

TANZANIA

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CHAIWAT

8.1 Policy and Management Plan for the Black Rhino in Tanzania 1998

UNITED REPUBLIC OF TANZANIA



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POLICY AND MANAGEMENT PLAN FOR THE BLACK RHINOCEROS, *Diceros bicornis* IN TANZANIA

DEPARTMENT OF WILDLIFE

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CONTENTS

MESSAGE BY THE HON. ZAKIA HAMDAN MEGHJI (MP), MINISTER
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THE ARUSHA MANIFESTO

LIST OF ACRONYMS

INTRODUCTION

HISTORIC OVERVIEW AND CURRENT STATUS

POLICY AND MANAGEMENT PLAN

GOALS

RATIONALE

INDICATORS OF SUCCESS

OBJECTIVES

ASSUMPTIONS

1. Co-ordinated management and plan implementation
2. Security, protection and law enforcement
3. Biological management
4. Community involvement
5. Sustainable funding
6. Capacity building

REVISIONS OF THE PLAN

ACKNOWLEDGEMENTS

FIGURES

1. Distribution Map
2. Population Growth Graph

REFERENCES

WORKSHOP PARTICIPANTS

The Arusha Manifesto

The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration but are an integral part of our natural resources and our future livelihood and well being.

In accepting the trusteeship of our wildlife we solemnly declare that we will do everything in our power to make sure that our children's grand-children will be able to enjoy this rich and precious inheritance.

The conservation of wildlife and wild places calls for specialist knowledge, trained manpower, and money, and we look to other nations to co-operate with us in this important task - the success or failure of which not only affects the continent of Africa but the rest of the world as well.

Kwailimu Julius K Nyerere

September 1961

LIST OF ACRONYMS

AFRSG	African Rhino Specialist Group
APU	Anti Poaching Unit
ECC	Estimated Carrying Capacity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COSTECH	Commission for Science and Technology
FZS	Frankfurt Zoological Society
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IPZ	Intensive Protection Zone
IUCN	International Union for the Conservation of Nature and Natural Resources (World Conservation Union)
MNRT	Ministry of Natural Resources and Tourism
MPCC	Maximum Productivity Carrying Capacity
NCAA	Ngorongoro Conservation Area Authority
RC	Rhino Co-ordinator
RPA	Rhino Protected Area
RCSC	Rhino Conservation Steering Committee
RMC	Rhino Management Committee
RPMP	Rhino Policy and Management Plan
SSC	Species Survival Commission of the IUCN
SWRI	Serengeti Wildlife Research Institute
TANAPA	Tanzania National Parks
WD	Wildlife Division
WWF	World Wide Fund for Nature (Known in the United States as World Wildlife Fund)

LIST OF ANNEXES

- Figure 1. Map of Tanzania's four major Rhino Protected Areas; Serengeti National Park, Ngorongoro Conservation Area, Mkomazi and Selous Game Reserves, in relation to the approximate historic distribution of *D.b. michaeli* and *D.b. minor* based on the two major vegetation types, *Acacia-Commiphora* and *Brachystegia* woodlands, respectively.
- Figure 2. Tanzania rhino population growth rate projections between 1998 and 2020 illustrating the considerably greater increase in absolute numbers between a 5% and a 10% compounded annual rate of growth.

POLICY AND MANAGEMENT PLAN FOR THE

BLACK RHINOCEROS, *Diceros bicornis*,

IN TANZANIA

INTRODUCTION

The black rhinoceros is classified as "Critically Endangered" in the World Conservation Union (IUCN) Red List of 'Threatened Animals' (1996), and is listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Together with the elephant, the black rhino contributes greatly to the value of the country's biodiversity and is a major attraction in areas where they can still be seen by Tanzanians and overseas visitors. They contribute to job creation and the generation of foreign exchange. Being a spectacular and endangered species, rhinos are increasingly being focused upon. A successful black rhino conservation programme is not only a matter of national responsibility but one of national pride.

HISTORIC OVERVIEW

During the 1960s it was estimated there were about 70,000 black rhinos in Africa (Cumming, du Toit and Stuart, 1990). With approximately 10,000 of these animals in the 1970s (Anon, 1993), Tanzania was popularly considered to hold one of the largest concentrations of black rhinos in Africa. Two of the four recognised black rhino sub-species, the southern-central *Diceros bicornis minor* and the eastern *D. b. michaeli*, occur in Tanzania (du Toit, R. F., Foose, T.J. and Cumming, D.H.M. 1987). (Fig.1.). Their historic distribution extended virtually throughout the country to include the dry *Acacia* savannahs in the north, the *Brachystegia* woodlands in the south and west, and the coastal forest-savannah mosaics in the east. They additionally occurred in highland forests, swamplands and dry thickets

At this time rhinos were frequently seen and their large numbers permitted them to be shot on licence by hunters and captured for live sale to international zoological gardens. Goddard (1967) records having seen 108 individual rhinos on the floor of the Ngorongoro caldera during the period

1964-1966. However, within 15 years Kiwia (1989) recorded this figure as having dropped to 25 animals. Such was the carnage being inflicted by poachers on Tanzania's once prolific rhino population. The increased demand from about the 1970s, by Yemen and East Asian countries, for rhino horns to be carved into traditional 'jambiyas' or dagger handles and for their purported medicinal properties, further reduced rhino populations.

