoralists issues and absence of Landuse policies maps. Therefore, the evaluation results will be instrumental in understanding the management and technical issues, reflect the progress to date, help in re-orientation re-prioritization of project activities if needed, and facilitate addressing specific issues by the project management.

3. Scope of Evaluation:

The scope of the evaluation will cover the success in involving stakeholders, generating interest among the general public, central government and state governments, developing appropriate policies and assessing the impact and sustainability of activities and outputs.

4. Issues to be addressed by the evaluation:

- The evaluation should investigate the relevance of the project to development priorities in Sudan, UNDP thematic areas, and needs of direct beneficiaries and project's stakeholders.
- The mission will review the project concept and design with respect to the clarity of the addressed problems by the project and soundness of the proposed approach and strategy to solve these problems.
- Assess effectiveness of the VDCs and the revolving fund mechanism.
- The evaluation will also cover the performance of the project in terms of timeliness, quality, quantity and cost effectiveness of the activities undertaken including national and international consultants inputs, training programmes, etc.
- The assessment should be extended to cover the logical framework matrix, the Annual Workplans prepared for the consolidation phase of the project and the appropriateness of monitoring indicators for the project.
- Difficulties in the implementation of some of the activities, such as integrating the community in sustainable management of natural resources, resolving natural resources based conflicts, involving the states and developing land-use plans should also be assessed.
- Assess the various threats to Biodiversity of the Park and the project responses to them. In particular park's conflict with surrounding communities and issue of pastoralist.

I. Products expected from the evaluation:

- The mission should apply the annexed WWF/WB management effectiveness-tracking tool as it is a requirement for GEF protected areas projects (**Annex 1**). A comprehensive mission report will be prepared according to the attached outline. The report shall:
 - Evaluate the project design in terms of stated objectives, strategy, outputs and activities;
 - and include an assessment of the project concept and design, strategy, progress achieved to date vs. Planned targets and intended impacts.
 - Identify strengths and weaknesses in project implementation and in implementation arrangements;
 - Provide basis for decision making on necessary amendments and improvements, and make recommendations regarding specific actions that might be taken to improve project delivery, during its consolidation phase, to fulfil its objectives in rehabilitation of the ecosystems in the core zone and building up the capacity of the

wildlife administration in the park, and in raising awareness about the park and generating positive conservation measures among local communities.

- Provide feedback and disseminate lessons learned and identify opportunities for partnerships for sustainability of results and for impact
- Promote accountability for resource use

6. Methodology of evaluation approach:

The evaluation will be based on findings and factual statements identified from review of relevant documents including the project documents, the logical framework document, quarterly progress reports, Annual Project Reports (APR), minutes of Tripartite Project Review meetings (TPR), Project Implementation Reports (PIR), in addition to the technical reports produced by the project, media coverage, photograph and video documentation of project activities. A list of technical reports and available documentation of project activities will be shared with consultant before the beginning of the mission. The mission will also undertake field visit to Dinder National Park and surrounding communities and interview target beneficiaries, including government officials, community representatives, researchers and NGOs involved in the project activities. Participation of stakeholders in the evaluation should be maintained at all the times, reflecting opinions, expectations, visions about the contribution of the project to the park conservation.

Interviews should include the directors of HCENR, WCGA, state authorities – Ministries of Agriculture – (Sennar, Gedarif and the Blue Nile), the states branches of pastoralists and farmers unions, VDCs in the three States, the Sudanese Environment Conservation Society SECS, the Wildlife Research Center (WRC), as well as UNDP and MIC.

7. Requirements of the evaluation team:

Two consultants are proposed to conduct the evaluation exercises, an international and a national consultant.

The International Consultant shall be ecologist/wildlife biologist with an advanced degree with around 15 years of relevant experience preferably in participatory management of protected areas (in Africa or developing countries). Previous involvement and understanding of UNDP procedures is an advantage and extensive international experience in the fields of project writing skills coupled with relevant experience in result-based monitoring and evaluation techniques.

The National Consultant shall be a socio-economist having an advanced degree with around 10-15 years of relevant experience. The consultants should be well acquainted with the general situation in Sudan in relation to natural resources based conflicts, changes in land-use, pastoralists conflicts with farmers and human populations movements into Sennar, Gedarif and Blue Nile States. Previous Involvement or knowledge and understanding of UNDP procedures is an advantage and international experience in project formulation, execution and

evaluation is an asset. The consultant should be fluent in English and Arabic and possess strong writing skills.

8. Implementation arrangements:

The two consultants should work together as a team towards producing the evaluation report. The national consultant will be responsible for providing any necessary background information, attending meetings when necessary and preparation of the relevant parts of the report. The International Consultant will be responsible for the timely submission of report.

The consultants will be contracted by UNDP country office in consultation with UNDP and GEF. The Project Management team shall arrange for and provide transportation to all necessary site-visits and meetings in Sudan. UNDP country Office shall assist in logistics related to hotel booking and airport pickup.

The mission will maintain close liaison with UNDP Resident Representative, concerned agencies of the government, any members of international or national team of experts as well as Project Management Unit.

9. Duration of the consultancy:

The consultancy duration for the international consultant is 22 working days (15 working days in Sudan for the field work and 7 days in the Consultant's home country) for preparation of the report. While that of the national consultant is 15 working days. Estimated starting date is during the first week of February 2005.

10. Tentative Mission Itinerary:

The following is a tentative itinerary of the mission

Day 1

- Briefing at UNDP
- Meeting with HCENR
- Meeting with WCGA
- Meeting with Project Management

Day 2

- Presentation of the Project activities achievements, provision of technical reports (NPM, GPC, & Dinder project staff.
- Meeting with consultants – researchers and management plan national team.

Day 3

- Meeting with the Director of Tourism
- Meeting with the Director of Natural History Museum
- Meeting with Wildlife Research Centre Director
- Meeting with SECS, President.

Day 4 - 9

- Travel to Dinder National Park and meeting with WCGA at DNP, and meeting with community representatives

Day 10

- Meetings with states authorities (Gedarif)

Day 11-14

- Meetings at Khartoum – HCENR, WCGA
- Ministry of Interior
- Ministry of Environment and Physical Development
- Ministry of International Cooperation
- UNDP

Day 15

Debriefing session for all concerned stakeholders

Five copies of a draft final report should be submitted for review to UNDP country office, HCENR, WCGA, MIC and UNDP-GEF Regional Coordinator for Arab States two weeks after the end of the mission. The consultant will be allowed two weeks from receiving feedback to respond to the comments from Khartoum and New York and submit a final report. Five copies of the final report and one electronic copy are required.

