

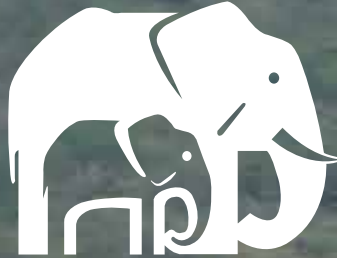
CONSERVATION AND MANAGEMENT STRATEGY FOR THE BLACK RHINO IN KENYA

2012 - 2016





**KENYA
WILDLIFE
SERVICE**




CONSERVATION AND MANAGEMENT STRATEGY FOR THE BLACK RHINO

(Diceros bicornis michaeli)

IN KENYA

2012 - 2016

5th Edition



5th Edition, 2012 produced at a workshop held from
27 - 29 June, 2011 at the Izaak Walton Inn in Embu, Kenya.

Compiled by: The Rhino Programme of Kenya

Cover photos credit: Jamie Gaymer.

The photo is of a rhino named Mwenda (ID. 139)
as can also be identified from the ear-notch pattern.

Mwenda, currently in Ol Jogi Ranch,
was born on 2 February, 2004 in Nairobi National Park
to a cow called Daphne (ID. 31).

Other cover photos were provided by KWS Rhino Program.

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ABBREVIATIONS AND ACRONYMS

AD	Assistant Director
AfRSG	IUCN SSC African Rhino Specialist Group
APLRS	Association of Private Land Rhino Sanctuaries
ARMC	Area Rhino Management Committee
AU	African Union
BR&M	Biodiversity Research and Monitoring
CBS	Chief of the Order of the Burning Spear
CCN -MMNR	County Council of Narok – Masai Mara National Reserve
CCTV	Close Circuit Television
CITES	Convention on International Trade in Endangered Species of Wild Fauna & Flora
CO	Commandant
COY	Company commander
DD	Deputy Director
DNA	Deoxyribonucleic acid
DRECA	Department of Regulatory Enforcement and Compliance Affairs
EAC-RMG	East Africa Community – Rhino Management Group
EBS	Elder of the Order of the Burning Spear
ECC	Ecological Carrying Capacity
EGH	Elder of the Order of the Golden Heart of Kenya
EIA	Environmental Impact Assessment
FTS	Field Training School
GIS	Geographical Information Systems
GoK	Government of Kenya
GPS	Global Positioning System
GR	Game Reserve
HC	Human Capital
H-EMU	Head – Ecological Monitoring and Biodiversity Evaluation
H-SCM	Head – Species Conservation and Management
H-VET	Head – Veterinary Services
H-WPD	Head – Wildlife Protection Department
IAPS	Invasive Alien Plant Species
ICT	Information Communication Technology
ID	Identifiable
IPZ	Intensive Protection Zone
IUCN	International Union for the Conservation of Nature and Natural Resources (The World Conservation Union)
KARI-TRC	Kenya Agricultural Research Institute – Trypanosomiasis Research Centre
KPR	Kenya Police Reservist
KWS	Kenya Wildlife Service
KWSTI	Kenya Wildlife Service Training Institute
MDGs	Millennium Development Goals

MoH	Ministry of Health
MPCC	Maximum Productivity Carrying Capacity
MSc	Master of Science
NCC	Nairobi County Council
NGO	Non-Governmental Organization
NP	National Park
NR	National Reserve
NRT	Northern Rangelands Trust
OC	Officer in Charge
OPC	OI Pejeta Conservancy
p.a	Per annum
PA	Protected Area
PhD	Doctor of Philosophy
RCA	Rhino Conservation Area
REC	Rhino Executive Committee
RhODIS	Rhinoceros DNA Indexing System
RPC	Rhino Programme Coordinator
RR	Rhino Reserve
RS	Rhino Sanctuary
RSC	Rhino Steering Committee
SAD-P&R	Senior Assistant Director Parks and Reserves
SCC	Social Carrying Capacity
SRI	Save the Rhino International
SRS	Senior Research Scientist
SSC	Species Survival Commission
SW	Senior Warden
TPP	Temporary Police Permit
TRC	Trypanosomiasis Research Centre
TWNP	Tsavo West National Park
USAID	United States Agency for International Development
USF&WS	US Fish and Wildlife Service
W&CS	Wildlife and Community Service
WC	Wildlife Conservancy
WHO	World Health Organization
WWF-ESAPO	World Wide Fund for Nature – East and Southern Africa Programme Office
ZSL	Zoological Society of London

GLOSSARY

ALIEN PLANT SPECIES: Plant species that are not indigenous to a given place or area and adversely affects the habitat they invade economically, environmentally, and/or ecologically.

BIOLOGICAL MANAGEMENT: Management of rhino populations (primarily through adjusting rhino stocking densities, but also managing the densities of other browsers and habitat management) to maintain rapid, healthy population growth, to minimize inbreeding and loss of genetic diversity. Rhino removal and introduction decisions are based on a population's breeding performance, social behaviour, genetic relationships, the rhino density relative to an area's habitat carrying capacity, vegetation conditions, etc.

BROWSER: Species that feed primarily on stems, twigs, buds, seed pods, fruits and leaves of high growing woody plants such as trees and bushes and may also feed on herbaceous plants and succulents (as opposed to grazers that eat grass or mixed feeders that eat both browse and grass).

CENSUS: Procedure of systematically acquiring and recording information about the members of a given population.

CLEAN RHINO: A rhino with no obvious individual identification features (and in the case of mark-recapture analyses refers to a rhino that does not have any obvious easy to record features such as ear-notches and as a result it cannot be reliably identified by all observers always, even if it on occasion can be identified by more subtle harder to record features by a key observer).

CONFIRMED RHINO: An individual rhino seen within the year of census.

CONSERVANCIES: Wildlife conservation areas owned and managed by local communities or private individuals or by partnerships between the two.

CRITICALLY ENDANGERED: IUCN Red List category of threat - A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the IUCN criteria (A to E).

DEMOGRAPHIC: Pertaining to the study of population characteristics including structure (age, sex), growth rates, density, fertility and mortality, distribution and migration.

EAR NOTCHING: A method of clipping a small section or sections (usually in a small 'v' shape) in a specific pattern from a rhino's ear to allow the animal to be easily identified for monitoring in the wild.

ECOLOGICAL CARRYING CAPACITY: The maximum number of rhinos that can be supported by the resources of a specific area in the medium term. ECC is a practical tool to help managers estimate MPCC (Maximum Productivity Carrying Capacity), i.e. the desirable stocking rate at which the highest possible growth rates can be attained.

ECOSYSTEM: An ecosystem is a complete community of living organisms and the non-living materials of their surroundings. Its components include plants, animals, and micro-organisms; soil, rocks, and minerals; as well as surrounding water sources and the local atmosphere.

EX SITU: In captivity and/or out of the natural range of a species.

FOUNDER POPULATION: Rhinos used to establish a new population. Effective founder number refers to the number of founders which are capable of breeding or have bred, i.e. those that contribute or are likely to contribute to the population's original gene pool and also which, as far as it is known, are unrelated. In other words a cow and calf do not represent two effective founders but rather two founders.

FREE-RANGING: Refers to rhinos inhabiting non-enclosed or non-confined areas, e.g. outside fenced areas.

GENETICALLY VIABLE: Having a realistic chance of avoiding the problems of inbreeding, whilst also retaining sufficient genetic diversity enabling populations to continue to respond to future threats such as disease outbreaks, etc. A population of rhinos requires a certain amount of genetic diversity, and consequently a certain minimum number of individuals which could ensure the continued survival of a population or species.

GUESSTIMATE: In the official rhino statistics compiled by Kenya a guesstimate is defined as an animal last seen more than two years ago. Guesstimates are excluded from the final population estimates. The term, as used in the official continental statistics by IUCN's AfRSG, refers to estimates for which there is no reliable recent evidence.

HOME RANGE: The area in which an animal usually resides and moves in search of water, food and shelter.

IMPORTANT POPULATION: An IUCN-SSC AfRSG rating to indicate a rhino population whose survival is considered extremely valuable in terms of survival of the species and subspecies. There are four sub-categories of Important populations – Important 1 = a population increasing or stable and N=20-50; Important 2 = population trend unknown or decreasing <25% (3-5 yrs) and N=51-100; Important 3 = population decreasing but N=20-50 in breeding contact in a protected area (protected meaning with security rather than in formal conservation area) and Important 4 = population with 20+ dispersed outside a protected area with good potential for consolidation in an area that can take 20 founders.

IN SITU: Wild rhinos being conserved in their natural habitat within the historic range of the species.

INDIGENOUS: A species originating and living or occurring naturally in an area or environment.

INTENSIVE PROTECTION ZONE (IPZ): This is a definite zone within a larger area of State land, private land or communal land where law enforcement staff are deployed at moderate to high density specifically to protect the rhino population. The concentration of rhinos within an IPZ reflects natural patterns of distribution and movement, and is not the deliberate result of fencing and other methods of confinement.

INVASIVE PLANT SPECIES: A subset of introduced or alien plant species that are rapidly expanding outside their native range. Invasive species can alter ecological relationships among native species and can affect ecosystem function and human health. A species is regarded as invasive if it:

- (1) Has been introduced by human action to a location where it did not previously occur naturally,
- (2) Becomes capable of establishing a breeding population in the new location without further intervention by humans, and
- (3) Spreads widely throughout the new location.

Certain invasive species can smother and replace indigenous species and can significantly lower carrying capacities for rhinos and other species impacting negatively on the conservation of biodiversity.

KEY POPULATION: An IUCN-SSC-AfRSG rating to indicate a rhino population whose survival is considered critical for the survival of the species and subspecies. There are three defined types of Key population with Key 1 being the most important at a continental level. Key 1 = population increasing or stable or N> 50% of subspecies; Key 2 = population increasing or stable and N=51-100 or n=26-50% of subspecies and Key 3 = population decreasing <25% and N>50 or N>100 even if population decreasing more than 25% (3-5 years).

MAXIMUM PRODUCTIVITY CARRYING CAPACITY: The desirable stocking rate at which maximum population growth rates can be attained, usually estimated as 75% of ECC.

METAPOPULATION: A number of populations of a species managed collectively as one big 'herd'. A metapopulation is made up of a number of discrete sub-populations, and animals are sometimes moved from one

population to another.

MONTANE FOREST POPULATION: A rhino population inhabiting mountainous habitats such as the Aberdare or Mt. Kenya National Parks. There is an absence of potentially pathogenic endoparasites and their vectors, mainly trypanosomes and their carrier the tsetse fly (*Glossina* spp.) in this population, which puts them at risk when exposed to these parasites after translocation to lowland areas.

PROBABLE RHINO: A term used for rhino population estimates in official statistics compiled by Kenya, defined as an animal last seen between one and two years ago.

RANGE STATE: A Country or State in which rhinos currently occur or historically occurred.

RHINO CONSERVATION AREAS: For the purpose of this document the term does not refer to formally defined RCA's (Leader-Williams *et al.* 1997); but rather the term is used simply to refer to areas with black rhinos in their natural habitat.

RHINO INFORMATION SYSTEM: The process of gathering rhino monitoring data, authenticating, recording, analysing, reporting and archiving.

R-MAX: The maximum possible growth rate.

SANCTUARY: A sanctuary is a small area of State protected land, private land or communal land in which rhinos are deliberately confined through perimeter fencing, the use of natural barriers or other methods of confinement and where law enforcement staff are deployed at high density to protect the rhino population. The confinement of rhinos within a sanctuary permits close observation and relatively intense management and protection of the rhino (Leader-Williams *et al.* 1997).

SITE MANAGER: The officer in charge of a rhino conservation area.

SOCIAL CARRYING CAPACITY: Maximum number of a rhinos that can be supported in a given area without the behavioural characteristic of rhinos compromising their reproductive performance. In practical terms one is primarily concerned with the social carrying capacity of adult males.

SPECIES: A taxonomic group whose members can interbreed and produce viable fertile offspring; also based on genetic and morphological differences between species.

SUBSPECIES: A subdivision of a species, usually geographical or ecological, whose members can interbreed and produce viable fertile offspring.

SURPLUS RHINOS: The number of rhinos above the preset Maximum Productivity Carrying Capacity of male rhinos that exhibit social pressure through regular intense fights in a breeding population.

TAXON (PLURAL TAXA): A taxonomic (classification) group of species, especially genus or a smaller group.

TRANSLOCATION: Movement of individual rhinos from one area to another, either to improve chances of survival, to establish new populations, to keep established populations productive (i.e. at or below estimated MPCC), or to introduce new blood into a population. Rhinos may be translocated to other areas of suitable habitat and to where they may be better protected from poachers.

TRYPANOSOMIASIS: A potentially pathological infection by protozoan parasites *Trypanosoma* spp. The trypanosomes are transmitted by different species of tsetse fly (*Glossina* spp.), which are restricted to the African continent.



Photo: Renaud Fulconis.



Photo: Kenya Wildlife Service.