By 1984 it was estimated that Tanzania's rhino population had been reduced by 70% from 10,000 to around 3,000 animals. Since 1984 Tanzania fell from being the foremost black rhino range state holding a quarter of all Africa's black rhino, to being a minor range state holding less than 1%. By 1990 black rhino numbers in Tanzania had been reduced by over 97% to less than 100 animals.

The severe decline in elephant and rhino numbers, and the extent of poaching of all species throughout the country, prompted the Government of Tanzania to launch an unprecedented 6-9 month, nation-wide, law enforcement exercise code named "Operation Uhai" in 1989. The operation was undertaken by members of the army, police, Wildlife Division, Tanzania National Parks and the Ngorongoro Conservation Area Authority, and with special magistrates assigned to hear wildlife cases immediately they were brought to court. The operation was most successful and poaching was greatly reduced over the next seven years.

A survey conducted between 1991-1993 recorded the largest, and possibly the only remaining viable population of *D.b.michaeli* as 14-18 animals resident in the Ngorongoro Crater (Anon, 1994). Four animals were additionally recorded in the Moru kopjes area of Serengeti National Park, and one or two individuals on Rubondo Island and Tarangire National Park, respectively. The lesser known *D.b.minor* consisted of at least five small, unassessed populations, and a number of isolated animals in the Selous Game Reserve. In addition there were occasional reports of single animals, with possibly little or no chance of survival, scattered about the southern half of the country (Anon, 1994).

It is believed that the present status of the black rhino has changed only marginally since the early 1990s, though their distribution and numbers within the country are now becoming better understood.

Rhinos presently occur in small fragmented populations both in and outside of protected areas. Locations where they occur within a national park, game reserve, or in the Ngorongoro Conservation Area are designated as Rhino Protected Areas (RPAs). These areas are further classified as either Intensive Protection Zones (IPZs) or Rhino Sanctuaries. An IPZ is defined as a relatively small, unfenced area, within a larger protected area where law enforcement staff are deployed at moderate to high density specifically to protect the rhino population. A sanctuary is a relatively small, fenced area, either within or outside of a larger protected area, where law enforcement staff are deployed at a high density specifically to protect the rhino population, and permitting close observation and relatively intensive management.

Tanzania Rhino Policy and Management Plan
(Leader-Williams *et al.*, 1997). Tanzania presently has one Sanctuary and two IPZs. Current manpower densities are not as high as they should be and need to be increased if they are to truly qualify for IPZ status.

The remaining *D.b.michaeli* are now restricted to four small naturally-occurring populations located in three protected areas; one population of eleven animals on the Ngorongoro Caldera floor; four animals in the Moru kopjes in southern Serengeti and an undetermined population in northern Serengeti National Park. There is one reintroduced population of four animals in the Mkomazi Game Reserve rhino sanctuary.

Recent investigations confirm the northern Serengeti rhinos are a cross-border population resident in both the Masai Mara National Reserve in Kenya, and in the Nyamalumbwa area of northern Serengeti National Park (Morgan-Davies, 1996; Milledge, pers.comm.). This population requires urgent monitoring and protection.

The present status of *D.b.minor* is less well known. They are, in the main, restricted to small, fragmented and undetermined sub-populations within the Selous Game Reserve (Laurie, 1991; Morgan-Davies, 1998). Further field investigations may justify some of these areas ultimately being upgraded to IPZ status.

Isolated or 'outlier' animals, are purported to still exist in inviable numbers scattered about the south-east of the country in the Mbeya, Songea, Singida and Manyoni areas. The high costs of their detection, capture and relocation to a protected area outweighs the chances for their long term survival.

The Tanzania populations of *D.b.michaeli* and *D.b.minor* constitute the respective southern and northern limits of the range of these two sub-species in Eastern Africa. Any further decline in their numbers will increasingly separate members of both sub-species, and might ultimately reduce the southern limit of the range of *D.b.michaeli* and the northern limit of the range of *D.b.minor* to the extent that the black rhino becomes extinct in Tanzania.

POLICY AND MANAGEMENT PLAN

The decline in rhino numbers between 1950 and 1990 led the Minister of Tourism, Natural Resources and Environment to approve the first national Policy and Management Plan for the black rhinoceros in Tanzania in June 1993. (Anon, 1993). Its basic aims were, and still are to:

- ⇒ increase rhino numbers as rapidly as possible, taking into account possible differences between the two taxonomic units - *protection and biological management*;

- ⇒ promote rhinos for their economic value for tourist game viewing - *non-consumptive utilisation*;
- ⇒ encourage rhino conservation, where appropriate, through the involvement of local communities - *community benefits*

The first Policy and Management Plan (1993) was required to be revised and updated after three years. In October 1998 the Wildlife Division, held a national rhino management workshop that included representatives from all authorities responsible for rhino management in Tanzania, technical experts from Kenya and South Africa, and members of the IUCN/Species Survival Commission's (SSC) African Rhino Specialist Group (AfRSG), to revise the original policy and plan.