Evaluation Report Outline

(Designed for adaptation to specific project circumstances. Minimum GEF requirements¹ are underlined)

Executive summary

- Brief description of project
- Context and purpose of the evaluation
- Main conclusions, recommendations and lessons learned

Introduction

- Purpose of the evaluation
- Key issues addressed
- Methodology of the evaluation
- Structure of the evaluation

The project(s) and its development context

- Project start and its duration
- Problems that the project seek to address
- Immediate and development objectives of the project
- Main stakeholders
- Results expected

Findings and Conclusions

(In addition to a descriptive assessment, all criteria marked with (*) should be rated⁵)

Project formulation

- Implementation approach (*)⁽ⁱ⁾
 - Analysis of LFA (Project logic /strategy; Indicators)
 - Lessons from other relevant projects (e.g., same focal area) incorporated into project implementation
 - Country ownership/Driveness
 - Stakeholder participation (*)
 - Replication approach
 - Cost-effectiveness
 - UNDP comparative advantage
 - Linkages between project and other interventions within the sector
 - Management arrangements
- Implementation
- Implementation approach (*)⁽ⁱⁱ⁾
 - The logical framework used during implementation as a management and M&E tool
 - Effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region
 - Feedback from M&E activities used for adaptive management

¹ Please refer to GEF guidelines for explanation of Terminology

⁵ The ratings will be: Highly Satisfactory, Satisfactory, Marginally Satisfactory, Unsatisfactory

- Financial Planning
 - Monitoring and evaluation (*)
 - Execution and implementation modalities
 - Management by the UNDP country office
 - Coordination and operational issues
- Results
- Attainment of objectives (*)
 - Sustainability (*)
 - Contribution to upgrading skills of the national staff

Recommendations

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives

Lessons learned

- Best and worst practices in addressing issues relating to relevance, performance and success

Annexes

- TOR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Questionnaire used and summary of results

ANNEX 2. ITINERARY

Date		Programme
Day 1	Thursday 3 Feb.	<ul style="list-style-type: none"> • Arrival of international consultant
Day 2	Friday 4 Feb.	<ul style="list-style-type: none"> • Delivery of additional project documents at the hotel by DNPP staff • Discussions with project manager • Informal discussions with personnel from SECS and WCGA
Day 3	Saturday 5 Feb.	<p>Meetings:</p> <ul style="list-style-type: none"> • Management Plan Team and DNPP staff • WCGA <p>Afternoon:</p> <ul style="list-style-type: none"> • HCENR • Discussions amongst consultants
Day 4	Sunday 6 Feb	<p>Meetings at:</p> <ul style="list-style-type: none"> • UNDP (field security test) • Ministry of International Co-operation • SECS <p>Afternoon:</p> <ul style="list-style-type: none"> • Report writing • Logistics for field trip
Day 5	Monday 7 Feb.	<ul style="list-style-type: none"> • Travel to Sennar State • Meeting with the Ministry of Agriculture, Sinja • Travel to Blue Nile state spending the night in Damazine
Day 6	Tuesday 8 Feb.	<ul style="list-style-type: none"> • Meeting with the Minister of Agriculture, Damazine • Meeting with Deputy Commissioner for Roseires • Travel to Jebel El-Nour village in Kadalou area • Return to Damazine
Day 7	Wednesday 9 Feb.	<ul style="list-style-type: none"> • Travel to Magano village • Spending the night in El-Gerri park scout camp
Day 8	Thursday 10 Feb.	<ul style="list-style-type: none"> • Travel north along the western boundary of Dinder NP • Ras el Fil park scout camp • Visit Um Bagara East village in Sennar State • Travel to Galegu camp

Day 9	Friday 11 Feb.	<ul style="list-style-type: none"> • Visit Mayas • Visit market at Um Kuraa village • Discussions VDC UM Kuraa and El-Tagadom villages • Visit to Lake Ras Amir • Return to Galegu camp • Evening with Univ. of Juba wildlife students and staff
Day 10	Saturday 12 Feb.	<ul style="list-style-type: none"> • Visits to various mayas and scout camps inside the Park • Evening: discussions on WB-WWF PA tracking tool
Day 11	Sunday 13 Feb.	<ul style="list-style-type: none"> • Visits to DNPP villages in Gedarif state (Aradebat Tigani El Abeik in Rahad River area) • Meeting with pastoralists (local pastoralist union) • Travel to Gedarif town.
Day 12	Monday 14 Feb.	<ul style="list-style-type: none"> • Meeting the Gedarif state Ministry of Agriculture and Pastoralists Union • Meeting with the Wali (Governor) • Travel to Khartoum
Day 13	Tuesday 15 Feb.	<ul style="list-style-type: none"> • Short discussion and administrative occupations UNDP • Report writing and discussions amongst consultants and with DNPP
Day 14	Wednesday 16 Feb.	<ul style="list-style-type: none"> • Report writing and discussions amongst consultants (continued) • Debriefing senior staff UNDP
Day 15	Thursday 17 Feb.	<ul style="list-style-type: none"> • Report writing and discussions amongst consultants (continued) • Debriefing with the Minister of Interior • Debriefing with UNDP, WCGA, MI, SECS, HCENR, WRI, as well as DNPP • Boat trip with DNPP and all its associated partners
Day 16	Friday 18 Feb.	<ul style="list-style-type: none"> • Travel of the international consultant

ANNEX.3 LIST OF PEOPLE CONTACTED

Ministry of Interior

First L.G. Abed-Rahim Mohammed Hussein Minister of Interior

Wildlife Conservation General Administration (WCGA)

L.G. Omer Jaffer	Director General
Brig. Gamal El Howeris	Deputy Director General Wildlife
Brig. Sirrag	Director Technical Division
Brig. Mohamed Younis	Research, Planning and Projects Division/ Wildlife Director Red Sea
Brig. Ali Kodi	Director PAs Division

Ministry of International Cooperation

Mr. Muawia El-Ahmer	Deputy under secretary
Ms Hawa Mohammed Saleh Yousif	Inspector
Ms. Nuha Mohamed Bashir	Inspector

United Nations Development Programme

Mr. Roberto Valent	Deputy Rep.Res. Programmes
Mr. Ignatio Artasa	Acting Deputy country director
Ms Hanan Mutwakil	Senior Programme Associate- Environment
Mr. Mohammed Abdel Salam	Programme Associate Environment

Wildlife Research Centre, Ministry of Scientific Research

Dr. Salwa Masour Abdelhameed	Director, member Management Plan Task Team
Ibrahim Hashim	Researcher

University of Khartoum

Prof. Gelal Eldin Eltayeb	Leader Management Plan Task Team
Dr. Asim El Moghraby	Member Management Plan Task Team
Dr. Dawi Musa Hamed	Animal Scientist
Dr. Salah Hakim	Animal Scientist

University of Juba

Mr.Fraser Tong Kwotwel	Member Management Plan Task Team
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In Dinder NP:

Dr. A/Rahim A/Aziz	Assoc. Prof. Wildlife diseases
Mr. Bojoi Moses	Lecturer Population dynamics

+ exchanges with several of the 25 Students of Wildlife Management (3rd and 4th year)

Sudanese Environmental Conservation Society (SECS)

Dr. Muawia Hamid Shaddad	Director
Sulieman Muhammed Ibrahim	
Saada Naile Ahmed	Member socio-economic studies DNPP
Ali Elkhalifa ElHassan	Co-ordinator Environmental Rehabilitation Program
Prof. Dr. Asim el Moghraby	Member of SECS

SENNAR STATE

Ministry of Agriculture

Kamal Norain	Minister
Mahi-Eldeen Fadool	Director
Tibaig Musa	Head of Mechanised Rainfed section
Khalifa Hussein Homri	Head of Pasture Administration