FOREWORD BY THE CHAIRMAN BOARD OF TRUSTEES OF KWS

The success indeed contributes to KWS's vision to "save the last great species and places on earth for humanity." and the mission to "sustainably conserve, manage and enhance Kenya's wildlife, its habitats and provide a wide range of public uses in collaboration with stakeholders for posterity." Kenya Wildlife Service takes pride in the successes and gains made in rhino conservation in Kenya since the rhino programme was established in 1985 through a Presidential decree. These successes have been made possible through support from the Government of Kenya and local and international partners. Undoubtedly, wildlife conservation efforts in Kenya are solidly founded.

This 5th edition of the rhino conservation Strategic Plan comes in the wake of a global escalation of illegal killing of rhinos coupled with continual loss of habitat and difficult economic times. The rhinos are therefore facing one of the most difficult times in many years, and more than ever requires concerted global efforts to sustain rhino conservation gains. The KWS Board of Trustees recognizes and appreciates the dedication and commitment of the rhino monitoring staff on State, private, community, and county council lands with rhinos. The support of local and international partners in rhino conservation is also very much appreciated and encouraged to continue.

Sustained awareness campaigns on the plight of the rhino and against the use of rhino horn, as well as deterrent severe penalties for rhino poachers and dealers in rhino products are critical in robustly tackling the current high poaching threat to rhinos. Engagement of governments whose citizens are implicated in illegal trade along with strengthening and sustaining cooperation of local and international wildlife security agencies is critical and we encourage donor organizations and agencies to support these initiatives.

KWS thanks donors for their continued support in recurrent and capital expenditures despite global economic recessions and uncertainties. The KWS Board of Trustees welcomes donors, conservation partners and all stakeholders to continue their support for rhino conservation in Kenya. I am pleased to state that there are increased efforts and new initiatives by KWS to increase revenue to cushion wildlife conservation from hard economic times and to contribute significantly towards the estimated budget of Ksh. 632 million needed to implement this Strategic Plan.

Kenya's wildlife is the major attraction of tourism that generates an annual income of more than 1 billion US dollars to the national economy. The "big five", the rhino being one of them, constitute the core of the tourism industry. It is therefore important to invest adequately in the conservation of black rhino and cherish these magnificent animals for posterity.

On behalf of the KWS Board of Trustees I thank all those who participated in the production of this Strategic Plan. I am confident that by implementing the activities in this Strategic Plan, rhinos will be secure, in good health and continue to increase in numbers. To this end I am proud to present to you this 5th edition of the Conservation and Management Strategy for the Black Rhino in Kenya.



HON. DAVID MWIRARIA, EGH
CHAIRMAN, KWS BOARD OF TRUSTEES



Photo: Kenya Wildlife Service.

PREFACE BY THE DIRECTOR OF KWS

As part of the KWS policy review and through comprehensive stakeholder involvement, we have successfully completed formulating the 2012–2016 Conservation and Management Strategy for the Black Rhino in Kenya. I am pleased that the 2007-2011 rhino conservation and management Strategic Plan achieved most of its objectives in spite of the many challenges that were encountered. Some of the major achievements included an increase to 623 black rhinos by 2011 and expanding rhino conservation areas by establishing an Intensive Protection Zone in Tsavo West National Park. Global escalation in illegal killing of rhinos for their horns, political unrest in Kenya from late 2007 to early 2008, severe drought from 2008 to 2010 and the continuing global economic uncertainties were some of the major challenges that impacted negatively on rhino conservation efforts.

The increasing demand for rhino horn in Asia has exacerbated illegal killing of rhinos in Africa. We are conscious that intense poaching threats and increased illegal killing of rhinos pose a big challenge to rhino conservation and management. For these reasons, together with our conservation partners, we have taken a number of appropriate strategies to counter these threats. Kenya for example took a proactive role by consolidating support of all CoP 15 CITES Parties in Qatar 2010 to amend the CITES Resolution on rhinos to ensure that countries whose citizens are implicated in illegal trade in rhino horn report and share their mitigation measures. I declared 2011 to be the year of rhinos at KWS. KWS also trained a number of rhino monitoring scouts at subsidized rates in KWS's paramilitary training school on anti-poaching and acquired a number of permits from the Kenya Police for rhino monitoring scouts on private lands to be Kenya Police Reservists.

Like all other critically endangered wildlife species, the black rhino requires equal thrust on security and science to enhance population growth. KWS has always ensured these requirements are delivered and we shall endeavour to maintain and improve on them. In line with this, I recently streamlined rhino security operations and I am currently strengthening structures for rhino monitoring, management and decision making. These will enhance attention on rhinos and provide a solid information background upon which the newly introduced Rhino Steering Committee can deliver its mandate.

I am pleased to see the introduction of the Rhino Steering Committee because, apart from ensuring successful implementation and monitoring of the Strategic Plan, it also creates a forum where like-minded conservationists will work towards a common target, create synergies and eliminate duplication of efforts and retrogressive competition. I also note that this edition of the rhino conservation Strategic Plan places a lot of emphasis on the advocacy and awareness campaigns on the plight of the rhino. This is a critical element at a time when new uses of rhino horn are emerging and escalating illegal demand for rhino horn. It is also encouraging that the Strategic Plan distributes activities and responsibilities to KWS Conservation Areas.

KWS greatly appreciates partners who for many years have supported rhino conservation in Kenya. KWS also treasures and nurtures the partnerships with the private land rhino sanctuaries, the county councils and individual communities with rhinos on their lands. The rhinos will require more secure land over the next five years, hence the call for even stronger partnerships. I am confident that together we shall achieve the listed objectives and I look forward to seeing a happier black rhino population on our beautiful landscapes for many years to come.



JULIUS K. KIPNG'ETICH, EBS, CBS.
DIRECTOR, KWS

EXECUTIVE SUMMARY

THE STRATEGIC PLAN AT A GLANCE

This 5th edition of the conservation and management strategy for the black rhino in Kenya builds on the considerable achievements of the previous strategies.

It is also aligned and contributes to the current 2012 - 2017 KWS's Strategic Plan 2.0 that is founded on passion, innovation and quality; and pillared by conservation stewardship, people excellence and collaborative partnerships. This 5th edition of Rhino Strategic Plan re-focuses efforts on rhino conservation despite the ever increasing conservation challenges. This Strategic Plan has maintained Kenya's vision to conserve at least 2000 black rhinos in the wild. This edition, unlike previous ones, introduces a mission and a value statement for the rhino programme as declared by stakeholders (Figure 1). The Strategic Plan defines a revised overall goal of conserving at least 750 black rhinos by the end of 2016, achieving at least 5% national growth rate and less than 1% man-induced and disease-related deaths. Six strategic objectives (SOs) are listed with their rationales, measurable outcomes and activities. Emphasis is placed on: 1. protection and law enforcement; 2. monitoring for management; 3. biological management; 4. population expansion; 5. awareness and public support and; 6. coordination and capacity. The revised SOs emphasise population expansion, awareness and public support, and enhancement of coordination by introducing a steering committee whose main role will be to monitor the implementation of this Strategic Plan. These SOs will address the urgent need for additional secure conservation areas for rhinos, the increasing illegal demand for rhino horn and the increasing rhino poaching, and the effective implementation of the Strategic Plan through shared responsibilities. This Strategic Plan is designed to provide a solid framework with flexibility for individual rhino conservation areas to develop their own annual work plans.

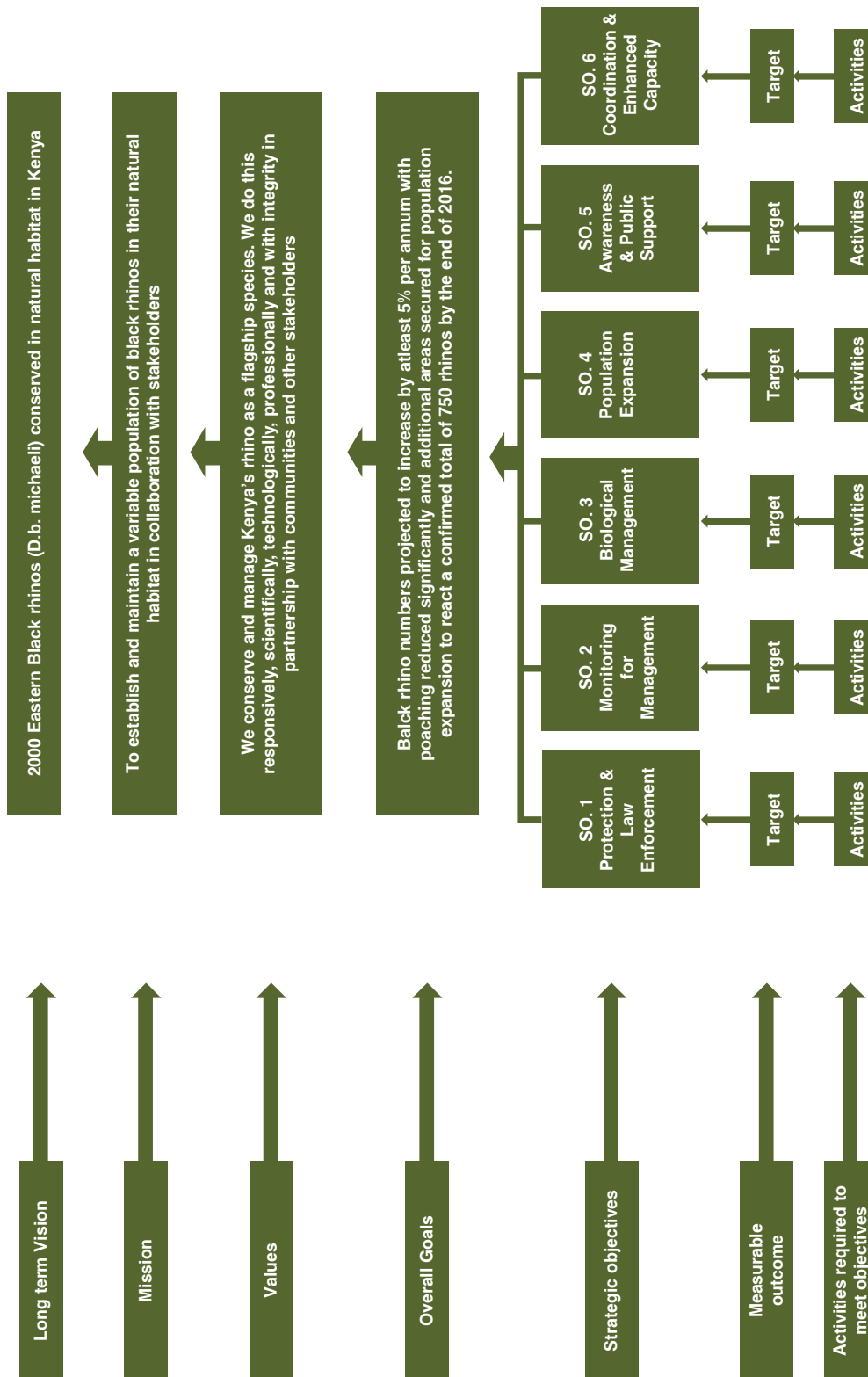


FIGURE 1: Plan-at-a-glance - structure of the 2012-2016 Black Rhino Conservation and Management Strategy.

STRATEGIC PLAN FOR CONSERVATION AND MANAGEMENT OF THE BLACK RHINO

1 INTRODUCTION

1.1 THE STATUS OF BLACK RHINO

Black rhino (*Diceros bicornis*) suffered a catastrophic decline across Africa in the 1970s and 1980s, both in numbers and extent of its range. Numbers plummeted from an estimated 65,000 in 1970 to fewer than 2,500 by 1992. The decline in the eastern black rhino (*D. b. michaeli*) in East Africa was particularly severe where the large National Parks and Reserves such as Tsavo National Park (NP) and the Selous Game Reserve (GR) each used to hold perhaps twice as many black rhino as currently exist in the world. The black rhino dropped in number in Kenya from an estimated 20,000 in 1970 to less than 400 animals by 1990 (Figure 2) mainly due to poaching. All surviving subspecies of black rhino are listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and as Critically Endangered in the IUCN Red List of Threatened Species.