This document, representing the first revision of the original Policy and Management Plan (1993), is the outcome of these deliberations. It is a further manifestation of the Government of Tanzania's desire to continue and strengthen its policy and conservation goals for the black rhino.

GOALS

To increase the populations of *D.b.michaeli* and *D.b.minor* to 100 individuals each by the year 2018 using a metapopulation management approach, and to ensure that each subspecies increases at a rate of over 5% per annum.

To achieve these goals it will be necessary to develop and implement approaches that are biologically, socially, economically and politically sustainable.

RATIONALE

Tanzania's rhinos have declined significantly over the past 30 years. They are listed on Appendix I of CITES, classified as "critically endangered" under IUCN's threat criteria, and protected to a limited extent under Tanzania law. The cause of their decline has been poaching. For the conservation of Tanzania's biological diversity and sustainable development, efforts must be made to increase their numbers as fast as possible to minimise loss of heterozygosity, and to increase growth rates as a potential buffer against further poaching.

INDICATORS OF SUCCESS

The success of the plan will be measured by the following two indicators.

1. Numbers of *D.b.michaeli* and *D.b.minor* reach 100 each by 2018.
2. Each population growing by a minimum of 5% per annum and preferably higher.

OBJECTIVES

The objectives of the management plan are six-fold and include:

1. Co-ordinated management and plan implementation - Effective and co-ordinated management action achieved through Steering and Management Committees, a National Rhino Co-ordinator and by regular status reporting.
2. Security, protection and law enforcement - Rhino poaching reduced through effective law enforcement.
3. Biological management - Metapopulations of *D.b.michaeli* and *D.b.minor* conserved and managed for maximum productivity within their known historic ranges.
4. Community involvement - Community support for, and a sense of national pride in, rhino conservation and, where possible, communities gaining from the benefits of this conservation.
5. Sustainable funding - Tanzania's ability to fund rhino conservation sustainably achieved through more extensive internal funding and less reliance on external donor funding.
6. Capacity building - A national capacity to protect and manage Tanzania's rhino populations developed.

ASSUMPTIONS

The success of this management plan is dependent upon the following:

1. Tanzania remains politically and economically stable.
2. Both national and international interest and support for rhino conservation remains high.
3. Increased involvement by local communities in conservation.
4. Management capacity is adequate to ensure the continued survival of rhino populations and their habitats.

1. CO-ORDINATED MANAGEMENT AND PLAN IMPLEMENTATION

Rationale

The conservation and management of wildlife in Tanzania is vested in the Ministry of Natural Resources and Tourism (MNRT). It is charged with formulating a wildlife policy, overseeing its implementation and co-ordinating the development of the wildlife sector in Tanzania. The vision of the wildlife sector for the next twenty years conforms with the Development Vision 2025 for Tanzania on environmental sustainability and socio-economic transformation, and is elucidated in the 1998 Wildlife Policy of Tanzania (Anon, 1998).

Internal Co-ordination

On the 17th June 1993, the Minister for Tourism, Natural Resources and Environment approved the first Policy and Management Plan for the black rhinoceros in Tanzania. In 1997 a Rhino Conservation Steering Committee (RCSC) was established and made responsible to the Principal Secretary of the MNRT for all decisions concerned with rhino policy and management actions in Tanzania. With three authorities charged with the management of different categories of protected areas containing rhinos, and one authority in charge of wildlife research, the committee is represented by four authorities. The RCSC is chaired by the Director of the Wildlife Division (WD) and has the Director General of Tanzania National Parks (TANAPA), the Conservator of Ngorongoro Conservation Area Authority (NCAA), and the Director General of the Serengeti Wildlife Research Institute (SWRI) as permanent members.

The RCSC can co-opt anyone to serve on this Committee, and has a full time National Rhino Co-ordinator (RC) as its secretariat.

With three autonomous authorities and one research institution responsible for rhino management, the RC provides the synchronisation of all rhino management for the conservation of the black rhino in Tanzania. The RC will catalyse the involvement of different organisations and donor funding which are essential for the development and implementation of priority rhino conservation projects. He/she collates and provides all necessary information on Tanzania's rhinos to enable management decisions to be made by the RCSC.

This revised rhino Policy and Management Plan (1998) calls for the establishment of a Rhino Management Committee (RMC) to provide technical and management advice on rhino matters to the RCSC through the RC who will chair the RMC.

The RMC will consist of technical members from WD, TANAPA, NCAA and SWRI who are professional rhino management practitioners. It will additionally act as a forum for members to discuss on-going rhino conservation management issues, surveillance and monitoring techniques, security strategies, research requirements and procedures, staff training and community participation on a shared, rational, collective, co-ordinated and national basis. The RMC can co-opt any qualified individuals to serve on this Committee.