Village Communities

Baggara East: VDC

BLUE NILE STATE

Ministry of Agriculture

Mohamed Nour Moahmmed Ahmed	Acting minister (also minister of public works)
Mohamed El Mubrak Khalid	Director General

Village Communities

Jebal al Nour (as sample of the Kadala villages): VDC

Magano: with VDC

GEDAREF STATE

Dr. Abdurahman Elkhidir	Wali (Governor)
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Ministry of Agriculture

Elsir Abdelhai	Director General
Samia Mohamed Ibrahim	General Secretary of the State Environment Council
Samiha Shakir	Head Rangeland Management
Elnour Mohamed Osman	Gedarif State Pastoral Union
Ebrahim Ali Abalter	Chairman High Commission Rahad River
Hassan Abbo Ibrahim	Fulani Pastoral Union

Village communities

Um Kuraa
Aradebat Tigani
El Abeik

DINDER NATIONAL PARK

Brig. Sanad Suliman Director

Scouts of Ras El Fil Camp

Scouts of the Camel Patrol Unit

Scouts of the Ras Amir Camp

Scouts of the Abyad Camp

Personnel of the Galegu camp

Higher Council for Environment and Natural Resources (HCENR)

Dr. Nadir Mohamed Awad Secretary General

Dinder National Park Project

Dr. Mutasim Bashir Nimir	Project manager
Adil Mohammed Ali	Ass. Project manager / community development officer
Abdel Hafiz Osman ElJack	Governmental Representative / protected area management specialist
Bulabek Alor Monydhang	Financial Officer
Fatima Mohammed Ali	Gender Officer
Nasr Eldin Abd el Magied	Officer Monitoring & Evaluation
Sulima Mohd	secretariat
Adam Hasan	driver
Hasan Mohamed Bedawi	driver

ANNEX 4. CONSULTED DOCUMENTS

Abdel Rahman El-Faki (n.d.) The Problem of Land Use: The Issue and Future Visions. (State Ministry of Agriculture, Animal Resource and Irrigation, Gedarif State in collaboration with Dinder National Park Project, HCENR) [in Arabic]

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HCENR (2001) Socio-Economic Baseline Survey (Village/Household) (Conservation and Management of Habitat and Species and Sustainable Community Use of Biodiversity in Dinder National Park), Project No. SUD/98/G41 and SUD/00/014

HCENR-WRC (2001) Ecological Base time survey report 2001

HCENR/WECGA/UNDP/GEF (2001) Logical Framework Workshop, 29-31 May

HCENR & WECGA (2004) Management Plan for Dinder National Park, Sudan (UNDP/GEF Project SUD/98/G41 and SUD/00/014)

HCENR (May 2003) Socio-Economic Baseline Survey of the Villages in the Blue Nile State (Dinder National Park Project SUD/00/014)

HCENR/UNDP (December 2003) Conservation and Management of Habitat and Species and Sustainable Community Use of Biodiversity in Dinder National Park: Consolidation Phase (Agreement)

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UNDP –Dinder National Park Project.(2001, 2002, 2003) Project Implementation review 2001, 2002, 2003

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Whitney, J.B. and A.El Moghraby. (1983). Dinder National Park, Sudan. Development versus preservation. Environmental Conservation 248-250.

ANNEX 5. BACKGROUND TO COMMENTS MADE ON MANAGEMENT PLAN DINDER NATIONAL PARK ⁶

Management plans are said to be indispensable tools for the daily management of protected areas around the world. Management plans have multiple functions, the most frequently cited of which are the identification of management needs for a protected area, the setting of its management priorities, and organising an approach to its future. Historically, management plans were focused on relatively straightforward technical or ecological issues, for which ecologists, together with protected area managers themselves, provided the information base. Increasingly management plans bring a broader mix of scientists, decision makers, and financing agencies into the picture, each with their own motivations and expectations.

In a number of countries, the preparation and implementation of management plans is now legally prescribed for national parks. They include Australia, Mexico, England and Wales, and Cameroon. Management plans are also required for natural sites being considered for inclusion on the World Heritage List and "...provisions should be made for a management policy or plan" for Biosphere Reserves. NGOs and donor agencies have arguably become the strongest supporters of management planning. They see them as indispensable instruments for the integration of conservation and development.

Parallel to the change in the wildlife conservation paradigm in the 1980s and 1990s, working with instead of against people, the aim of management plans also changed. They developed from being essentially technical documents into more formal presentations of the outcomes of negotiation. Prior to the 1980s, a management plan was often a technical document, informally prepared by a dynamic protected area warden. It had no formal significance and was only for internal distribution, often in photo-copy form or even as a carbon copy. Consultants were often asked to co-ordinate the management plan formulation process and describe in detail the biological environment and proposed management measures for its conservation. The internally discussed plan sometimes achieved a more formal status when, in addition to instructing the park warden and his/her colleagues, it was used to attract financing. More recently, management plans have become bulky documents clearly aimed at external constituencies.

Lengthy descriptions in a management plan can mask the nature of its formulation process. Are the proposed management options and subsequent actions the choices of the authors and their superiors, or do they reflect a widespread consensus? Consensus could bring wider support for sensitive management issues. And recognizing this, management plans have increasingly been based since the 1990s on the consensual interpretation of pressing management issues, where there is often a conflict of interest among stakeholders. Indeed, the most important product of the modern

⁶ (based on Scholte, P.2005. At the interface of legislation and wildlife management: a decade of experiences in consensual protected area management planning in Cameroon. In: G.Wandesforde-Smith. The Future of Conservation in Africa: Law, Biodiversity, Livelihoods and Development. Cambridge University Press / Journal of International Wildlife Law and Policy.)

management plan is a consensus building process based on negotiation among a large number of stakeholders. In the case of Waza National Park (Cameroon) the key conflicts were between local people and park authorities over the illegal exploitation of natural resources inside protected areas.

There is an analogy with the Dinder National Park Management Plan, for which the director of the Wildlife Administration has approved not only the proposed zoning, but *de facto* also the exploitation of some selected natural resources as well as the authorization for subsistence farming in the transition zone, inside the national park boundaries. There is a major difference with the above sketched situation where extraction from the protected area dated from well before its creation.

As explained in the main text we would therefore like to advise to limit extraction of resources to the transition zone and only in exceptional cases to the buffer zone. Also the kind of resources that may be subject to exploitation should be considered with care. In case of direct competition with wildlife, as the case of fisheries, this should not be further considered.

ANNEX 6. THE PASTORALISTS' ISSUE

Pastoralism and Mechanised Farming

Large-scale mechanized rain-fed farming started in 1945 in the Gadambliya area with 12,000 *feddan*. The government authorized area started to rise gradually to 400,000 *feddan* in the eve of Independence and reached about 3 million *feddan* by 1990. However, unauthorized farming is said to cover an area in excess of 3 million *feddans*. A considerable proportion of the un-demarcated mechanized schemes represent an encroachment into the southern fringes of the Butana. During the colonial period, Gedaref district was divided by a grazing line (*Khut El-Maraa*), popularly known as Sendfour line after a British Administrator, into a zone for herding (i.e. the Butana⁷) and a zone for farming (i.e. Gedaref southern clay plain). Large scale mechanized farming was prohibited north of this line, and farmers had no legal recourse for crop damage caused by livestock incursions. In return, herders had to stay within the herding zone until the grain harvest in the south ended, after which the customary exchange of manure for crop stubble took place. This symbiotic relationship between farming and pastoralism was occasionally strained especially when a drought in the Butana forced a southward retreat of herders before the harvest was complete.