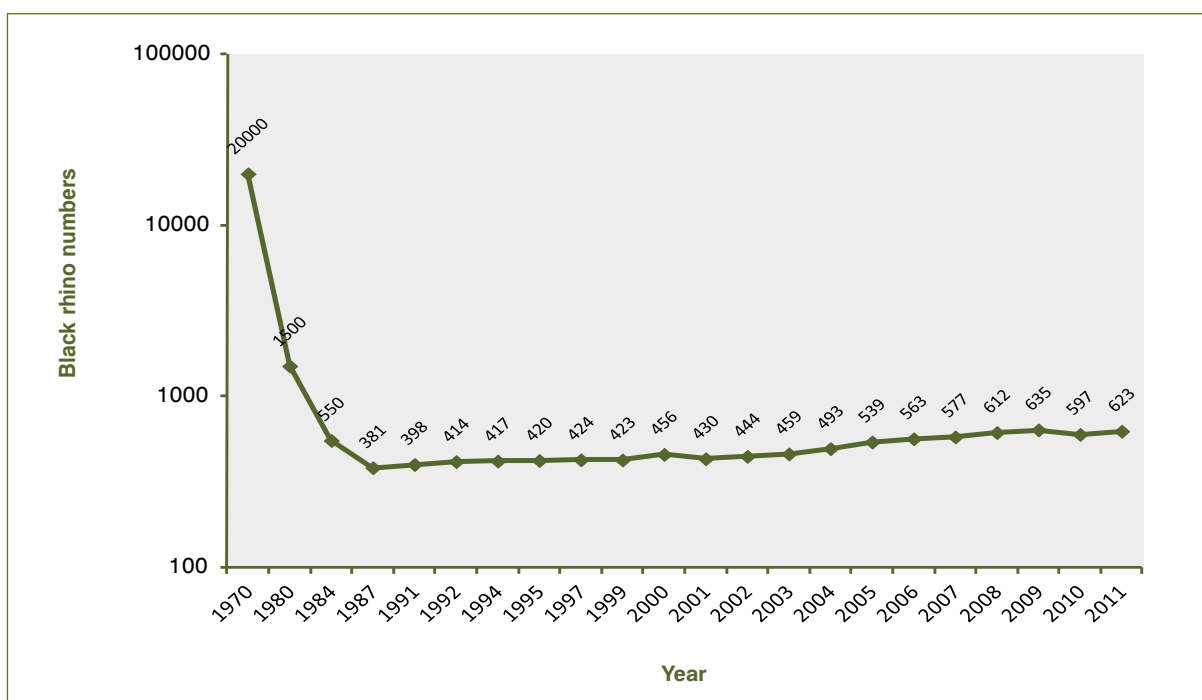


FIGURE 2: Black rhino numbers in Kenya from 1970 to 2011 in logarithmic scale showing the sharp decline in the 1970s and slow recovery from the mid -1980s. Note the effect of poaching in recent years.

Over the last 20 years in particular, considerable money and resources have been expended in several African countries aimed at saving the black rhino from extinction. As a result, the declining trend has reversed and numbers are slowly increasing. As at the end of 2011 Kenya had 623 black rhinos while Africa had a total of 4,880+ black rhinos. However, Illegal demand for rhino horn resulting in poaching was, and continues to be, the major threat to persistence of all species of African rhinos. The proportion of rhinos poached was more than 1.5% per annum in African between 2009 and 2011 but slightly more than 2% per annum in Kenya over the same period. It is speculated that the increase in poaching results from societal changes in some Asian countries such as Vietnam

that has led to an increase in demand that is not associated with traditional Chinese medicinal use. Furthermore, anti-poaching investigations and intelligence in some African rhino range States suggest that organized crime syndicates exploit, and perhaps even manipulate the newly expended demand for rhino horn. In curbing the threat posed by poaching, government authorities of African rhino range States need dynamic responses that are both tactful and strategic.

1.2 DISTRIBUTION OF BLACK RHINO IN KENYA

Kenya is the stronghold of the eastern black rhino subspecies (*D. b. michaeli*) holding 80.3% of wild populations. As at the start of 2011 Kenya conserved six AfRSG rated Key 2 black rhino populations of continental significance and a further four Important populations. The other significant numbers of this subspecies are found in northern Tanzania (two Important populations), and an introduced out of range Key 2 population in South Africa. Populations are currently distributed on State, private, county council and community lands (Figure 3) across the country (Figure 4). Further history on Kenya's black rhinos can be found in previous editions of rhino strategies.

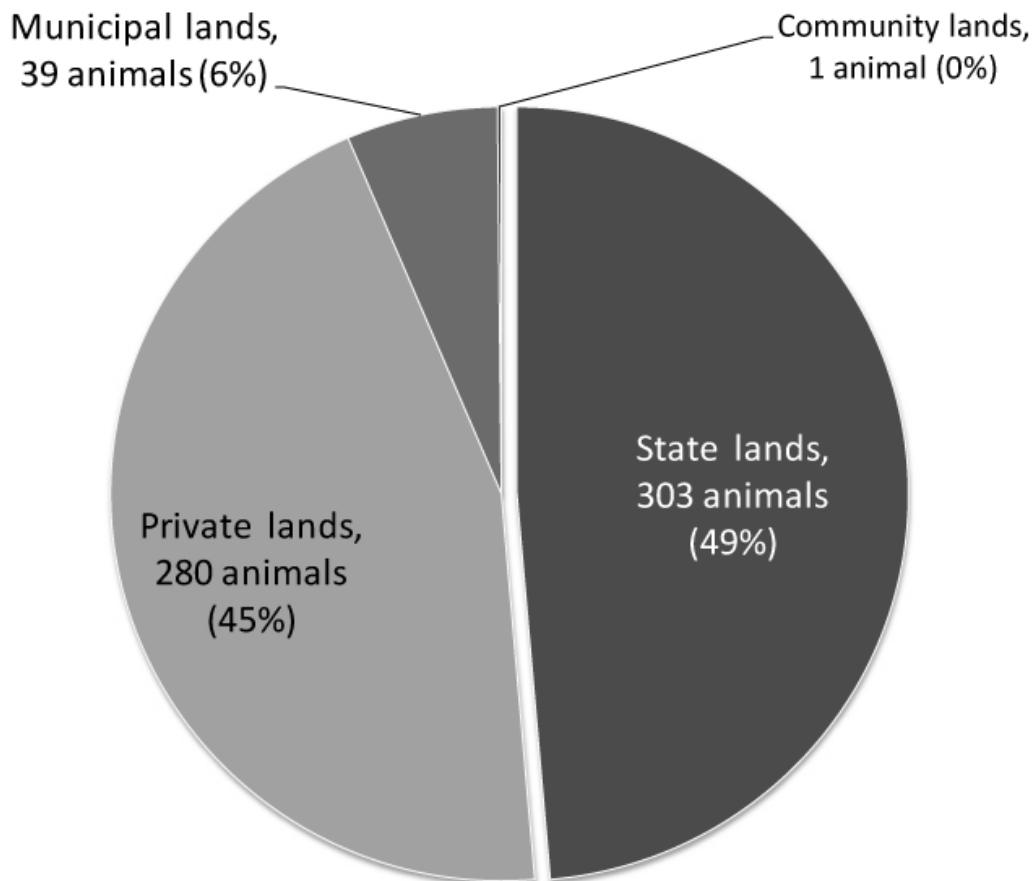


FIGURE 3: Distribution of (*D. b. michaeli*) on different lands in Kenya at the end of 2011.

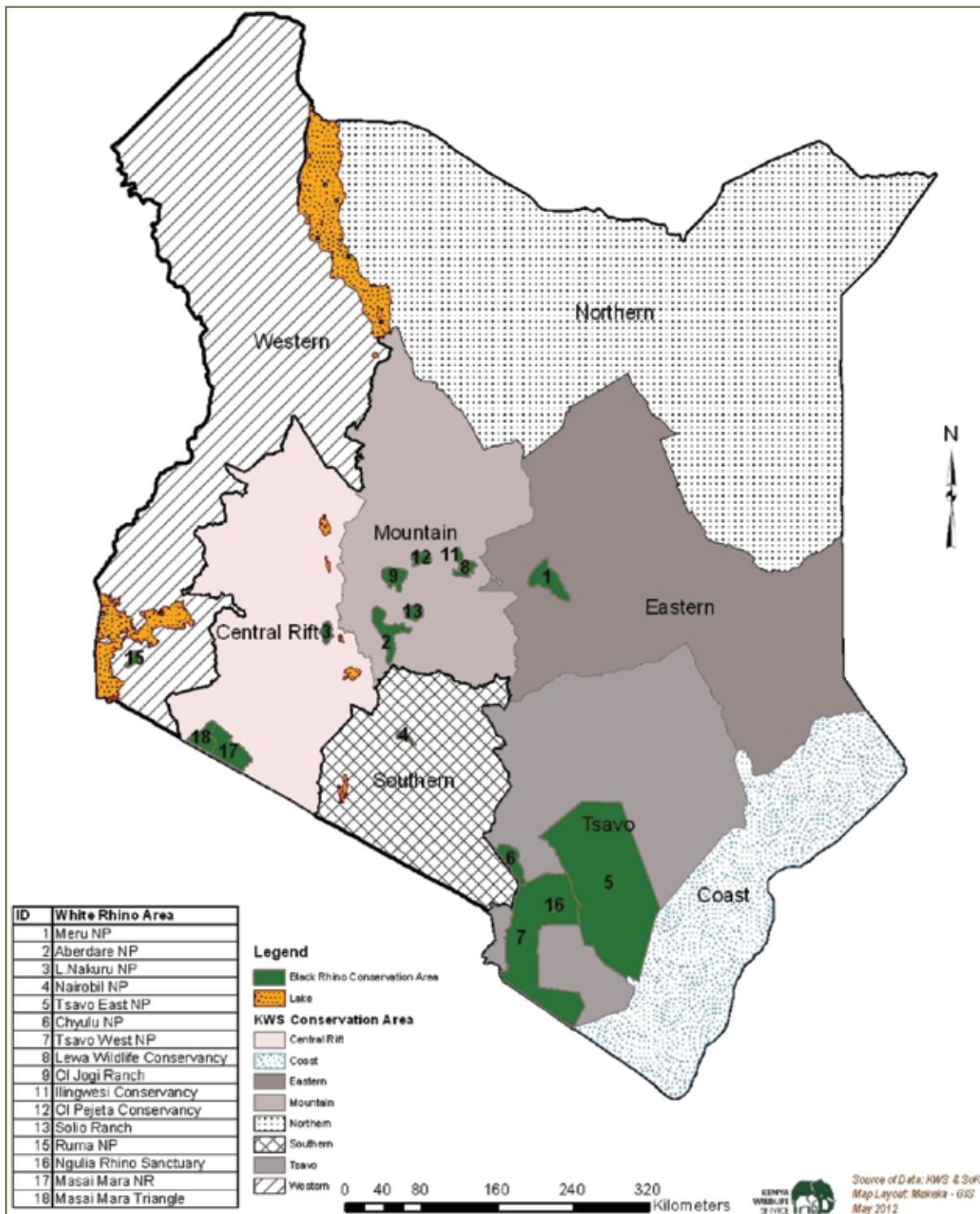
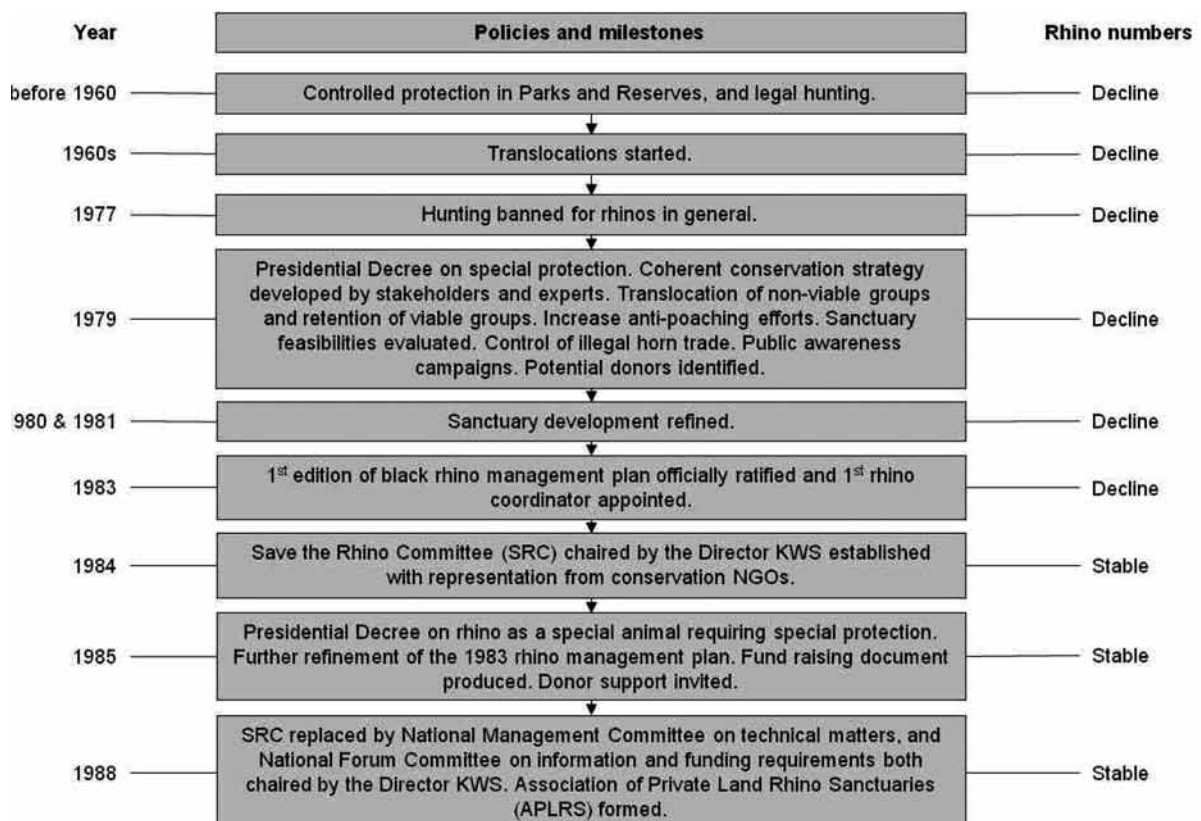


FIGURE 4: Locations of black rhino conservation areas in Kenya, 2011.