External co-ordination.

With two populations of rhino located along Tanzania's northern and north-eastern boundaries with Kenya (Serengeti and Mkomazi), it is important that mutual agreements for the surveillance, monitoring and security of these populations are urgently entered into with the appropriate Kenyan authorities. Tanzania can not stand alone in its efforts to protect its remaining rhinos. It is important that all international policies and agreements entered into are respected and implemented.

Actions required:

1. *Activities of the Rhino Conservation Steering Committee (RCSC):*
 - 1.1 Implement the rhino management plan within the context of the Wildlife Policy of Tanzania.
 - 1.2 Oversee the formal negotiations and agreements with relevant national and international authorities for the implementation of, and co-operation in, the control of the illegal trade in rhino products, law enforcement, and the management of cross-border rhino populations, at the highest political level, and regularly evaluate progress on these agreements.
 - 1.3 Meet at least twice a year, or more frequently if necessary, to

oversee the administration requirements of the RMC and the national Rhino Fund.

- 1.4 Establish, guide with clear terms of reference, and oversee the functions of the RMC.
- 1.5 Supervise and evaluate the performance of the RC.
- 1.6 Approve RC's annual work plan.

2. *Activities of the Rhino Management Committee (RMC):*

- 2.1 Meet at least twice a year, or more frequently if necessary, and preferably just prior to RCSC meetings.
- 2.2 Design all rhino reporting formats and levels of detail as applicable to each population.
- 2.3 In collaboration with the Serengeti Wildlife Research Institute and the Commission for Science and Technology (COSTECH), review rhino project proposals and advise the RCSC on their relevance, priority, suitability and practicality.
- 2.4 Identify management or information gaps and advise the RCSC of important or priority management or conservation needs and actions.

3. *Activities of the National Rhino Co-ordinator:*

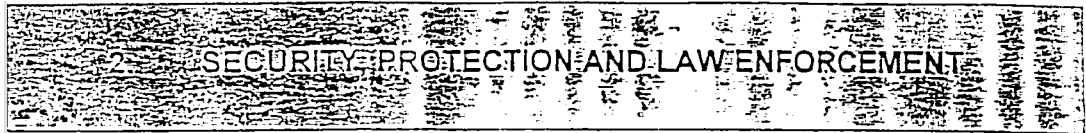
3.1 Administration.

- 3.1.1 Ensure immediate and effective implementation of the Rhino Policy and Management Plan (RPMP).
- 3.1.2 Contribute to development an annual work plans for all rhino-related activities.
- 3.1.3 Carry out negotiations for the implementation of national and international rhino agreements.
- 3.1.4 Ensure cross-border and international agreements on rhino issues are respected and implemented.
- 3.1.5 Organise with rhino personnel of neighbouring countries for emergency and/or rapid counter-force deployment.
- 3.1.6 Secure funding for rhino management and the co-ordination of its use.

- 3.1.7 Establish and administer the national Rhino Fund under the auspices of the Steering Committee.
- 3.2 Technical.
 - 3.2.1 Chair the RMC.
 - 3.2.2 Summarise findings and recommendations of the RMC for the RCSC.
 - 3.2.3 Represent Tanzania on the IUCN/SSC African Rhino Specialist Group.
 - 3.2.4 Create and maintain a national rhino population database from which Tanzania's rhino numbers and growth rates can be derived.
 - 3.2.5 Provide comparative rhino population performance and status reports on an annual basis for each Rhino Protected Area (RPA).
 - 3.2.6 Co-ordinate rhino surveys with respective stakeholders when necessary.
 - 3.2.7 Identify training needs and organise training for rhino field officers and rangers.
 - 3.2.8 Negotiate, co-ordinate and advise government on all rhino translocations either within the country, or into and out of the country.

Indicators of success:

- 1. RCSC has met at least twice a year.
- 2. RMC established and functional by 1999, and meeting at least twice a year.
- 3. Co-operative management agreements, on the surveillance, monitoring and security of trans-border rhinos that endorses rapid and crucial management actions established between Tanzania and Kenya by 2000.
- 4. Activities in the RPMP integrated into the management plans of specific protected areas by the year 2000.
- 5. Co-ordinated actions by all rhino management authorities agreed and



Rationale

The major cause for the decline in rhinos in Tanzania has been poaching for horns. Rhino management authorities have to eliminate poaching through an effective criminal justice system (arrests, evidence collection, case preparation, guidance of expert witnesses, prosecution and adequate sentencing of those convicted are important) in order to achieve at least a 5% annual population increase of these animals.

The first legislation promulgated for the conservation and management of wildlife in Tanzania was the Fauna Conservation Ordinance Cap 302 of 1951. This earliest legislation permitted the rhino to be hunted and killed for sporting purposes, and was later repealed and replaced by the Wildlife Conservation Act of 1974. Regrettably, the current act gives only limited protection to the rhino which may still be killed in defence of human life or property, or hunted under a licence issued by the Director of Wildlife. However, no rhino has been hunted or shot on licence since 1973, and no rhino has been shot in defence of human life or property for many years.