Changes in Land Use in Gedarif State, 1941-1991

Type of Use	Area 1941		Area 1991	
	Km ²	%	Km ²	%
Rainfed Farming	3,150	8.75	26,000	72.2
Forest and Rangeland	28,250	78.50	6700	18.6
Hills and Watercourses	3,300	9.15	2000	5.6
Wasteland (<i>kerab</i>)	1,300	3.60	1,300	3.6
Total	36,000	100.00	36,000	100.00

Source: Land Use Map, State Ministry of Finance, Gedarif, 2002

Area of Existing and Proposed Rangelands in Gedarif State in Feddan

Locality	Area
North (Butana)	4,200,000
Central (between latitude 14° 37')	1,560,000
South (Kersh El-Feel)	231,000
Total	5,991,000

⁷ The Butana is a vast plain that roughly coincides with the quadrilateral bounded by the main Nile in the northwest, the Blue Nile in the west, the railway line from Sinnar to Khashm El-Girba in the South, and Atbara River in the East. Although, the Butana plain is considered the homeland of the Shukriya, the numerically and politically dominant group, it includes other pastoral groups such as the Kawahla, Bishareen, Beni Amer, Hadendawa, etc. There are also other pastoral groups such as Kenana, Dubania, Rufaa, Massalmia, AmBararo, etc., who move into the Butana from southern Gedaref during the rainy season. Population distribution and land use patterns in the Butana plain have largely followed the norms of precipitation and the availability of permanent source of water supply.

Areas of Mechanised Farming in Different Parts of the Gedarif States in Feddan

Locality	Authorised	Unauthorised	Total
Semem	457,000	248,5000	706,000
Um Seenat	600,000	00	600,000
El-Houri	164,000	8,000	252,000
Kilo Six	23,900	561,000	458,900
El-Gadembaliya	317,000	783,000	1,100,000
Hawata/Mafaza/Gala El-Nahal	00	854,090	854,090
Gaboub	392,000	1,170,000	1,562,000
Fashaqa	130,000	78,000	208,000
Tamerko/Abu Irwa	198,000	200,000	398,000
Doka/Basunda/El-Kafay	36,000	458,525	494,525
Soqora/Um Beleil	196,000	204,000	400,000
Total	2,729,000	5,347,115	8,067,525

However, the massive expansion of mechanized agriculture in the farming zone has led to a marked squeeze of the land cultivated by small farmers. The ecologically sound system of *Hariq* and shifting cultivation has been replaced by a system of land misuse involving negligence of the recommended crop rotation, massive deforestation, and a chain of processes of soil impoverishment and general land degradation. The increasing scarcity of virgin land in the southern agricultural zone has resulted in the northern limit (*Khut El-Maraa*) of large-scale mechanized farming being illegally pushed northward until it is now just into the heart of the Butana. This illegal agricultural expansion has not yet attracted any official resistance. Not surprisingly, relationships between herders and farmers have subsequently been increasingly antagonistic. Faced with a confrontation between agricultural and pastoral ambitions, the authorities rarely guarded the interest of the latter. As a matter of fact, official detestation of mobile pastoralism is by no means a recent phenomenon but dates back to the colonial period. Envisaging a potential conflict between farming and pastoralism, the 1944 report of the Soil Conservation Committee recommended that: "Where nomadic pastoralists were in direct competition for land with settled cultivators, it should be the policy that the rights of the cultivator be considered as paramount, because his crops yield a bigger return per unit area".

However, there is ample evidence that the establishment of large-scale mechanized farming on what once forest and pasture is destroying the environment due to unsound tillage practices. By stripping away the vegetation cover with mechanized cultivation, the soil is laid bare to be carried away by water and wind erosion. The area of land left is generally less fertile and too small to sustain mobile pastoralism. It is becoming denuded by overgrazing since the change in vegetation has made the rangelands less than they were productive before. Overgrazing is also evident along transhumance routes which are increasingly becoming narrower and shorter (between 150 and 300 metres wide) due to the uncontrolled expansion of mechanized farming. To add insult to injury, the overgrazed rangelands and transhumance routes are taken by the opponents of mobile pastoralism as evidence that traditional herding is environmentally destructive. To add to the pastorlist's predicament, sorghum stubble is becoming more and more inaccessible to the pastorlists due to its recent commoditization. Moreover, some scheme operators are denying patoralists entry

onto their land on the assumption that animals carry seeds of harmful weeds. Furthermore, in order not to attract herds, more and more scheme operators are both resisting the digging of *Hafirs* and burning the grass in the vicinity of their schemes.

In addition to the expansion of mechanized rain-fed farming, pastoralists have suffered from the establishment of large-scale irrigated schemes. In the 1960s New Halfa Scheme was established on area of 500,000 *feddans*, thus cutting out a significant area of the Butana rangelands. Similarly, in the 1970s the Rahad Scheme was established within an area of 300,000 *feddan* representing a further encroachment on the rangeland hitherto utilized by the pastoralists. In the case of New Halfa, pastoralists were partially compensated by the allocation of tenancies. Out of a total of 22,367 tenancies 29 percent were allocated for the resettlement of the Nubians, 31 percent for the Shukriya, 10 percent for the Lahaween, 10 percent for the Beja tribes, and the remaining 20 for various Butana tribes. However, the majority of the 'pastoral tenants' did not give up animal husbandry; rather, they combined pastoralism with irrigated farming.

However, the pastoral tenants in their pursuit to gain the maximum benefit from combining pastoralism with irrigated farming, resorted to the practice of bringing their herds from the Butana plain in the dry season to graze the stubble of the harvested crops. In some instances, the pastoral tenants let their animals into the fields before the crops are completely harvested. The term "crop damage" is used by the scheme management to describe such incidents is open to interpretation. For example, it is a common practice for the pastoral tenants to let their animals onto their cotton fields after the first picking as they feel that the extra returns from the second and third pickings do not justify the labour cost. While the management describes the results of such incursions as crop damage and a loss of potential revenue to the degree that often seek the assistance of the army to protect the fields, the pastoral tenants feel that the crop has been utilized productively as animal folder. Thus, most of what the management describes as crop damage occurs with the perfect knowledge of the pastoral tenants and by their own livestock.

Impact on Dinder Park

The above developments has the effect that the pastoralists are forced to move south earlier than before to avoid conflicts due to their animals trespassing into the army guarded mechanised farms. This in turn results in earlier arrival in the area around the Park before both mechanised and traditional farms were harvested. In this situation they have two options: either conflict with farmers or avoiding that by invading the Park. The number of livestock that annually trespass the Dinder Park during the period January to June is difficult to estimate. However, even the under-reported numbers by the authorities exert enormous pressure on the Park resources that are barely sufficient to meet the needs of the Park wildlife population.