1.3 LEGISLATION AND POLICIES TOWARDS RHINO CONSERVATION IN KENYA

Changes in the administration of the wildlife sector in Kenya and in the status of rhino have resulted in the adoption of different policies and structures to oversee management of rhinos in Kenya (Figure 5). Policies before 1970 centered on land clearance for human settlement through problem animal control, protection in National Parks/ Reserves and legal hunting of the rhino. During the 1970s through the late 1980s, the management of wildlife in Kenya deteriorated and poaching reached a crisis level. To reverse this trend, the Government enacted the Wildlife Conservation and Management (Amendment) Act (CAP 376 No. 16, 1989, Republic of Kenya), which created the KWS. A new policy framework was formulated that emphasized protection of rhinos through the creation of specially protected and fenced areas (sanctuaries). Under the wildlife legislation, black rhinos remain the property of the State irrespective of the land tenure system in which they are found.

The recent policy guidelines for conserving rhinos were formulated in 2007 and designed to guide enhanced growth rates through biological management whilst maintaining protection of the black rhino populations. These guidelines were built upon earlier rhino conservation and management policy guidelines of 1979, 1983, 1985, 1993 and 2000, during which time rhino numbers stabilized and then gradually increased. This Strategic Plan promotes previous policies on rhino conservation and management. The recent escalation in illegal demand for rhino horn and rise in poaching of rhinos are prompting the amendment of legislations and policies aimed at reversing this worrying trend.



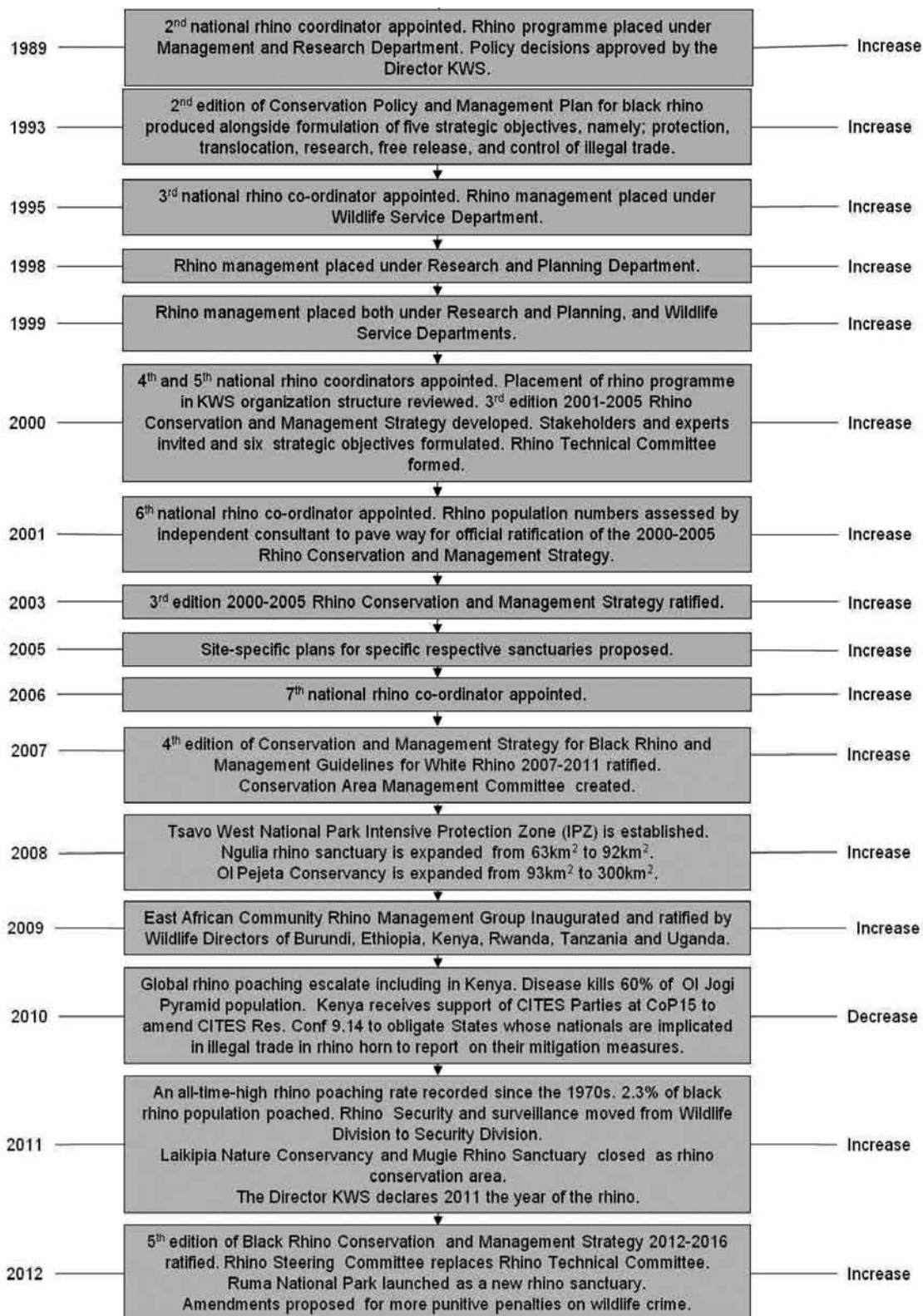


FIGURE 5: Summary of the policies and milestones in black rhino conservation in Kenya (1960-2012).

2 THE REVISED STRATEGIC PLAN

2.1 FORMULATION PROCESS OF THIS STRATEGIC PLAN AND EVALUATION OF PREVIOUS STRATEGIC PLAN

The development of this Strategic Plan started with an internal evaluation of the 2007-2011 strategy by the Species Conservation and Management Department of KWS in April 2011. The review produced an evaluation document (summarized in Appendix 1). Notably in the evaluation was the good progress made towards the overall goal and the strategic objectives despite the significant poaching pressure.

At expiry of the 2007-2011 Strategic Plan, there were 83 black rhinos in free-ranging areas, eight black rhinos in montane forest habitat and 532 black rhinos in sanctuaries giving a confirmed overall total of 623 animals. Apart from Mugie Ranch which suffered significant poaching, the well established sanctuaries achieved an annual growth rate of more than 6% per annum while the newly established sanctuaries with free-ranging populations achieved a growth rate of less than 3% per annum. This lower growth rate was expected over the initial settling period. However, overall losses to unnatural causes were significant. Poaching claimed 53 black rhinos between 2007 and 2011 (approximately 8.5% of the current total population).

Tsavo East NP and Laikipia Nature Conservancy in particular recorded negative overall growth due to poaching leading to a management plan to secure the remaining Tsavo East NP free-ranging population into a newly established fenced sanctuary within the Park and the decommissioning of Mugie Rhino Sanctuary and Laikipia Nature Conservancy as rhino conservation areas by relocating their rhinos to safer conservation areas. The 120km² Ruma NP was hence established as a rhino area with a founder population from Mugie Rhino Sanctuary and Solio Game Reserve. A disease outbreak claimed 12 black rhinos in Ol Jogi Pyramid in 2010. Post election violence in Kenya, economic recession, and intense poaching threats led to the delayed implementation of Tsavo West NP's IPZ by a year finally being established in October 2008.

The evaluation document was circulated to stakeholders for comments and then to the Rhino Technical Committee and other stakeholders as a status review document for the national Strategic Planning workshop to produce this 5th edition of the Conservation and Management Strategy for the Black Rhino in Kenya (2012-2016). A Secretariat comprising Antony Wandera, Benson Okita-Ouma, Cedric Khayale and Linus Kariuki compiled the outcome of the workshop and circulated a draft Strategic Plan to stakeholders for initial comments in October 2011. A second draft was circulated widely for final comments from the Rhino Technical Committee, all rhino stakeholders, including the IUCN-SSC-AfRSG Secretariat in December 2011. The near final draft was ratified by the Rhino Executive Committee on 13 December 2011. The final draft was approved by the KWS Board of Trustees in March 2012 and adopted as a KWS document for immediate implementation.

This 5th edition of the rhino Strategic Plan, as stated in the Executive Summary, places emphasis on population expansion and securing new rhino conservation lands, awareness and public support on the plight of rhino, and enhancement of coordination by introducing a steering committee whose main role will be to monitor and guide the implementation of the Strategic Plan. The Strategic Plan is designed to provide a solid framework with flexibility

for individual rhino conservation areas to develop their own annual work plans and for shared responsibility. Security and law enforcement, monitoring for management and biological management will continue as in previous Strategic Plans to significantly reduce poaching and through biological management to increase rhino numbers.

2.2 STRUCTURE OF THIS STRATEGIC PLAN

The logical structure of this Kenyan black rhino conservation and management strategy can be seen from the 'Strategic Plan-at-a-glance' (Figure 1) in the Executive Summary.

The Vision sets out the desired situation to be achieved in the future. As such it represents a long-term goal. This Strategic Plan has a 5-year time horizon, and sets measurable short-term Conservation Goals. By achieving these goals, progress towards achieving the long-term Vision will have been made. The Strategic Plan identifies a number of Key Strategic Objectives namely:

1. Protection and law enforcement.
2. Monitoring for management.
3. Biological management.
4. Population expansion.
5. Awareness and public support.
6. Coordination and capacity.

Achieving all of these Key Strategic Objectives is essential to meet the short-term Conservation Goals successfully. In the body of the Strategic Plan, a brief Rationale section is given for each Key Strategic Objective explaining why the particular Key Strategic Objective is important to meeting the Conservation Goals.

The Strategic Plan also lists a number of Objective Targets which are measurable steps that describe what needs to be accomplished to meet each Key Strategic Objective which are SMART (i.e. Specific, Measurable, Achievable, Realistic and Time-based).

Each Objective Target is also specified with a list of Actions which need to be implemented in order to achieve the particular target. In addition, Indicators of Success are defined for each Action which help to define what each Action is intended to achieve, and to determine when the Action has been performed successfully by those individuals or organizations (Actors) responsible for the Actions.

3 STRATEGIC VISION, MISSION, VALUES, GOALS AND OBJECTIVES

3.1 LONGER TERM VISION

There will be a metapopulation in Kenya of 2000 Eastern African race/subspecies of black rhino (*Diceros bicornis michaeli*) managed in natural habitat in the long term.

Two thousand animals are recognized as being the minimum number for a metapopulation of the black rhino necessary to ensure the long-term survival of this species in Kenya. The sooner this target can be achieved, the greater the reduction in loss of overall genetic diversity.

3.2 MISSION AND VALUES

The Mission: Of the Kenyan Rhino Programme is to establish and maintain a viable population of eastern black rhinos in their natural habitat.

The Values: To achieve the mission include conserving and managing Kenya's rhino as a flagship species responsively, scientifically, technologically, professionally and with integrity in partnership with communities and other stakeholders.

The mission and vision set the purpose and mode of conserving and managing Kenya's black rhinos. Kenya conserves the majority of the eastern subspecies of black rhino (Plate 1).