Under the Wildlife Conservation Act (1974), read together with the Economic and Organised Crime Control Act No 13 of 1984, the illegal possession, sale or purchase of rhino horn is a punishable offence on conviction, with a penalty not exceeding 30 years jail.

In 1979 Tanzania ratified the Convention on the International Trade in Endangered Species (CITES), and accepted the 1978 listing of the black rhino, thereby subjecting all international trade in rhino horn or its by-products to stringent regulations laid down in Article III. In subsequent years, the Convention provided guidance to the Parties for more stringent regulations on domestic trade in rhino products.

Appreciating its severe plight and highly endangered status, and that present legislation does not yet provide adequate protection, the Tanzania government proposes to expedite an amendment to the Wildlife Conservation Act that will afford the rhino absolute protection under a new category of 'Totally Protected' species. Under this classification no person shall, except with the written permission of the Director previously sought and obtained, hunt, kill, capture or wound any rhino, including in defence of human property. Once this amendment is adopted and enacted, the black rhino will, like the giraffe, wild dog and cheetah, finally be classed as a "Totally Protected" species.

A national Endangered Species Protection Bill is presently being drafted. The bill will enable prosecution of wildlife cases, and in particular those involving species listed on CITES Appendix I. It will also allow wildlife offenders to be pursued across international boundaries and, if found guilty, liable to very heavy fines and imprisonment.

However, without an adequate, disciplined and dedicated ranger force to protect rhinos in the field, no amount of legislation will save these animals. The AfRSG's draft revised "Continental African Rhinoceros Status Summary and Action Plan (Emslie & Brooks, in prep.) recommends that Rhino Protected Areas (RPAs), Intensive Protection Zones (IPZs) and Rhino Sanctuaries should ideally be staffed at a level of one ranger per 10km², but not less than one ranger per 30km². In larger reserves the AfRSG also recommends that ground surveillance be supplemented by deploying a mobile specialist Anti-Poaching Unit (APU). The AfRSG further supports the development and use of well trained intelligence networks as these are proving to be extremely cost-effective in preventing poaching and apprehending rhino offenders in both Africa and Asia. Tanzania's present financial constraints and large areas to be protected do not permit high densities of field staff, therefore the establishment and use of an effective intelligence network becomes of even greater significance in Tanzania's rhino conservation strategy.

Actions required:

7. National level:

- 1.1 Revise and implement a code of conduct for all dedicated rhino staff.
- 1.2 RCSC to expedite and advise recommendations for the revision of the Wildlife Conservation Act No.12 of 1974, taking into account this national rhino policy and management plan.
- 1.3 Centralise, record, mark and register horn stocks in a secure location and substantiate stocks on a regular basis.
- 1.4 Train police and customs officials at major entry and exit points.
- 1.5 Provide sufficient, and standardise if possible, arms and ammunition for rhino field staff.
- 1.6 Provide appropriate and adequate equipment and uniforms to maintain motivation, morale and *esprit de corps*.
- 1.7 Ensure co-ordination and sharing of intelligence information with other countries.
- 1.8 Issue appropriate WD/TANAPA/NCAA rhino field staff with

identity cards to extend their operations outside of their normal areas of jurisdiction.

- 1.9 Include the black rhino in amendment of the Wildlife Act as a "Totally Protected" species.
- 1.10 Ensure the use of only senior magistrates in the prosecution of rhino related offences that contravene the Wildlife Conservation Act.
- 1.11 Maintain on-going, in-service, training in wildlife law, procedures for arrest, and paramilitary training for rhino staff.
- 1.12 Train field staff in investigative techniques and court procedures.
- 1.13 Work to secure revised penalties to increase minimum jail sentences and fines, and make these mandatory (this could include hard currency fines but not as a substitute for jail sentences).
- 1.14 Establish modalities of increasing co-operation between conservation agencies, police, customs and the judicial system.
- 1.15 Create a central wildlife intelligence and prosecution unit within the wildlife sector in consultation with lawyers and with advice from TRAFFIC International.
- 1.16 Obtain advice, when necessary, from appropriate African rhino range state species protection units, specialised wildlife investigators and the AfRSG, where urgent or critical rhino security actions have to be taken.
- 1.17 Support national and continental horn fingerprinting initiatives.

2. Naorongoro Conservation Area Authority.

- 2.1 Maintain current staffing levels.
- 2.2 While on duty in the Crater, rhino field staff to focus on rhino protection exclusively.
- 2.3 Maintain and improve present patrol systems.
- 2.4 Maintain and improve all-weather mobility for field staff.
- 2.5 Establish local intelligence unit.

- 2.6 Specify functions of the rhino protection unit in the NCAA Regulations.