Project Effort to Address the Problem

The Project has already started to find means to address this problem. Several meetings with the concerned officials in the three states have resulted in their commitment towards conducting in-depth studies with a view to arriving at an appropriate land use plans emphasising the allocation of specific grazing reserves for the pastoralists. The results of such an important endeavour are yet to materialise into concrete actions on the ground.

However, in this respect, the Gedarif state is ahead of Sennar and Blue Nile states. This is because of the already existing Federal directives of the early 1990s, which ordered the regulation of land use in the southern part of the Gedarif state, emphasising the rights of pastoralists for dry season grazing grounds. The state has already started with demarcation of pastoral migration corridors. However, all pastoralists regard the corridors as too narrow to be effective in achieving the goal of avoiding conflict with farmers. The narrowness of the corridors and the failure to implement the 1992 Federal directive may be attributed to the sabotage and blocking by the powerful Farmer Union [the Gedarif State Legislative Assembly is not only numerically dominated by mechanised farms owners, but also its President is at the same time the President of the Sudanese Farmers' Unions).

This is a sensitive political issue and requires enormous effort for the proposed land use plan to materialise. To speed up the process there is a need to bring the farmers on board. The project may start by launching an awareness campaign among the leaders of the powerful Farmers' Union with a view to lobbying them towards the support of the new land use planning initiatives.

Documents Consulted

Abdel Rahman El-Faki (n.d.) The Problem of Land Use: The Issue and Future Visions. (State Ministry of Agriculture, Animal Resource and Irrigation, Gedarif State in collaboration with Dinder National Park Project, HCENR) [in Arabic]

Samia Mohamed Ibrahim (n.d.). The Study of Earmarking Rangelands in the Southern Areas of the Gedarif State. (State Ministry of Agriculture, Animal Resource and Irrigation, Gedarif State in collaboration with Dinder National Park Project, HCENR) [in Arabic]

Annex 7. Results of Quick waterbird count of Dinder National Park

DINDER NATIONAL PARK (10 - 13 Feb. 2005)

covering:

1: Ras Amer ()		11 Feb							
2: Gaerissa		12 Feb							
3: Ein el Shams		12 Feb							
4: various locations									
note: the number of observed Pelecanus onocrotalus exceeds 1 % criterion									

	1	2	3	4	total		1	2	3	4	total
GREBES						CICOGNES, IBIS & SPATULES					
<i>Podiceps ruficollis</i>						<i>Mycteria ibis</i>	40		125		165
<i>Podiceps nigricollis</i>						<i>Anastomus lamelligerus</i>	73				73
PELICANS						<i>Ciconia nigra</i>					
<i>Pelecanus onocrotalus</i>	390	85	660	750	1885	<i>Ciconia abdimii</i>					
<i>Pelecanus rufescens</i>						<i>Ciconia episcopus</i>		4			4
<i>Pelecanus spp.</i>						<i>Ciconia ciconia</i>		1		6	7
						<i>Ephippiorhynchus senegalensis</i>			3		3
CORMORANTS						<i>Leptoptilos crumeniferus</i>	196	180	227	200	803
<i>Phalacrocorax carbo</i>						<i>Threskiornis aethiopicus</i>					
<i>Phalacrocorax africanus</i>			2		2	<i>Bostrychia hagedash</i>					
<i>Anhinga rufa</i>			5		5	<i>Plegadis falcinellus</i>					
						<i>Platalea leucorodia</i>	44		20		64
HERONS ET AIGRETTES						<i>Platalea alba</i>					
<i>Ardea cinerea</i>		20				<i>Scopus umbretta</i>					
<i>Ardea melanoceph</i>	140	30	80		250	CANARDS & OIES					
<i>Ardea goliath</i>						<i>Dendrocygna bicolor</i>					
<i>Ardea purpurea</i>		1				<i>Dendrocygna viduata</i>					
<i>Casmerodius albus</i>			5			<i>Plectropterus gambensis</i>	30	840		90	960
<i>Egretta ardesiaca</i>						<i>Sarkidiornis melanota</i>					
<i>Mesophoyx intermedia</i>						<i>Tadorna tadorna</i>					
<i>Egretta gularis</i>						<i>Alopechen aegyptiaca</i>					
<i>Egretta garzetta</i>						<i>Nettapus auritus</i>					
<i>Bubulcus ibis</i>						<i>Anas crecca</i>					
<i>Egretta/Bubulcus</i>						<i>Anas platyrhynchos</i>					
<i>Ardeola ralloides</i>		21			21	<i>Anas acuta</i>					
<i>Butorides striatus</i>						<i>Anas querquedula</i>		350	40		390
<i>Nycticorax nycticorax</i>						<i>Anas clypeata</i>		25	4		29
<i>Isobrychus minutes</i>						<i>Aythya ferina</i>					
<i>Isobrychus sturmii</i>						<i>Aythya nyroca</i>					
<i>Botaurus stellaris</i>						<i>Aythya fuligula</i>					
<i>Ardeidae non ide.</i>						<i>Anatinae spp.</i>					
FLAMANTS											
<i>Phoenicopterus ruber</i>	1										

LIMICOLES					Nombr	LIMICOLES					Nombre	
					e							
<i>Haematopus ostralegus</i>						<i>Calidrus canatus</i>						
<i>Rostratula benghalensis</i>						<i>Calidrus alba</i>						
<i>Himantopus himantopus</i>					12	20	32					<i>Calidris minuta</i>
<i>Recurvirostra avosetta</i>						<i>Calidris temminckii</i>						
<i>Burhinus senegalensis</i>						<i>Calidris alpina</i>						
<i>Burhinus capensis</i>						<i>Calidrus ferruginea</i>						
<i>Pluvianus aegyptius</i>						<i>Calidrus spp.</i>						
<i>Cursorius cursor</i>						<i>Philomachus pugnax</i>						
<i>Glareola pratincola</i>						<i>Limnicole non.ident.</i>						
<i>Gareola nuchalis</i>												
<i>Glareola cinerea</i>						GREBIFOULQUE & JACANAS						
<i>Vanellus vanellus</i>						<i>Podica senegalensis</i>						
<i>Vanellus crassirostris</i>						<i>Microparra capensis</i>						
<i>Vanellus spinosus</i>						<i>Actophilornis africana</i>					200	
<i>Vanellus tectus</i>												
<i>Vanellus albiceps</i>												
<i>Vanellus lugubris</i>						GOELANDS, STERNES & BEC-ENCISEAUX						
<i>Vanellus senegallus</i>						<i>Larus audouinii</i>						
<i>Pluvialis apricaria</i>						<i>Larus cachinnans</i>						
<i>Pluvialis fulva</i>						<i>Larus fuscus</i>						
<i>Pluvialis squatarola</i>						<i>Larus cirrocephalus</i>						
<i>Pluvialis sp.</i>						<i>Larus ridibundus</i>						
<i>Charadrius hiaticula</i>						<i>Larus genei</i>						
<i>Charadrius dubius</i>						<i>Larus spp.</i>						
<i>Charadrius pecuarius</i>						<i>Chlidonias hybridus</i>						
<i>Charadrius forbesi</i>						<i>Chilodonia leucopterus</i>						
<i>Charadrius alexandrinus</i>						<i>Chilodonia niger</i>						
<i>Charadrius marginatus</i>						<i>Chilodonia spp.</i>						
<i>Charadrius spp.</i>						<i>Gelochelidon nilotica</i>						
<i>Limosa limosa</i>					12		12					<i>Sterna caspia</i>
<i>Limosa lapponica</i>						<i>Sterna hirundo</i>						
<i>Numenius phaeopus</i>						<i>Sterna dougallii</i>						
<i>Numenius arquata</i>						<i>Sterna albifrons</i>						
<i>Tringa erythropus</i>						<i>Sterna maxima</i>						
<i>Tringa tetanus</i>						<i>Sterna bengalensis</i>						
<i>Tringa stagnatilis</i>						<i>Sterna sandvicensis</i>						
<i>Tringa nebularia</i>						<i>Sterna spp.</i>						
<i>Tringa ochropus</i>						<i>Rynchops flavirostris</i>						
<i>Tringa solitaria</i>												
<i>Tringa glareola</i>						OISEAUX DE PROIE						
<i>Tringa hypoleucos</i>						<i>Pandion haliaetus</i>					1	
<i>Tringa spp.</i>						<i>Haliaeetus vocifer</i>					1	
<i>Arenaria interpres</i>						<i>Circus aeruginosus</i>						
<i>Gallinago media</i>						<i>Circus macrourus</i>						
<i>Gallinago gallinago</i>						<i>Circus pygargus</i>						
<i>Gallinago spp.</i>						<i>Asio capensis</i>						
<i>Lymnocyptus minimus</i>												