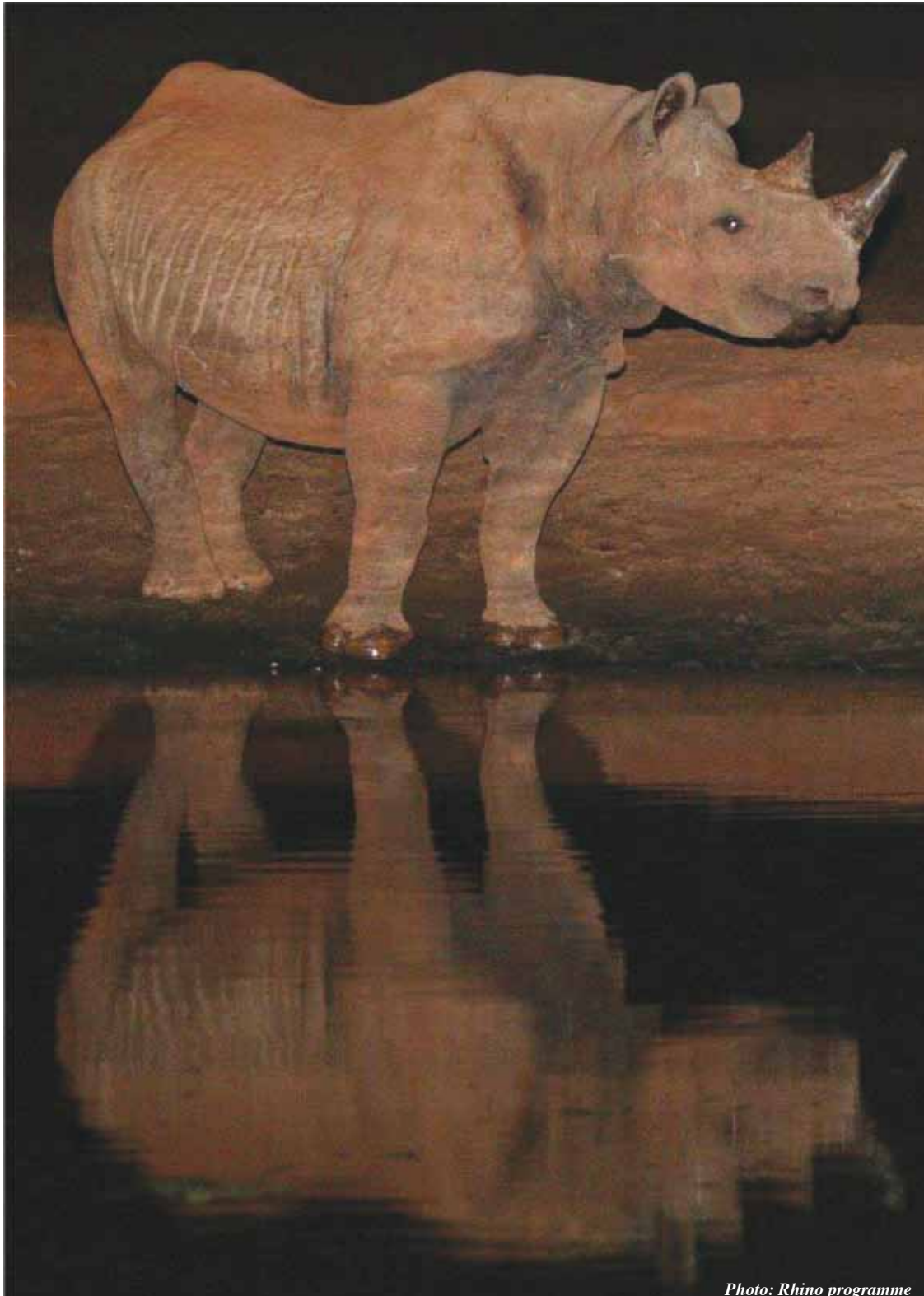


PLATE 1: (*Diceros bicornis michaeli*) showing the slender curved horn and distinctive skin ridges that gives the eastern subspecies a corrugated appearance on its sides. The picture was taken at night during rhino census in Ngulia Rhino Sanctuary, Tsavo West NP.

3.3 OVERALL GOALS

Black rhino numbers projected to increase by at least 5% per annum with poaching reduced significantly and additional areas secured for population expansion to reach a confirmed total of 750 rhinos by the end of 2016.

RATIONALE AND CONSIDERATIONS:

The overall goals are the immediate concern of this Strategic Plan and are achievable within the time frame and with the resources available. In turn, by meeting these overall goals, significant progress will be made towards achieving the long-term vision of this Strategic Plan.

The national 5% growth rate is the IUCN-SSC-AfRSG minimum metapopulation growth rate target, just over half of r-max (9%) and should be attainable. In practice, one would hope to achieve higher rates of increase (6.5–9%) in secure, well established and productively managed populations. Given an expanding population with a young age structure in good habitat, one can temporarily achieve even higher rates of growth (10%+). By 2016, numbers of black rhino in Kenya should reach 750 animals with a national 5% growth rate. This also assumes that poaching is significantly reduced or eliminated (Figure 6).

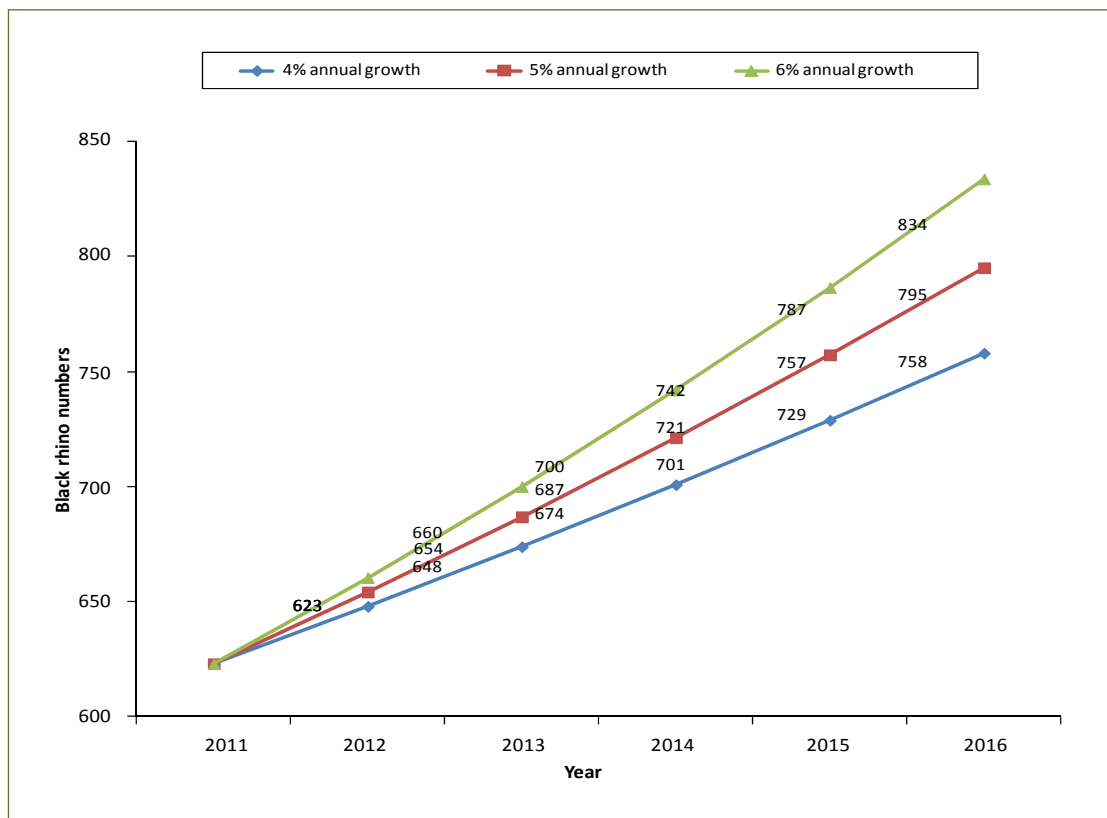


FIGURE 6: Projected national black rhino population growth for the 5-year Strategic Plan period (2012 to 2016).

African rhinos are suffering new poaching onslaught for their horns. Poached rhino as a proportion of total population has been more than 2% per annum since 2009 in some major rhino range States. Kenya has intensified its anti-poaching efforts by for example declaring 2011 as the year of the rhino to direct focus and resources to rhino conservation and protection.

Other efforts have included increasing the rhino ranger force by more than 25% during 2011, converting rhino scouts on private rhino lands into Kenya Police Reservists, offering formal training of community scouts in wildlife protection, using sniffer dogs at international ports and tracker dogs for monitoring, and relocating rhinos from areas of high risk to areas of low risk.

These efforts coupled with strategic and tactful approaches to drivers of demand for rhino horn by for instance intensifying targeted education and awareness campaigns on the plight of the rhino are efforts that would ultimately contribute to significant reduction of rhino poaching.

Rhinos like other charismatic megaherbivores, require large areas to support viable populations. They therefore not only act as a flagship species but also act as an umbrella species for the ecosystems they inhabit because their conservation requirements, by default, encompass those of other smaller species. By successfully conserving rhinos within an area, the other species in the area also benefit thus contributing towards the wider National biodiversity goals.

Many established sanctuaries still remain overstocked. Secure new areas are urgently required, and this Strategic Plan continues to place emphasis with set targets in restocking former free ranging areas which can support large populations as well as creation of secure sanctuaries. This will require significant commitment, sufficient resources and well-trained man-power. The continual role of Tsavo West Intensive Protection Zone(s) is an important strategic element along with the creation of the Aberdare NP and Chyulu NP IPZ. New sanctuaries like in Aberdare, Borana, Ruma and Tsavo East will need to be encouraged and particularly in the private lands where some like the Mugie Rhino Sanctuary opted to disinvest in rhino conservation due to the high costs and risks resulting from recent escalation in poaching.

There are, however, some challenges and obstacles that this Strategic Plan aims to overcome in order to achieve the overall goals. These include, but are not limited to:

- i. The current intense poaching threat and illegal demand for rhino horn.
- ii. Insufficient suitable, secure new areas for population expansion.
- iii. Security and monitoring challenges in unfenced large areas.
- iv. Lack of implementation of an invasive species management and control programme.
- v. Coordination framework not effectively being implemented.
- vi. Inadequate sustained funding for operational costs.
- vii. An increased number of clean animals in fences areas.
- viii. Ranger staff strength below minimum required levels in some rhino areas.
- ix. Insufficient number of trained staff in some areas; high turnover of trained staff.
- x. Lack of punitive wildlife crime penalties.
- xi. Lack of proper community based wildlife management programmes that provide incentives for protecting rhinos and their habitat.

3.4 STRATEGIC OBJECTIVES (SO)

SO-1: PROTECTION AND LAW ENFORCEMENT

Reduce illegal killing of rhinos to less than 1% per annum and significantly reduce illegal trade in rhino horn and derivatives.



Photo: Renaud Fulconis

RATIONALE AND CONSIDERATIONS:

Illegal killing of the rhino for its horn, illegal trade in the horn and stealing of horns from safe custodies have increased globally in the past few years. New emerging uses of the horn and the extreme high price tags on a kilogram of rhino horn on the black market have exacerbated the situation. This has significantly impacted on Kenya achieving its strategic rhino growth target with poaching rates greater than two percent over the last three years. Significant reduction of rhino poaching needs to be urgently achieved through effective protection and law enforcement and diplomatic engagement of countries whose citizens are implicated in illegal trade in rhino horn and derivatives.

Each rhino conservation area will re-evaluate its manpower and resource requirements and realign security and law enforcement operations to achieve this objective. Improved intelligence networks and information sharing will be critical in ensuring that threats directed to rhinos are mitigated. The Strategic Plan aims at improving information sharing necessary for the protection of rhinos. Additionally, appropriate use of site specific tools and procedural mechanisms, such as rhino database and protocols, and guidelines for protection and monitoring of rhinos will be re-emphasised. Improved prosecution through use of forensics will be pursued through involvement in the continental Rhino DNA Indexing System (RhODIS), a database of DNA profiles of African white and black rhinos collected from as many live animals as possible during routine interventions; and those obtained from legally and illegally hunted rhinos as well as from stockpiles. Effective rhino horn stockpile management through the use of micro-chipping and installation of appropriate thief detectors, such as CCTV cameras at storage facilities will be ensured. The use of dogs to recover horns and track poachers will be expanded in order to build on previous successes. Developed guidelines for vetting and retaining rhino staff will be institutionalised. Building from the previous Strategic Plan, Cross-border security operations will continue to enhance the protection of rhinos.

There are many conservation threats around rhino conservation areas emerging through the illegal utilization of natural resources by surrounding communities. These activities pose huge challenges in the protection of rhinos. Engaging the communities through dialogue, support and improved awareness on the plight of the rhino will be essential to increase community participation in conservation and protection of rhinos.