3. Moru Population in southern Serengeti National Park.

- 3.1 Increase present staffing levels.
- 3.2 Maintain and improve present patrol systems.
- 3.3 Maintain and improve all-weather mobility for field staff.
- 3.4 Establish local intelligence unit.
- 3.5 Specify functions of the rhino protection unit in the TANAPA Regulations.

4. Nvamalumbwa Population in northern Serengeti National Park

- 4.1 Establish a dedicated rhino unit to be strategically and permanently based within the rhino area.
- 4.2 Identify and undertake a training programme for a responsible field officer to lead a rhino protection unit in northern Serengeti.
- 4.3 Identify and undertake an in-service training programme, including paramilitary training, for a dedicated rhino protection unit in northern Serengeti.
- 4.4 Implement a well-planned and supervised rhino surveillance, monitoring and security system within the area.
- 4.5 Develop and implement a mutually acceptable and practical cross border, rhino monitoring, security and information exchange agreement with the necessary Kenya wildlife authorities.
- 4.6 Identify infrastructure requirements and prepare a five year budget for funding.
- 4.7 Obtain necessary equipment, and secure and maintain all-weather mobility for field staff.
- 4.8 Establish local intelligence unit to communicate and liaise with Kenya wildlife authorities.
- 4.9 Specify functions of the rhino protection unit in the TANAPA Regulations.

5. Lukuliro Population in eastern Selous Game Reserve

- 5.1 Establish a dedicated rhino unit to be strategically and permanently based within the rhino area.
 - 5.2 Identify and undertake a training programme for a responsible field officer to lead a rhino protection unit in the Lukuliro area.
 - 5.3 Identify and undertake an in-service training programme, including paramilitary training, for a dedicated rhino protection unit in the Lukuliro area.
 - 5.4 Implement a well-planned and supervised rhino surveillance, monitoring and security system.
 - 5.5 Identify infrastructure requirements and prepare a five-year budget for funding.
 - 5.6 Obtain necessary equipment and maintain all-weather mobility for field staff.
 - 5.7 Establish local intelligence unit.
 - 5.8 Specify functions of the rhino protection unit in the Selous Game Reserve General Management Plan.
6. *Kidai Population in northern Selous Game Reserve*
- 6.1 Increase present level of field staff.
 - 6.2 Maintain and improve on present rhino patrols, monitoring methods, and reporting systems.
 - 6.3 Secure and maintain all-weather mobility for field staff.
 - 6.4 Continue ranger in-service training programme.
 - 6.5 Establish local intelligence unit.
 - 6.6 Specify functions of the rhino protection unit in the Selous Game Reserve General Management Plan.
7. *Mkomazi Rhino Sanctuary*
- 7.1 Identify and increase staffing levels.
 - 7.2 Obtain administrative back-up from the Wildlife Division.
 - 7.3 Establish a mobile anti-poaching unit based at Maore or Kifukua.

- 6.4 Establish intelligence units to communicate and liaise with Kenya wildlife authorities.

Indicators of success:

1. National level

- 1.1 Protection legislation reviewed and revised by 2005.
- 1.2 Penalties increased and jail sentences made mandatory in the amended Wildlife Conservation Act.
- 1.3 All rhino related offences to be followed by arrests, prosecution and deterrent penalties.
- 1.4 A central wildlife intelligence and prosecution unit established within the wildlife sector by 2000.
- 1.5 Only senior magistrates hearing rhino cases.
- 1.6 Three wildlife prosecutors trained by 2000.
- 1.7 Rhinos removed from National Game animal list in the Wildlife Conservation Act of 1974 and made a "Totally Protected" species.

2. All populations

- 2.1 Mortality due to poaching reduced.
- 2.2 Numbers and demographics of all known populations to be defined and verified annually.
- 2.3 Increase in the number of rhino 'contacts' (sightings, tracks, dung and browse indications) made by field staff.
- 2.4 Where applicable, manpower density in RPAs to be not less than 1:30km² by 2005.
- 1.5 Minimum level of recurrent expenditure in RPZs to be US\$1,400 /km² per annum by 2005.

BIOLOGICAL MANAGEMENT

Rationale

For genetic diversity and as a buffer against poaching losses, the survival of the black rhino in Tanzania requires their numbers to be increased as rapidly as possible.

The extremely small numbers and fragmented nature of Tanzania's remaining rhino sub-populations require them to be managed on a metapopulation basis to reduce the probability of accelerated inbreeding, loss of genetic heterozygosity and the impacts of local extinction events. Each sub-species, *D.b.michaeli* and *D.b.minor*, will be managed as separate metapopulations within their respective historical range (Fig. 1). Occasional translocations of animals between sub-populations may be necessary to conserve metapopulation genetic diversity and minimise the risk of inbreeding so as to increase long term viability of each sub-species in Tanzania.

The populations of *D.b.michaeli* should continue to be supplemented by appropriate introductions of the same sub-species from South Africa, Kenya or from captive collections.

In order to increase rhino numbers as rapidly as possible and minimise loss of heterozygosity each population will be managed at its estimated Maximum Productivity Carrying Capacity (MPCC), presently estimated to be 75% of the estimated Ecological Carrying Capacity (ECC).