ANNEX 8. Reporting Progress at Protected Area Sites

Purpose of the World Bank/WWF Management Effectiveness Tracking Tool

The World Bank/WWF Management Effectiveness Tracking Tool has been developed to help track and monitor progress in the achievement of the World Bank/WWF Alliance worldwide protected area management effectiveness target. It is also hoped that the tracking tool will be used more generally where it can help monitor progress towards improving management effectiveness; for example it is being used by the Global Environment Facility.

The Alliance has identified that the tracking tool needs to be:

- Capable of providing a harmonised reporting system for protected area assessment within both the World Bank and WWF;
- Suitable for replication;
- Able to supply consistent data to allow tracking of progress over time;
- Relatively quick and easy to complete by protected area staff, so as not to be reliant on high levels of funding or other resources;
- Capable of providing a “score” if required;
- Based around a system that provides four alternative text answers to each question, strengthening the scoring system;
- Easily understood by non-specialists; and
- Nested within existing reporting systems to avoid duplication of effort.

Limitations

The World Bank/WWF Management Effectiveness Tracking Tool is aimed to help **reporting progress** on management effectiveness and should not replace more thorough methods of assessment for the purposes of adaptive management. The tracking tool has been developed to provide a quick overview of progress in improving the effectiveness of management in individual protected areas, to be filled in by the protected area manager or other relevant site staff. As such it is clear that there are strict limitations on what it can achieve: it should not for example be regarded as an independent assessment, or as the sole basis for adaptive management.

Because of the great differences between expectations, resources and needs around the world, the tracking tool also has strict limitations in terms of allowing comparison between sites: the scoring system, if applied at all, will be most useful for tracking progress over time in one site or a closely related group of sites.

Lastly, the tracking tool is too limited to allow a detailed evaluation of *outcomes* and is really aimed at providing a quick overview of the management steps identified in the WCPA Framework up to and including *outputs*. Although we include some questions relating to outcomes, the limitations of these should be noted. Clearly, however good management is, if biodiversity continues to decline, the protected area objectives are not being met. Therefore the question on condition assessment has disproportionate importance in the overall tracking tool.

Data Sheet

Name of protected area	DINDER NATIONAL PARK	
Location of protected area (country and if possible map reference)	SUDAN	
Date of establishment (distinguish between agreed and gazetted)	Agreed	Gazetted: 1935
Ownership details (i.e. owner, tenure rights etc)	FEDERAL GOVERNMENT OF SUDAN	
Management Authority	Wildlife Conservation General Administration	
Size of protected area (ha)	1 029 100	
Number of staff	Permanent: 285 SCOUTS, 15 OFFICERS	Temporary: 30-40 m/m per yr.
Budget (annual)	SALARIES: 48 M SD (USD 200 000), FUEL 1.8 M SD (USD 7000) + 1 4X4 PER YEAR	
Designations (IUCN category, World Heritage, Ramsar etc)	BIOSPHERE RESERVE (SINCE 1979), RAMSAR SITE (2004)	
Reasons for designation	RESP. INCREASING HUMAN PRESSURE / WETLANDS	
Brief details of World Bank funded project or projects in PA	UNDP: CONSOLIDATION PHASE 2004-07 (1.4 m USD)	
Brief details of WWF funded project or projects in PA	PREVIOUSLY UNDP – GEF: 2000 – 04 (1.25 M USD)	
Brief details of other relevant projects in PA		
List the two primary protected area objectives		
Objective 1	CONSERVE BIODIVERSITY	
Objective 2	INTEGRATE LOCAL COMMUNITIES	
List the top two most important threats to the PA (and indicate reasons why these were chosen)		
Threat 1	LIVESTOCK THRESPASSING (competition herbivore, fire, diseases, etc.)	
Threat 2	IMPROPER LAND USE IN SURROUNDING AREAS (agriculture occupying rainy season habitat wildlife)	
List top two critical management activities		
Activity 1	PATROLLING – CONTROL OF TRESPASSING LIVESTOCK and ANTI-POACHING	
Activity 2	ROAD OPENING	

Date assessment carried out: 12-2-2005

Name/s of assessor: Sanad Souleymane (park director), Mou'tassim Nimr (UNDP project manager), Colonel Abdel Hafiz Osman ElJack (Gov. Project Coordinator), Ali Kodi (WCGA), Paul Scholte and Mustapha Babiker (evaluation mission UNDP project).

Issue	Criteria	Score	Comments	Next steps
1. Legal status	The protected area is not gazetted	0		
Does the protected area have legal status? <i>Context</i>	The government has agreed that the protected area should be gazetted but the process has not yet begun	1		
	The protected area is in the process of being gazetted but the process is still incomplete	2		
	The protected area has been legally gazetted (or in the case of private reserves is owned by a trust or similar)	3		
2. Protected area regulations	There are no mechanisms for controlling inappropriate land use and activities in the protected area	0	<ul style="list-style-type: none"> Lack of budget for running costs – other material Large areas Poor road infrastructure 	See also management plan, partly financed through the consolidation phase of the UNDP project
Are inappropriate land uses and activities (e.g. poaching) controlled? <i>Context</i>	Mechanisms for controlling inappropriate land use and activities in the protected area exist but there are major problems in implementing them effectively	1		
	Mechanisms for controlling inappropriate land use and activities in the protected area exist but there are some problems in effectively implementing them	2		
	Mechanisms for controlling inappropriate land use and activities in the protected area exist and are being effectively implemented	3		
3. Law enforcement	The staff have no effective capacity/resources to enforce protected area legislation and regulations	0	<ul style="list-style-type: none"> Difficulty of access in SE part of the NP Difficulty of access in rainy season Limited number of cars (5 functioning cars) 	<ul style="list-style-type: none"> Proposals made in management plan
Can staff enforce protected area rules well enough? <i>Context</i>	There are major deficiencies in staff capacity/resources to enforce protected area legislation and regulations (e.g. lack of skills, no patrol budget)	1		
	The staff have acceptable capacity/resources to enforce protected area legislation and regulations but some deficiencies remain	2		
	The staff have excellent capacity/resources to enforce protected area legislation and regulations	3		
4. Protected area objectives	No firm objectives have been agreed for the protected area	0	<ul style="list-style-type: none"> Activities with regard to involvement of local communities have just started and not do yet cover all stakeholders (with notable exception) 	<ul style="list-style-type: none"> Commitment of UNDP project to increase working with pastoralists
Have objectives been	The protected area has agreed objectives, but is not managed according to these objectives	1		