Table 1: Protection and Law enforcement strategic objective targets, actors timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
1.1 Illegal killing of rhinos per annum reduced to less than 1% of total population.	1.1.1 Review minimum manpower requirements at each rhino site; establish and maintain adequate levels.	KWS DD Security, RSC	1 st review by 1 st quarter 2012 then subsequent annual reviews	<ul style="list-style-type: none"> Review reports
	1.1.2 Review site specific law enforcement equipment and clothing requirements; provide and maintain adequate levels.	RSC, ARM	1 st review by 1 st quarter 2012 then subsequent annual reviews	<ul style="list-style-type: none"> Review reports
	1.1.3 Train rhino rangers in identified targeted rhino protection skills.	RSC, KWS AD for rhino areas	2012 - 2016	<ul style="list-style-type: none"> Training reports Number and proportion of trained staff
	1.1.4 Establish, maintain information necessary for protection of rhinos with a focus on intelligence.	KWS DD Security, site managers	Established by end of year 1, then maintained continuously and reviewed annually	<ul style="list-style-type: none"> Up-to-date database Number of successful pre-emptive intelligence cases
	1.1.5 Review and establish appropriate site specific tools and procedural mechanisms (software, protocols/ guidelines for surveillance and equipment use) for protection of rhinos.	RSC, KWS DD Security, RPC	Reviewed and established by end of year 1, then maintained continuously and reviewed annually	<ul style="list-style-type: none"> Quarterly and annual reports Protocols and guidelines Training reports
	1.1.6 Improve prosecution through use of forensics and participate in the continental rhino horn DNA database (RhODIS).	KWS DD Security, - HVet (laboratory unit)	By end of 2012	<ul style="list-style-type: none"> Number of successful prosecutions through use of forensic evidence Kenya's participation in RhODIS work
	1.1.7 Identify and train specialized staff in scene of rhino crime investigation.	KWS DD Security	By 2013	<ul style="list-style-type: none"> Number of trained personnel actively engaged
	1.1.8 Increase the use of dogs to recover rhino horn and for protection of rhinos.	KWS DD Security, site managers	Increased use evident by end 2012 and reviewed, and applied as required	<ul style="list-style-type: none"> Number of rhino areas with trained dogs and handlers

Target	Activities	Actors	Timeline	Indicator
	1.1.9 Develop and implement guidelines for vetting and rewarding of all rhino specific staff.	KWS DD Security, KWS DDWCS, Head Human Capital, RSC (to coordinate)	<ul style="list-style-type: none"> Guidelines by end of quarter 1 All rhino specific staff vetted and outstanding staff rewarded by end of quarter 3 Annual vetting and rewarding of all old staff and vetting of new staff 	<ul style="list-style-type: none"> Guideline document and number of staff vetted and rewarded
	1.1.10 Synchronize cross border/area security operations and establish/maintain cooperation with security agents at ports of entry.	KWS DD Security, RPC (through EAC RMG)	2012 - 2016	<ul style="list-style-type: none"> Number of synchronized operations Quarterly reviews Input to regional strategy timeline
1.2 Rhino horn stock pile fully secured and managed to agreed standards by REC.	1.2.1 Enhance and maintain security and management of rhino horn stockpiles to agreed standards.	KWS AD DRECA, RPC	Ongoing	<ul style="list-style-type: none"> Audit reports
	1.2.2 Fit micro-chips to all non-tagged rhino horns in stock and implement system for fitting micro-chips to all retrieved horns.	KWS AD DRECA, H-Vet, RPC	<ul style="list-style-type: none"> Up to date end 2012, and maintained continuously and reviewed annually 	<ul style="list-style-type: none"> Number of horns with micro-chips
	1.2.3 Carry out a full audit of all rhino horns in stock.	KWS AD DRECA	By 1stquarter of 2012	<ul style="list-style-type: none"> Audit report submitted to REC
	1.2.4 Consolidate all stocks of rhino horns in secure central places and maintain database.	KWS AD DRECA, RPC	By 1stquarter of 2012 and maintained on a continuous basis	Rhino horn stock-audit reports
	1.2.5 Participate in existing RhODIS continental rhino horn DNA database.	RPC, H-Vet, DD Security, AD DRECA	2012 onwards	<ul style="list-style-type: none"> Number of Kenyan rhino samples sent for DNA profiling Number of staff trained
	1.2.6 Introduce CCTV cameras in rhino horn strong rooms.	KWS DD Security, Head –ICT	June 2012	<ul style="list-style-type: none"> CCTV in place
1.3 Undertake awareness programmes on wildlife crime and law.	1.3.1 Increase active involvement of security staff in local community to reinforce image of armed wing as positive force for law and order.	KWS DD Security, DD Wildlife Service	2012 - 2016	<ul style="list-style-type: none"> Number of meetings with community
	1.3.2 Initiate an education and awareness programme on rhino poaching and horn trade issues.	AD Education	2012 - 2016	<ul style="list-style-type: none"> Number of programmes

SO-2: MONITORING FOR MANAGEMENT

Maintain a standardized monitoring and reporting protocol to provide information for efficient protection, metapopulation management and programme implementation.



RATIONALE AND CONSIDERATIONS:

Monitoring is done primarily to protect rhinos, to make informed biological management decisions, and to assess progress towards meeting the overall strategic goal. This involves the collection of good quality data on population status, dynamics and reproductive health as well as factors that may affect performance such as density of competing browsers and ecological carrying capacity in fenced areas. Monitoring of individual movement patterns, changes in social behaviour, home-range sizes and body condition are also required for assessing population performance. All this information help managers assess whether rhino populations require interventions such as translocations. Further, rhino sighting and law enforcement data can guide patrol deployment and increase protection as well as provide an audit of the population on a regular basis.

Monitoring of populations should ideally be based on individual animal recognition and use of appropriate monitoring equipment and technology. To be able to compare data over time and between rhino conservation areas within and outside Kenya, it is essential that the IUCN-SSC-AfRSG recommended standardized age and condition classes continue to be used.

A successful monitoring system was implemented in the previous two Strategic Plans in most areas and any remaining weaknesses will be addressed through (i) improved coordination and quality of rhino monitoring through enforcement of standards; (ii) investment in routine ear notching operations where appropriate; (iii) sustained capacity through routine training of new ranger staff in rhino monitoring, focused training of existing KWS and private sector staff involved in rhino monitoring and re-equipping of rhino monitoring units maintained at adequate standards; and (iv) efficient storage and processing of data for regular feedback to decision-makers and rhino monitoring staff.

Table 2: Monitoring for management strategic objective targets, actions, timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
2.1 Strengthened and sustained ranger/scout based monitoring in all rhino conservation areas.	2.1.1 Maintain a standardized GIS - based rhino information management system in all rhino areas for site patrol-based monitoring, reporting and decisionmaking.	Site officer in charge rhino, site managers	2012 - 2016	<ul style="list-style-type: none"> • Monthly management reports • Annual status reports
	2.1.2 Review, agree and implement national and site specific guidelines for ranger based monitoring.	RSC, RPC	2012 - 2016	<ul style="list-style-type: none"> • National and site specific guidelines • Monthly management reports
	2.1.3 Maintain a minimum of two rhino monitoring instructors at each rhino area.	Site officer in charge rhino, site managers	2012 - 2016	<ul style="list-style-type: none"> • Number of instructors in each site as reported in monthly management reports and annual status reports
	2.1.4 Ensure data quality control procedures (including up - to-date Rhino Master ID files) are effectively being implemented in all rhino areas.	RPC, site officer in charge rhino, site managers	2012 - 2016	<ul style="list-style-type: none"> • Status of master ID files in each site as reported in monthly management reports and annual status reports
	2.1.5 Maintain at least 60% of independent animals in each population identifiable by all trained observers.	Site officer in charge rhino, site managers, RPC, H-Vet	2012 - 2016	<ul style="list-style-type: none"> • Percentage of identifiable rhinos in each area as reported in annual status reports
	2.1.6 Continue rhino monitoring module at Manyani FTS (all recruits to have basic knowledge in rhino and wildlife monitoring).	RPC, CO - Manyani FTS	2012 - 2016	<ul style="list-style-type: none"> • Number and proportion of trained ranger recruits
	2.1.7 Retain at least 50% of key skilled and experienced rhino monitoring personnel in all areas.	H-WPD, RPC, DD-HC, APLRS	2012 - 2016	<ul style="list-style-type: none"> • Percentage of experienced rhino staff in each area as reported in monthly management reports and annual status reports

Target	Activities	Actors	Timeline	Indicator
	2.1.8 Explore new technologies for rhino monitoring.	RSC	2012 - 2016	<ul style="list-style-type: none"> • Reports • Number of new technologies in use
2.2 Accurate rhinopopulation estimates for metapopulation management.	2.2.1 Develop and implement standardized survey methods at site level to provide reliable population estimates with confidence categories at least every two years to feed into national annual and AFRSG continental status reports.	Sitemanagers and scientists	2012 onwards	<ul style="list-style-type: none"> • Population survey reports • Annual status reports
	2.2.2 Agree and implement critical rhino sighting intervals at site level, and probable and guesstimate target levels at national level.	Site managers, RSC	2012 onwards	<ul style="list-style-type: none"> • Monthly management reports • Annual status reports
	2.2.3 Publish findings in peer reviewed journals as appropriate and taking into account security considerations.	RPC, RSC, site managers and scientists	2012 - 2016	<ul style="list-style-type: none"> • Number of publications
2.3 A standardized rhino monitoring and reporting system at site and national level.	2.3.1 Review and standardize monitoring and reporting protocol and incorporate where applicable cross border needs.	site managers, site officer in charge rhino, RPC, RSC	2012	<ul style="list-style-type: none"> • Goodwill amongst the stakeholders and cross border agreement in place
	2.3.3 Ensure timely feedback on management and status reports is provided to rhino area management and the information is being used for effective law enforcement and adaptive biological management.	site managers, RSC, RPC	2012 - 2016	<ul style="list-style-type: none"> • Timely reports and decision making



Photo: Rhino programme

SO-3: BIOLOGICAL MANAGEMENT

Achieve and maintain a 6% per annum growth rate in well-established sanctuaries and a minimum of 5% per annum at national level to attain 750 black rhinos by 2016.



RATIONALE AND CONSIDERATIONS:

The rationale for 5% growth rate is already explained in the overall goals section. This Strategic Plan continues from the previous one, in using the well established sanctuary populations as a 'breeding bank' of actively managed rhino for the provision of a continuous supply of surplus rhino to create additional secure sanctuaries and to restock former range areas, including those capable of supporting large populations. The target annual growth rate of 6% in established sanctuaries is kept based on growth rates achieved above this level over the last 10 years (2002-2011). The growth rates in developing sanctuaries and free-ranging populations are expected to be less than 5% based on past performances.

Large, rapidly breeding healthy populations not only provide the best possible insurance against future poaching losses but also preserve genetic diversity, or at least minimize loss of heterozygosity, by ensuring maximum rate of gene transfer to future generations. The only montane-forest habitat population, in Aberdare NP-Salient, is no longer viable and will be supplemented. In addition, with the on-going heightened poaching threat to rhinos, it is essential to improve Ecological Carrying Capacity in existing fenced areas to accommodate additional animals. This will include habitat management through for example control of invasive alien plant species (IAPS), improved fire regimes and reducing competing browser densities in fenced areas. The initiation of an effective management programme for IAPS will need the following components: a) mapping the extent and abundance of key identified IAPS in each affected area; b) research in the impacts/dynamics of the IAPS in relation to major plant and animal communities; c) development and implementation of short- and medium-term control mechanism in affected areas; d) establishment of surveillance systems for monitoring the spread and effectiveness of control; and e) development of longer term control and management in targeted areas.

Annual reporting on the status of individual rhino populations will continue to be produced to assess age and sex composition, calving rates, and causes and rates of mortality within each population. A synthesis of these reports into a national status report will enable reasons for suboptimal performance to be determined and solutions to be put in place promoting metapopulation growth. Observation of these principles will result in at least 750 black rhinos by 2016 (Figure 6).

Table 3: Biological management strategic objective targets, actions, timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
3.1 Improved rhino ecological carrying capacity in rhino fenced areas with identified need.	3.1.1 Reduce densities of competing browsers to recommended levels without significant delay, where there is a demonstrated need.	H-SC&M, RSC, REC	2012 - 2016	<ul style="list-style-type: none"> Number of plans agreed by Rhino Steering Committee Number of interventions
	3.1.2 Estimate browser population size for each rhino fenced area to feed into total browser ECC estimate.	RPC, scientists and site managers	2013 and 2016	<ul style="list-style-type: none"> Number of rhino fenced areas with browser population size estimates.
	3.1.3 Assess rhino and total browser ECC estimates in rhino fenced areas on a periodic basis (every 3 years).	RPC, scientists and site managers	2013 and 2016	<ul style="list-style-type: none"> Number of fenced sanctuaries with reviewed ECC
	3.1.4 Develop and implement site specific invasive alien plant species (IAPS) mitigation plan in line with the national IAPS Strategic Plan.	RPC, scientists and managers, Head-EMU	2012 - 2016	<ul style="list-style-type: none"> Number of site specific IAPS plans & interventions
	3.1.5 Develop and implement guidelines for food and mineral supplementation in areas of need.	RPC, H-Vet, site managers	2012 - 2016	<ul style="list-style-type: none"> Guidelines Number of interventions
3.2 National rhino growth rate increased and sustained at minimum 5% per annum.	3.2.1 Translocate surplus (above MPCC) rhinos in fenced areas.	Site managers and area wardens, RPC, H-Vet	2012 - 2016	<ul style="list-style-type: none"> Percentage of surplus rhinos translocated
	3.2.2 Domesticated and periodically review IUCN capture and translocation guidelines.	RPC, H-Vet	2012 - 2016	<ul style="list-style-type: none"> Revised guideline document
	3.2.3 Assess the impact of lions and hyenas on rhino populations for appropriate interventions.	Head of other species, area scientists, RPC, carnivore task force	2013	<ul style="list-style-type: none"> Number of reports Numbers of predated rhinos per annum
	3.2.4 Develop and implement guidelines for managing surplus males.	RSC, RPC	2012 - 2016	<ul style="list-style-type: none"> Guidelines Number of interventions
	3.2.5 Review age and sex ratios, breeding records and genetic structures and take appropriate actions to sustain high growth.	RSC, RPC, site managers and scientists	Annually from 2012	<ul style="list-style-type: none"> Reviewed status reports with recommendations Population growth rates