Appreciating the present very low densities of Tanzania's rhino populations and the generous extent of suitable rhino habitat, the possibility of reaching MPCC within the next ten years is unlikely. In the interim period all populations will be carefully and regularly monitored to ascertain numbers and demographics, reproduction performance, pedigrees, diet, health and behavioural patterns amongst individuals and between sub-populations. Much more effort will need to be devoted to determining these parameters in the Selous Game Reserve's *D.b.minor* sub-populations than in the sub-populations of *D.b.michaeli* in the north.

Each year occasional reports are received by the Wildlife Division of rhinos having allegedly been seen, or evidence of rhinos occurring, in some of the more remote locations outside of the national parks and game reserves. The limited evidence available in the field indicates most reports are unsubstantiated and generally based on unreliable, inadequate or second hand evidence. Such 'outlier' animals are presently of little significance to the country's overall rhino management objectives.

Utilisation of rhinos in Tanzania is strictly restricted to non-consumptive use. They are managed for their economic value through tourist game viewing, and for their national and international cultural and biological importance.

Actions required:

1. All rhino conservation areas.
 - 1.1 Monitor all populations using recognised, individual identification techniques, age at first calving, inter-calving intervals, age and sex structures, body condition, mortality causes, population estimates, and densities and home ranges using standardised categories and procedures recommended by the African Rhino Specialist Group (AfRSG), and relevant to individual site conditions.
 - 1.2 Endeavour always to establishing founder populations with at least 20 individuals, as unrelated as possible as recommended by the AfRSG.
 - 1.3 Introduce one breeding adult per generation (c.14 years) and, when necessary, consider removing *f1* progeny in order to minimise inbreeding and maintain genetic diversity for small populations in the country.
 - 1.4 Ascertain ecological carrying capacities of each habitat and manage populations at or below MPCC (estimated at 75% ECC).

Indicators of success:

1. An annual metapopulation growth rate of at least 5% for each rhino population.
2. Average inter-calving intervals of 2,5 years, but not more than 3,5 years.
3. On an annual basis national rhino population estimates, performance indicators, and mortality data reported to the RMC, RCSC and IUCN/SSC AfRSG.

4. COMMUNITY INVOLVEMENT

Rationale

In many areas, as a result of having been displaced from their lands and not receiving any benefits from wildlife conservation, the relationship between

protected area authorities and neighbouring rural communities became one of antagonism and hostility. The greater ecological, cultural and economic significance of wildlife has generally been of little or no interest to rural communities. Protection of their crops and livestock and even their own lives, has been their primary concern (Pitman, 1991).

Much of this antagonism and hostility has changed in recent times as a result of conservation awareness raising and education, and increasing employment opportunities in tourism and other conservation-related activities. The employment of local villagers as rangers, village game scouts and, even more specifically, as rhino scouts in certain protected areas can provide a positive steps towards improving community relations. Ways need to be found to further develop local job opportunities in safari lodges and camps, and ensure a higher proportion of the revenues earned in protected areas reach local communities.

The Tanzania government is anxious that further innovative approaches to conservation education, community involvement and benefit sharing in conservation programmes are investigated and implemented. This second Rhino Policy and Management Plan (1998) outlines proposed joint activities for the major Rhino Protected Areas and their local communities and should lead to improved relations and provide greater co-operation for the security of the rhino.

The Arusha Manifesto of 1961 clearly outlined the value of wildlife conservation in Tanzania. It is important, therefore, that everyone, and in particular rural communities living in the vicinity of RPAs, appreciate and benefit from the enduring socio-cultural and economic benefits of Tanzania's remaining populations of black rhinos.

Actions required:

1. National level

- 1.1 Collaborate with other organisations to establish or strengthen rhino component within environmental education programmes located around RPAs.
- 1.2 Develop rhino awareness programmes and provide resource materials (conservation posters, stickers, leaflets etc.), to strengthen outreach programmes in neighbouring villages.
- 1.3 When communities are well aware and sensitised, they should be assisted in drawing up by-laws and penalties for any rhino offences by members of the community.
- 1.4 Rhino stakeholders and local communities to develop employment possibilities (rangers, tour guides, watchmen, camp and lodge employees) and socio-economic benefits (schools, dispensaries, hospitals, bore holes and roads) that could result

from joint co-operation in rhino conservation and management initiatives.

- 1.5 Communities to participate in discussions on the potential benefits that could accrue from rhino conservation wherever possible.
- 1.6 Undertake a socio-cultural valuation of rhinos.
- 1.7 Establish on-going and country-wide rhino awareness campaigns at local and national level.

2. Ngorongoro Conservation Area Authority

- 2.1 Establish mechanisms for working with the local Maasai community to:
 - 2.1.1 report on the location of any rhinos detected outside of the Ngorongoro Crater, and
 - 2.1.2 provide intelligence information in relation to the security of rhinos within the Ngorongoro Conservation Area.