Issue	Criteria	Score	Comments	Next steps
agreed?	The protected area has agreed objectives, but these are only partially implemented	2	of pastoralists)	
<i>Planning</i>	The protected area has agreed objectives and is managed to meet these objectives	3		
5. Protected area design	Inadequacies in design mean achieving the protected areas major management objectives of the protected area is impossible	0	Note that opinions amongst assessors diverged (PS: 0, because of the non-inclusion of rainy season habitat, that has led to the disappearance of several species, see issue 27)	<ul style="list-style-type: none"> • Initiatives have been taken to involve the neighbouring states in land use planning. • Zoning of the park further developed
Does the protected area need enlarging, corridors etc to meet its objectives?	Inadequacies in design mean that achievement of major objectives are constrained to some extent	1		
	Design is not significantly constraining achievement of major objectives, but could be improved	2		
<i>Planning</i>	Reserve design features are particularly aiding achievement of major objectives of the protected area	3		
6. Protected area boundary demarcation	The boundary of the protected area is not known by the management authority or local residents/neighbouring land users	0	Demarcation is in progress and causes some problems in the SE (Blue Nile State), suggesting that a (minor) part of local resident communities is not entirely aware of the park boundary demarcation	
Is the boundary known and demarcated?	The boundary of the protected area is known by the management authority but is not known by local residents/neighbouring land users	1		
	The boundary of the protected area is known by both the management authority and local residents but is not appropriately demarcated	2		
<i>Context</i>	The boundary of the protected area is known by the management authority and local residents and is appropriately demarcated	3		
7. Management plan	There is no management plan for the protected area	0	<ul style="list-style-type: none"> • Mgt plan, formulated with help of UNDP project has just been approved (04). • Implementation assistance is further delivered and additional funding is prospected 	
Is there a management plan and is it being implemented?	A management plan is being prepared or has been prepared but is not being implemented	1		
	An approved management plan exists but it is only being partially implemented because of funding constraints or other problems	2		
<i>Planning</i>	An approved management plan exists and is being implemented	3		
Additional points	The planning process allows adequate opportunity for key stakeholders to influence the management plan	+1	Discussion session were held to discuss the proposed MP with local communities	

Issue	Criteria	Score	Comments	Next steps
<i>Planning</i>	There is an established schedule and process for periodic review and updating of the management plan	+1	In this first management plan, provisions for review and update have been made	
	The results of monitoring, research and evaluation are routinely incorporated into planning	+1		
8. Regular work plan	No regular work plan exists	0	This work programme has been planned for in the MP, but is not yet operational	
Is there an annual work plan?	A regular work plan exists but activities are not monitored against the plan's targets	1		
	A regular work plan exists and actions are monitored against the plan's targets, but many activities are not completed	2		
	A regular work plan exists, actions are monitored against the plan's targets and most or all prescribed activities are completed	3		
<i>Planning/Outputs</i>				
9. Resource inventory	There is little or no information available on the critical habitats, species and cultural values of the protected area	0	Dinder NP has benefited from frequent studies by universities, wildlife research centre as well as more recently research commissioned by the UNDP-project.	
Do you have enough information to manage the area?	Information on the critical habitats, species and cultural values of the protected area is not sufficient to support planning and decision making	1		
	Information on the critical habitats, species and cultural values of the protected area is sufficient for key areas of planning/decision making but the necessary survey work is not being maintained	2		
	Information concerning on the critical habitats, species and cultural values of the protected area is sufficient to support planning and decision making and is being maintained	3		
<i>Context</i>				
10. Research	There is no survey or research work taking place in the protected area	0	Eg. Little research has been conducted on wildlife during the rainy season when it leaves the NP.	More intensive co-operation with research institutes is proposed in Management Plan
Is there a programme of management-orientated survey and research work?	There is some <i>ad hoc</i> survey and research work	1		
	There is considerable survey and research work but it is not directed towards the needs of protected area management	2		
	There is a comprehensive, integrated programme of survey and research work, which is relevant to management needs	3		
<i>Inputs</i>				

Issue	Criteria	Score	Comments	Next steps
11. Resource management Is the protected area adequately managed (e.g. for fire, invasive species, poaching)? <i>Process</i>	Requirements for active management of critical ecosystems, species and cultural values have not been assessed	0	See above - Pilot trials are made to open fire breaks.	- Control of Invasive plants and - Increase of fire breaks are planned
	Requirements for active management of critical ecosystems, species and cultural values are known but are not being addressed	1		
	Requirements for active management of critical ecosystems, species and cultural values are only being partially addressed	2		
	Requirements for active management of critical ecosystems, species and cultural values are being substantially or fully addressed	3		
12. Staff numbers Are there enough people employed to manage the protected area? <i>Inputs</i>	There are no staff	0	One of the most remarkable achievements is the large number of park scouts (285). It is at present more their intervention capacity (issue 13, 15) and their skills (issue 14) that limits their effectiveness.	
	Staff numbers are inadequate for critical management activities	1		
	Staff numbers are below optimum level for critical management activities	2		
	Staff numbers are adequate for the management needs of the site	3		
13. Personnel management Are the staff managed well enough? <i>Process</i>	Problems with personnel management constrain the achievement of major management objectives	0	Relatively few	
	Problems with personnel management partially constrain the achievement of major management objectives	1		
	Personnel management is adequate to the achievement of major management objectives but could be improved	2		
	Personnel management is excellent and aids the achievement major management objectives	3		
14. Staff training Is there enough training for staff?	Staff are untrained	0	<ul style="list-style-type: none"> Scouts have had a military entry training only (varying from several weeks to 6 months). Several scouts have had short additional training by the UNDP- 	To deliver a comprehensive short training to all scouts on the followed management approaches in DNP
	Staff training and skills are low relative to the needs of the protected area	1		
	Staff training and skills are adequate, but could be further improved to fully achieve the objectives of management	2		