Target	Activities	Actors	Timeline	Indicator
	3.2.6 Review at least annually information on intra specific competition (deaths, injuries, changes in home ranges) and take appropriate action.	RSC, RPC, site managers	2012 - 2016	<ul style="list-style-type: none"> Annual review report Number of interventions
	3.2.7 Carry out research on rhino genetics, population dynamics, habitat and other appropriate research.	DD-BR&M, Area scientists, H-SC&M, RPC, RSC, site managers	2013 and 2016	<ul style="list-style-type: none"> Number of informed decisions and interventions
	3.2.8 Produce site annual rhino status reports and synthesize and review annual national status reports.	RPC, RSC January	2012 - 2016	<ul style="list-style-type: none"> Annual site status reports National status report
3.3 Percentage of rhino and health related mortalities disease reduced to less than 0.5%.	3.3.1 Diagnose and treat sick and injured animals in a timely manner.	RPC, H-Vet, site vet officers, scientists and managers	2012 - 2016	<ul style="list-style-type: none"> Number of treatment reports Annual status reports Number of injury and health related rhino mortalities
	3.3.2 Produce disease monitoring, surveillance and diagnostic protocols and implement in all rhino areas.	RPC, H-Vet, site vet officers.	2012 - 2016	<ul style="list-style-type: none"> Disease monitoring and surveillance protocol Annual status reports
	3.3.3 Investigate disease outbreaks and implement control mechanisms in a timely manner.	RPC, H-Vet, site vet officers, scientists and managers	2012 - 2016	<ul style="list-style-type: none"> Number of reports on outbreaks and interventions Annual status reports Number of rhino mortalities due to disease

SO-4: POPULATION EXPANSION

**Secure new areas and
make policy interventions
for rhino population
expansion.**



Photo: Rhino programme

RATIONALE AND CONSIDERATIONS:

Rhinos like other charismatic megaherbivores, require large areas to support viable populations. They therefore not only act as a flagship species but also act as an umbrella species for the ecosystems they inhabit because their conservation requirements, by default, encompass those of other smaller species. By successfully conserving rhinos within an area, the other species in the area also benefit thus contributing towards the wider National biodiversity goals.

The previous Kenya rhino conservation strategies made remarkable achievements in promoting rhino population growth despite a myriad of challenges. This was through emphasis on improved biological management alongside protection allowing rapid population growth. The rhino conservation policy in Kenya since 1989 has centred on the creation of intensively protected fenced sanctuaries. Black rhino numbers have

steadily increased within the sanctuaries necessitating removals to avoid negative density dependent effects. However, many established sanctuaries still remain overstocked. Secure new areas are urgently required, and this Strategic Plan continues to place emphasis, with set targets, on restocking former free-ranging areas which can support large populations, as well as the creation of secure sanctuaries. This will require significant commitment, sufficient resources and well-trained man-power. The continual role of Tsavo West Intensive Protection Zone(s) is an important strategic element. Establishment of new populations in both fenced sanctuaries and IPZs, strengthening non-viable or under-performing populations and securing suitable habitats for population expansion are therefore inevitable. To achieve this objective the Strategic Plan will focus on securing and maintaining all IPZs, promoting creation of more government, private and community rhino sanctuaries and developing and institutionalizing a long-term plan to accommodate the envisioned 2000 black rhinos.

Table 4: Population expansion strategic objective targets, actions, timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
4.1 At least two fully operational and strengthened Intensive Protection Zones.	4.1.1 Secure and build up (through supplementation and growth) Tsavo West NP IPZ population to at least 50 rhinos.	RSC, donor organizations, H-WPD, RPC	2012 - 2016	<ul style="list-style-type: none"> Number of rhinos in IPZ by end of Strategic Plan period Number of rhino lost to poaching per annum
	4.1.2 Secure and build up Chyulu IPZ rhino population to at least 25 rhinos.	RSC, donor organizations, RPC, H-WPD	2012 - 2016	<ul style="list-style-type: none"> Number of rhinos in IPZ by end of Strategic Plan period Number of rhino lost to poaching per annum
4.2 At least 5 more extended and or new rhino fenced areas.	4.2.1 Secure and strengthen Aberdare Salient IPZ with at least a viable population of 20 rhinos.	RSC, donor organizations, RPC, H-WPD	2012 - 2016	<ul style="list-style-type: none"> Number of rhinos in Aberdare Salient by end of Strategic Plan period Number of rhino lost to poaching per annum
	4.2.2 Establish Borana rhino sanctuary with at least a founder population of 20 rhinos.	Borana Ranch Proprietor, RSC, donor organizations, RPC, H-WPD	2013	<ul style="list-style-type: none"> Number of rhinos in the sanctuary by 2013
	4.2.3 Establish Tsavo East rhino sanctuary with at least 20 rhinos.	RSC, donor organizations, RPC, H-WPD	2012 - 2013	<ul style="list-style-type: none"> Number of rhinos in the sanctuary by 2013
	4.2.4 Secure and strengthen Meru NP with at least 30 rhinos.	RSC, donor organizations, RPC, H-WPD	2014	<ul style="list-style-type: none"> Number of rhinos in Meru NP by end of Strategic Plan period Number of rhino lost to poaching per annum
	4.2.5 Establish Ruma NP rhino sanctuary with a founder population of at least 20 rhinos.	RSC, donor organizations, RPC, H-WPD	2012	<ul style="list-style-type: none"> Number of rhinos in Ruma NP rhino sanctuary by end 2012
4.3 At least one community sanctuary with a viable rhino population.	4.3.1 Establish a viable rhino population in at least one community sanctuary with at least 20 rhinos.	NRT, RSC, donor organizations, RPC, H-WPD	2013 - 2016	<ul style="list-style-type: none"> Number of rhinos in community rhino sanctuaries by the end of the strategic
4.4 A long term plan for population expansion to 2000 rhinos.	4.4.1 Create a task force to identify sufficient secure suitable habitat over the long term to achieve the strategic vision.	RSC2013		<ul style="list-style-type: none"> Plan for population expansion
	4.4.2 Establish EAC Rhino Management Group with a regional metapopulation management strategy.	EAC wildlife agencies, EAC rhino coordinators	2012 - 2014	<ul style="list-style-type: none"> EACRMG Strategic Plan EACRMG meeting reports
	4.4.3 Explore and setup sustainable financial mechanisms for community rhino conservation projects.	Task Force, RSC 2013	2012 - 2016	<ul style="list-style-type: none"> Number of financially sustainable community rhino projects

SO-5: AWARENESS AND PUBLIC SUPPORT

Raise awareness on the plight of the rhino to gain public and corporate support globally.



RATIONALE AND CONSIDERATIONS:

Given the increasing demand for rhino horn due to unfounded new non-traditional invented claims to create a market that it can cure terminal diseases such as cancer, it is critical that the Strategic Plan addresses this matter through education, awareness campaigns, and advocacy. There is need also to reach out in a culturally sensitive way to Asian traditional medicine practitioners that promote the over 1000-year deeply rooted belief in rhino horn as potent medicine such as to reduce fever. A number of traditional medicine substitutes for rhino horn (e.g. buffalo horn and herbs) have been proposed. Rhino horn is made up of tubules of keratinized cells set in an intercellular matrix with melanin and calcium similar to horse hoof and similar to human hair or fingernails.

Previous editions of rhino strategies were less explicit on awareness creation and advocacy for rhino. Flagging this out as a stand-alone Strategic Objective will improve awareness and campaign efforts. This Strategic Objective will build on previous partnerships to reach out to more corporate organizations and companies and urge them to brand some of their products with the rhino and heighten their Corporate Social Responsibilities to continue their support for rhino conservation. Cooperation and support of friendly pharmaceutical companies to assist in demystifying use of rhino horn as medicine will be explored. The judiciary will be sensitised on conservation efforts, resources and dedication that goes into rhino conservation to increase chances of them recommending maximum penalties to those who illegally kill rhinos or trade in their products. Dissemination of progress/results of implementation of activities in this document to motivate and inspire stakeholders is also paramount and will be pursued through this Strategic Objective.

Table 5: Awareness and public support strategic objective targets, actions, timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
Advocacy/Lobbying				
5.1 Public awareness on rhino illegal killing and illegal horn trade.	5.1.1 Clarify the common message on rhino issue and disseminate.	RSC	1st quarter 2012	• Defined message and means of dissemination
	5.1.2 Carry out a campaign against illegal killing and trade (rhinos and products).	RSC to coordinate and identify other appropriate actors, and target audiences (local, national, regional – EAC, AU, international)	2012	• Number of campaign events
5.2 Support from policy makers, judiciary and international community to stop rhino illegal killing and illegal horn trade.	5.2.1 Advocate for appropriate penalties and fines for rhino illegal killing and trade through amendment of existing legislation.	KWS DD Wildlife Service, KWS Species Department, RSC	1st quarter 2012 and by end 2013 all in place	• Number of appropriate enhanced fines and penalties
	5.2.2 Lobby relevant parliamentary committees to pass amendments to wildlife crime penalties.	RSC to form a task force	1st quarter 2012 and by end 2013 all in place	• Number of sensitization events
	5.2.3 Sensitize judiciary and prosecutors on importance of applying the law to the full, both at local and national levels.	RSC to coordinate with other supporting actors, KWS Security Department, ARMC to coordinate locally and identify other actors	Continuous process, at least once a year at the local and national level	• Number of sensitization events • Number of sensitized judiciary staff and prosecutors
	5.2.4 Sensitize relevant Kenyan ministries (Trade Foreign Affairs, Tourism etc.) and foreign embassies on rhino issues.	RSC, KWS Species Department, Ministry Wildlife Director	Continues process, target to have these sensitization meetings at least once a year	• Number of sensitization events • Number of Ministries and Embassies sensitized
	5.2.5 Approach World Health Organization (WHO), Ministry of Health (MoH) and pharmaceutical industry to partner in discouraging use of rhino horn medicine.	KWS Species Department, KWS Director, Ministry Director Wildlife (for link to Ministry of Health)	2012	• Public statement by the WHO, MoH and pharmaceutical industry
5.3 Regional coordination and	5.3.1 Lobby East African Community (EAC)	KWS Director, Ministry	2013	• Regional rhino Strategic

Target	Activities	Actors	Timeline	Indicator
Conservation of rhinos	Wildlife Sub-committee to promote a common strategy for the conservation of rhinos for regional metapopulation management.	Wildlife Director, RPC to co-ordinate		• Plan and subspecies goal/target developed
	5.3.2 Lobby directors of wildlife authorities in East African Community, Rhino Management Group to make Group active by appointing formal contact persons.	KWS Director, RPC	By June 2012	• Contact persons formally appointed
	5.2.2 Lobby relevant parliamentary committees to pass amendments to wildlife crime penalties.	RSC to form a task force	1st quarter 2012 and by end 2013 all in place	• Number of sensitization events
Communication/ Marketing to support and promote the strategic Plan and its implementation				
5.4 Effective communication of Rhino Conservation and Management Strategic Plan.	5.4.1 Launch the 2012-2016 Kenya Rhino Conservation Strategy.	RSC, RPC	1st quarter 2012	• Strategic Plan launched in presence of key stakeholders
	5.4.2 Disseminate the Rhino Strategic Plan to different audiences using appropriate approaches (audience differentiation and identification of appropriate dissemination approaches/methods).	RSC, RPC	1st quarter 2012 (Strategic Plan launch, website), during 2012 (other audiences such as communities, schools etc.)	• Number of dissemination activities/ meetings
	5.4.3 Communicate progress in implementation of the Strategic Plan to relevant audiences using appropriate mechanisms.	RSC	On-going as per calendar of RSC meetings	• Number of progress reports • Evaluation report
	5.4.4 Organize rhino focused events to promote Strategic Plan implementation and gain public support for the Strategic Plan (for example road shows, branded rhino Nairobi city NCC buses etc.).	RPC, RSC, KWS marketing department. ARMC (for local events), KWS corporate communication	Ongoing with 1/2 big events each year and at least 1 event per year in each area under the ARMC	• Number of promotional events
	5.4.5 Produce rhino branded materials to promote the Strategic Plan.	KWS marketing department, KWS marketing	2012 and on-going	• Number of branded materials produced
	5.5 Wider public support for rhino conservation.	5.5.1 Coopt rhino branded organizations and events into supporting the implementation of the Strategic Plan (for example Rhino Ark, Rhino Cement, Cycle with rhinos, Lewa Wildlife	RSC, KWS marketing, KWS corporate communication, KWS resource mobilization,	2012 and on-going