3. Northern Serengeti National Park

- 3.1 Establish an agreement on rhino trans-border security issues with Maasai community scouts located in the Loita-Laleta area of Kenya.
- 3.2 Wildlife Division to establish a liaison unit or mechanism with local communities to deal with cross-border movements by rhinos and their security.

4. Selous Game Reserve

- 4.1 Establish an intelligence network system with local communities residing along the border with Mozambique.
- 4.2 Wildlife Division to work with Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) in southern border area to investigate potentials for community benefits in exchange for involvement in rhino surveillance.

5. Mkomazi Game Reserve

- 5.1 Purchase of a bus for conservation education visits by local communities to the Mkomazi Game Reserve.
- 5.2 Establish and staff a mobile education unit to visit local communities.

Indicators of success:

1. Fewer negative reports from, and illegal activities by, local communities surrounding all rhino conservation areas by 2010, and percent of reports that are verifiable increases by 20-30% each year.
2. Most communities develop and implement their own by-laws and penalties for infringements against wildlife and rhinos in particular.
3. Effective outreach/rhino awareness programmes for local communities developed and implemented in RPAs.
4. Innovative approaches to community involvement and benefit sharing in all RPAs investigated and some developed by 2005.
5. A sense of national pride in rhinos established on a local and national level as being part of Tanzania's natural and cultural heritage
6. Increased awareness of the plight of rhinos in Tanzania and other countries.

5 SUSTAINABLE FUNDING

Rationale

Most African rhino range states are unable to sustainably finance conservation and management of their endangered rhino populations. Tanzania is no exception and relies heavily on external donors to finance wildlife conservation in general, and rhino conservation management in particular. The unreliability of external funding makes it is judicious for Tanzania to now seek ways to gradually become more self reliant and less dependant on long-term, unpredictable, external funding to meet its rhino conservation needs.

Actions required:

National level:

- 1.1 Prepare a Five-Year Business Plan (human, finance and material) demonstrating an annual reduction of reliance on external donors.
- 1.2 Submit resource requirements to prospective donors for funding.

- 1.3 Promote tourism by using rhinos as a "flagship" species.
- 1.4 Lobby the WD to secure funding from the retention scheme (ie; revenue accrued from hunting and other wildlife utilisation activities) for rhino conservation.
- 1.5 Establish a national Rhino Fund, to be administered by the RCSC with recommendations made by the RMC, through fund raising activities, and other sources (WD /TANAPA,NCAA, Tanzania Wildlife Protection Fund, and national and international donor communities). The administrative modalities of the Fund to be established by the RCSC and its activities annually verified by an external independent auditor.

Indicators of success:

1. Rhino Fund established and functioning by 1999.
2. Reliance on donor funding of all rhino populations to end by 2018.

6. CAPACITY BUILDING

Rationale

With the dramatic decline in rhino numbers over the past 30 years the long term survival of the black rhino is now of the greatest concern to relevant management authorities in Africa. The black rhino's survival has become increasingly dependent on intensive security and close biological management. These forms of management require a high density of well-trained and highly motivated surveillance, monitoring and security staff in the field. With the wildlife sector human resource at less than 50% of requirements (Anon, 1998) there is an urgent need to develop a national capacity to effectively manage the conservation of the remaining rhinos

A suitable on-going, internal and external, in-service training programme for all cadres of rhino management staff is required. A useful and timely start has been made with such a programme in Ngorongoro and southern Serengeti, but a lot is needed in the Selous, Mkomazi and northern Serengeti

Actions required:

1. National level

- 1.1 Identify training needs of rhino officers in all rhino protected areas.

- 1.2 Develop proposals and budgets for training activities.
- 1.3 Seek funding for the implementation of training activities.
- 1.4 Effect training programmes as applicable to the various rhino populations.
- 1.5 Monitor and evaluate the utility and effectiveness of such training.

Indicators of success:

1. National Rhino Co-ordinator in place, funded and implementing his Terms-of-Reference effectively.
2. Rhino Management Committee established and providing sound technical advice.
3. Rhino Conservation Steering Committee taking timely and judicious decisions, and ensuring their subsequent implementation.
4. Capacity at all staff levels for effective biological management (rhino numbers, demographics, breeding performance, growth rates, distribution, densities and home ranges), security (effective patrols, intelligence gathering, arrests and prosecutions) and monitoring (rhino movements, individual identification, tracking, map reading, use of Global Positioning Systems, maintenance of field records and evaluation) of rhinos achieved and evaluated on an annual basis.
5. Field staff trained in rhino surveillance, monitoring and security, not seconded or transferred to other duties for at least five years.

REVISIONS OF THE PLAN

This is the first revised edition of the 1993 Policy and Management Plan for the Black Rhinoceros in Tanzania. The plan will be reviewed and revised every three years by the Director of Wildlife and submitted to the Minister for Natural Resources and Tourism for approval. The RCSC may institute changes to this plan in response to new or emergency situations within the period of its validity.

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