Issue	Criteria	Score	Comments	Next steps
<i>Inputs/Process</i>	Staff training and skills are in tune with the management needs of the protected area, and with anticipated future needs	3	<ul style="list-style-type: none"> project on varying technical issues Officers generally have a technical training with little attention to management 	<p>To train the forthcoming Community Development Unit</p> <p>To raise management skills of officers</p>
15. Current budget	There is no budget for the protected area	0	<ul style="list-style-type: none"> Apart from the regular budget for salaries, little predictability for budget 	
Is the current budget sufficient?	The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage	1		
<i>Inputs</i>	The available budget is acceptable, but could be further improved to fully achieve effective management	2		
	The available budget is sufficient and meets the full management needs of the protected area	3		
16. Security of budget	There is no secure budget for the protected area and management is wholly reliant on outside or year by year funding	0	See above	
Is the budget secure?	There is very little secure budget and the protected area could not function adequately without outside funding	1		
<i>Inputs</i>	There is a reasonably secure core budget for the protected area but many innovations and initiatives are reliant on outside funding	2		
	There is a secure budget for the protected area and its management needs on a multi-year cycle	3		
17. Management of budget	Budget management is poor and significantly undermines effectiveness	0	See above	
Is the budget managed to meet critical management needs?	Budget management is poor and constrains effectiveness	1		
	Budget management is adequate but could be improved	2		
	Budget management is excellent and aids effectiveness	3		
<i>Process</i>				

Issue	Criteria	Score	Comments	Next steps
18. Equipment Is equipment adequately maintained? <i>Process</i>	There is little or no equipment and facilities	0	Most notably the poor condition of the grader.	The grader engine is maintained and park roads are being graded.
	There is some equipment and facilities but these are wholly inadequate	1		
	There is equipment and facilities, but still some major gaps that constrain management	2		
	There is adequate equipment and facilities	3		
19. Maintenance of equipment Is equipment adequately maintained? <i>Process</i>	There is little or no maintenance of equipment and facilities	0		The construction and equipment of a workshop is planned for (UNDP –project)
	There is some <i>ad hoc</i> maintenance of equipment and facilities	1		
	There is maintenance of equipment and facilities, but there are some important gaps in maintenance	2		
	Equipment and facilities are well maintained	3		
20. Education and awareness programme Is there a planned education programme? <i>Process</i>	There is no education and awareness programme	0	Largely through the UNDP –project.	Extension towards pastoralists is planned for UNDP project.
	There is a limited and <i>ad hoc</i> education and awareness programme, but no overall planning for this	1		
	There is a planned education and awareness programme but there are still serious gaps	2		
	There is a planned and effective education and awareness programme fully linked to the objectives and needs of the protected area	3		
21. State and commercial neighbours Is there co-operation with adjacent land users? <i>Process</i>	There is no contact between managers and neighbouring official or corporate land users	0	Regular consultation and increasing co-operation with state governments Limited co-operation with some of the large mechanised farming holders	
	There is limited contact between managers and neighbouring official or corporate land users	1		
	There is regular contact between managers and neighbouring official or corporate land users, but only limited co-operation	2		
	There is regular contact between managers and neighbouring official or corporate land users, and substantial co-operation on management	3		

Issue	Criteria	Score	Comments	Next steps
22. Indigenous people Do indigenous and traditional peoples resident or regularly using the PA have input to management decisions? <i>Process</i>	Indigenous and traditional peoples have no input into decisions relating to the management of the protected area	0	Referring to Magano village with whom consultation has taken place, eg. On yearly moving into the park, planned interventions in their village (hafir), recruitment of scouts as well as conduct of several activities such as agriculture around their village (and thus inside the NP).	
	Indigenous and traditional peoples have some input into discussions relating to management but no direct involvement in the resulting decisions	1		
	Indigenous and traditional peoples directly contribute to some decisions relating to management	2		
	Indigenous and traditional peoples directly participate in making decisions relating to management	3		
23. Local communities Do local communities resident or near the protected area have input to management decisions? <i>Process</i>	Local communities have no input into decisions relating to the management of the protected area	0	A distinction should be made between villages inside and outside the NP	The creation of a committee is advised that ensures a continuous link of park authorities with local communities
	Local communities have some input into discussions relating to management but no direct involvement in the resulting decisions	1		
	Local communities directly contribute to some decisions relating to management	2		
	Local communities directly participate in making decisions relating to management	3		
Additional points <i>Outputs</i>	There is open communication and trust between local stakeholders and protected area managers	+1	Thanks to the UNDP project there has	To extend this open communication to include also pastoralists
	Programmes to enhance local community welfare, while conserving protected area resources, are being implemented	+1		
24. Visitor facilities Are visitor facilities (for tourists, pilgrims etc) good enough? <i>Outputs</i>	There are no visitor facilities and services	0	Given the low levels of visitations, present facilities and services are fully adequate. However with higher levels major adaptations are to be made	
	Visitor facilities and services are inappropriate for current levels of visitation or are under construction	1		
	Visitor facilities and services are adequate for current levels of visitation but could be improved	2		
	Visitor facilities and services are excellent for current levels of visitation	3		
25. Commercial tourism	There is little or no contact between managers and tourism operators using the protected area	0	There are 2 applications from private companies to operate tourist lodges in the park.	
	There is contact between managers and tourism operators but this is largely confined to administrative or regulatory matters	1		

Issue	Criteria	Score	Comments	Next steps
Do commercial tour operators contribute to protected area management?	There is limited co-operation between managers and tourism operators to enhance visitor experiences and maintain protected area values	2		
	There is excellent co-operation between managers and tourism operators to enhance visitor experiences, protect values and resolve conflicts	3		
<i>Process</i>				
26. Fees If fees (tourism, fines) are applied, do they help protected area management?	Although fees are theoretically applied, they are not collected	0	The average of fees (1) and fines (3) is taken. Note that fines constitute an important additional source of income for the national park.	
	The fee is collected, but it goes straight to central government and is not returned to the protected area or its environs	1		
	The fee is collected, but is disbursed to the local authority rather than the protected area	2		
	There is a fee for visiting the protected area that helps to support this and/or other protected areas	3		
<i>Outputs</i>				
27. Condition assessment Is the protected area being managed consistent to its objectives?	Important biodiversity, ecological and cultural values are being severely degraded	0	Disappearance of Soemmerings gazelle, (early 1970s), giraffe (1984), and most recently tiang. The earlier disappearance of elephant and hippo have probably had major consequences for the area's ecology (bush encroachment and silting up of feeders to mayas)	
	Some biodiversity, ecological and cultural values are being severely degraded	1		
	Some biodiversity, ecological and cultural values are being partially degraded but the most important values have not been significantly impacted	2		
	Biodiversity, ecological and cultural values are predominantly intact	3		
<i>Outcomes</i>				
Additional points <i>Outputs</i>	There are active programmes for restoration of degraded areas within the protected area and/or the protected area buffer zone	+1	Opening of feeders to mayas (wetlands); removal of sediment from mayas.	Evaluation of conducted activities, leading to follow-up programme
28. Access assessment Are the available management mechanisms working to control access or use?	Protection systems (patrols, permits etc) are ineffective in controlling access or use of the reserve in accordance with designated objectives	0	Note notably absence of patrolling during the rainy season	
	Protection systems are only partially effective in controlling access or use of the reserve in accordance with designated objectives	1		
	Protection systems are moderately effective in controlling access or use of the reserve in accordance with designated objectives	2		
	Protection systems are largely or wholly effective in controlling access or use of the reserve in accordance with designated objectives	3		
<i>Outcomes</i>				