Target	Activities	Actors	Timeline	Indicator
	Conservancy Marathon, Ol Pejeta Conservancy-Cricket in the Wild, Laikipia Wildlife Forum Education Programme, Rhino matches, Rhino Safaris, Tusks supermarket, Sarova etc.).	RPC (to coordinate)	2012 - 2016	<ul style="list-style-type: none"> Number of events
	5.5.2 Manage negative press, respond in a timely and appropriate way.	RSC, KWS Director	2012 - 2016	<ul style="list-style-type: none"> Number of responses to negative press
	5.5.3 Co-opt/recruit voluntary champions in Kenya and internationally as rhino ambassadors (sports stars, comedians, film stars, musicians, etc.).	RSC (to assist co-ordinators), KWS communications	2012 onwards (identified by 2nd quarter, actively engaged by end 2012)	<ul style="list-style-type: none"> Number of rhino ambassadors Number of rhino ambassadors engaged in events and media
	5.5.4 Undertake exhibitions on rhino and rhino issues (temporary & permanent) in appropriate places in Kenya (for example education/information centres) and internationally.	RSC, ARMC, KWS marketing	On-going as per calendar,	<ul style="list-style-type: none"> At least 1 per area per year Annual rhino meeting and exhibition Safari Walk and KWS Education Centre enhanced with permanent exhibitions
	5.5.5 Carry out social networking for Kenya rhinos (also explore this for fundraising).	KWS ICT, RSC	Review by end of 2nd quarter 2012	<ul style="list-style-type: none"> Number of social networks explored and reviewed by RSC Decision on what to implement after review
	5.5.6 Identify and promote projects and initiatives that link rhinos to communities or local people.	RSC, ARMC	Identified options during 2012, roll out in subsequent years and review	<ul style="list-style-type: none"> Number of identified specific initiatives and projects by area Number of area projects and initiatives linked to national level
	5.5.7 Develop or promote educational material that can be used in primary and secondary school education that has a rhino focus.	KWS Conservation Education Department, RSC, APLRS, other conservation education centres	During 2012, rolled out in subsequent years	<ul style="list-style-type: none"> Number of education material developed and disseminated Ministry of Education and number of schools engaged
	5.5.8 Communicate with and make links with national and international conservation and research organizations about the Strategic Plan's activities, opportunities to engage and progress on implementation (encourage peer reviewed reports/papers).	RSC, Africa Rhino Specialist Group, RSC (to use for networking)	2012-2016 and reviewed each year	<ul style="list-style-type: none"> Number of established new links and relationships Number of established links and relationships strengthened

SO-6: COORDINATION AND ENHANCED CAPACITY

Establish a coordination framework and enhance capacity for effective implementation of this Strategic Plan.



RATIONALE AND CONSIDERATIONS:

An effective implementation of this Strategic Plan requires focused championing and coordination. Over the years, coordination framework for rhino conservation in Kenya has evolved each time trying to make it better by strengthening previous frameworks. The current proposed coordination framework (Figure 7) brings in a new dimension of coordination by introducing a Rhino Steering Committee that will coordinate and drive the implementation of the Strategic Plan.

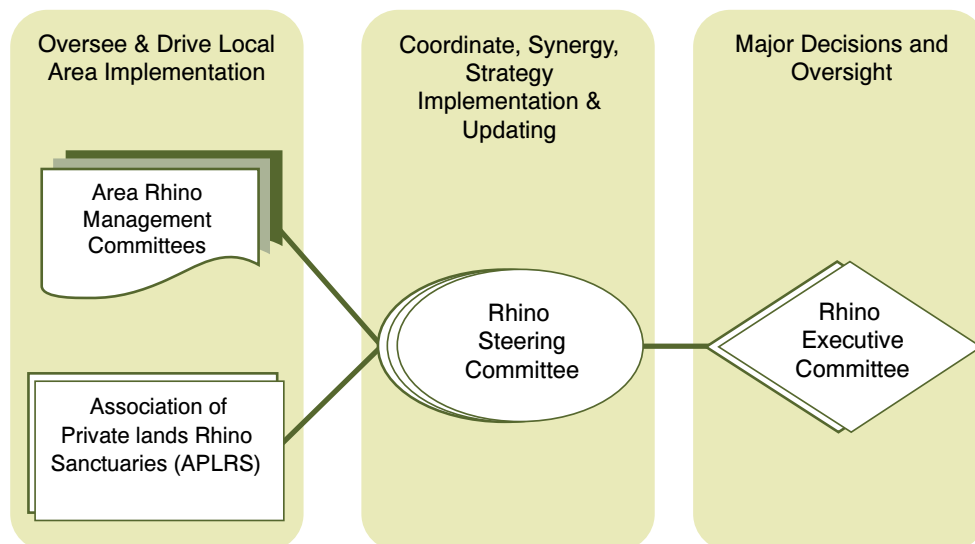


FIGURE 7: Coordination framework for Strategic Plan implementation.

The Rhino Steering Committee replaces the previous Rhino Technical Committee and shall convene an annual national meeting on rhino conservation and management where all stakeholders will share experiences and information. The Area Management Committees are now empowered to develop their area annual work-plans and report progress quarterly to the Rhino Steering Committee. The Association of private Rhino Sanctuary shall continue with its overall mandate of conservation and management of all Rhino in private lands in with KWS collaboration. This framework will not only ensure efficient and effective implementation of the activities but also ensure continuous reviews of annual work-plans emanating from this Strategic Plan.

The new framework incorporates all primary stakeholders involved in rhino conservation and promotes collaboration. The terms of reference and composition of these are committees in appendix 2. It is estimated the implementation of this Strategic Plan will cost approximately KSh. 632 million (Figure 8). This is an indicative budget as specific budgets will have to be drawn on an annual basis. The estimates also exclude staff remunerations and salaries. Finances to support this budget will be drawn from the government, private sector, county councils, donors, partners, and communities conserving rhinos.

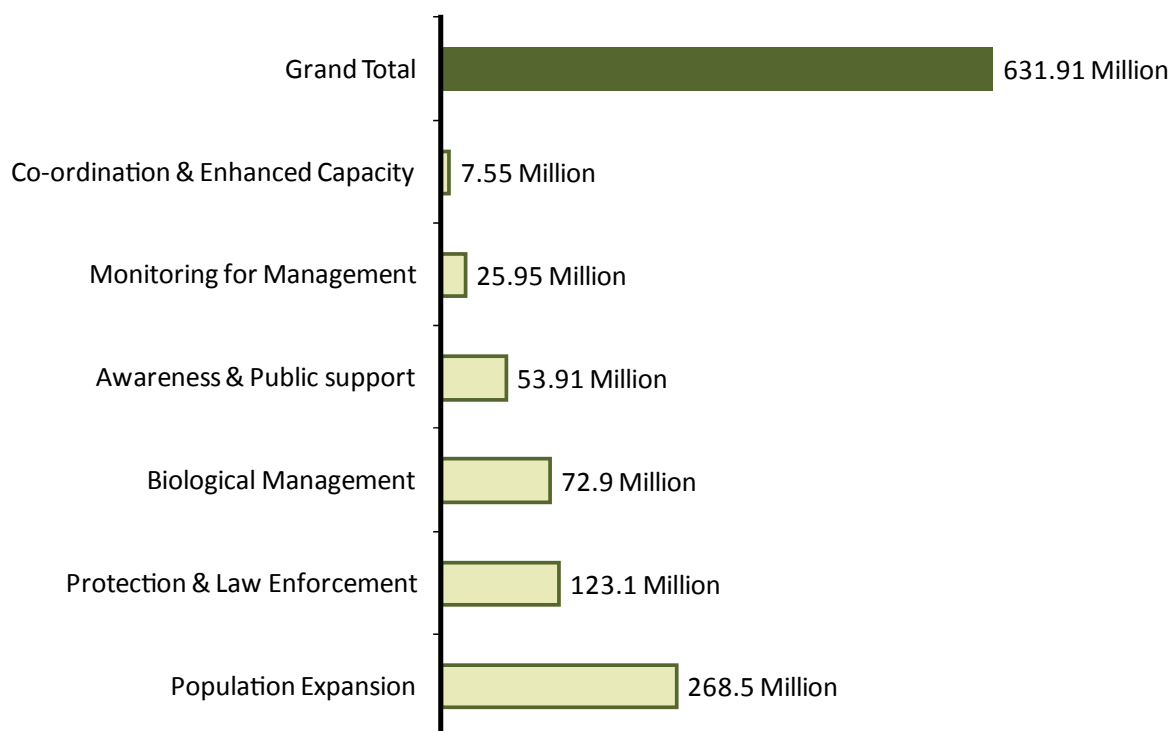


FIGURE 8: Projected budget estimates in Kenyan shillings required for implementing this Strategic Plan.

Staff time and remunerations are excluded from the budget.

Table 6: Coordination and enhanced capacity strategic objective targets, actions, timelines, actors and indicators

Target	Activities	Actors	Timeline	Indicator
6.1 Secured funding for implementation of the Strategic Plan.	6.1.1 Produce an annual financial plan and funding strategy for implementation of the Strategic Plan.	RSC, donors, government, private sector, partner organizations	By 1st quarter 2012, and for each year thereafter	<ul style="list-style-type: none"> Annual financial plan 5-year funding strategy Number of proposals developed and funded
	6.1.2 Identify sources of funding and secure funding.	RSCBy	1st quarter 2012, and annually	<ul style="list-style-type: none"> Number of identified funding sources and funds secured/committed
6.2 Effective coordination and implementation of	6.2.1 Establish REC, RSC, ARMC with agreed ToRs and hold committee meetings as per ToRs.	KWS Director, RSC, RPC	As per ToR	<ul style="list-style-type: none"> ToRs Meeting minutes
	6.2.2 Prioritize strategic activities and identify all relevant actors of specific activities on an annual basis following reviews.	RSC, RPC, ARMC	As per calendar, to feed into up-dates and action plans	<ul style="list-style-type: none"> Activities implementation plan (annual)
	6.2.3 Establish work plans and action plans for relevant departments, organizations, rhino areas etc.	RSC, RPC, ARMC	As per calendar, to feed into the RSC meetings	<ul style="list-style-type: none"> Work plans and action plans
6.3 Regular review and up-dating of Strategic Plan.	6.3.1 Conduct review meetings; report and up-date Strategic Plan.	RSC, RPC	As per calendar	<ul style="list-style-type: none"> Meeting minutes Updated Strategic Plan
	6.3.2 Hold anational annual rhino meeting.	RSC	As per calendar	<ul style="list-style-type: none"> Reports/minutes of meeting
6.4 Effective communication of Strategic Plan; progress and updates.	6.4.2 Prepare and disseminate progress reports to	RPC, RSC	1st quarter of 2012 and ongoing	<ul style="list-style-type: none"> Number of copies disseminated Number of stakeholders targeted
	6.4.1 Disseminate Strategic Plan to all rhino stakeholders and wider community using appropriate approaches all rhino stakeholders.	RSC	As per calendar	<ul style="list-style-type: none"> Number of reports disseminated Number of stakeholders targeted
	6.4.3 Provide input to National Biodiversity Status report.	RSC	Annual	<ul style="list-style-type: none"> Annual report

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Photo: Rhino programme

5. APPENDICES

APPENDIX 1: SUMMARY OF EVALUATION OF 2007-2011 CONSERVATION AND MANAGEMENT STRATEGY

A: SUMMARY OF ACCOMPLISHED ACTIVITIES AND PROGRESS TOWARDS TO STRATEGIC TARGETS

The 2007-2011 Conservation and Management Strategy for the Black Rhino had an overall goal of maintaining a growth rate of 6% per annum in established sanctuaries; achieving a minimum population of 150 rhinos in free-ranging areas and realizing a population of 20 rhinos in one montane forest area. A confirmed total of 700 rhinos by 2011 was envisaged. The Strategic Plan had six strategic objectives in order to achieve the overall goal:

- i. Coordination and support: to implement an effective framework to support stakeholders and enhance decision making and action.
- ii. Protection: to minimize rhino poaching, encroachment and illegal extraction of natural resources through effective law enforcement measures and stakeholder collaboration.
- iii. Monitoring for management: to maintain a standardized monitoring system to provide information for efficient for efficient protection, metapopulation management and programme implementation.
- iv. Biological management: to maintain a minimum growth rate of 6% p.a. in well established sanctuaries; reach a minimum of 150 in free-ranging populations and a minimum of 20 in montane forest conservation areas to attain a metapopulation of 700 animals by 2011.
- v. Capacity: to sustain an effective and efficient resource capacity through collaborative efforts between all stakeholders with a strategic focus on under-performing areas.
- vi. Community: to promote the establishment of community rhino conservation through partnerships and the generation of goodwill from neighbourhoods to all rhino conservation areas.

A summary of progress for key activities under each strategic objective is as listed below. A detailed evaluation of the achievements against each strategic objective can be found in the 2007-2011 rhino conservation strategy review document circulated to stakeholders prior to strategy review workshop, a copy of which also available at KWS headquarters.

I. COORDINATION AND SUPPORT:

- A bore hole was drilled for the provision of water to rhinos and rhino monitoring personnel at Mukuruo Rhino Sanctuary.
- An additional water source and piping system for Ngulia Rhino Sanctuary was established by rehabilitating the old Ndawe water bore hole.
- New housing units for rhino monitoring staff were established in Tsavo West National Park at Ngulia Rhino Sanctuary.
- The East African Community Rhino Management Group was inaugurated in Nairobi in 2009 with agreement to develop and implement a regional rhino Strategic Plan.

II. PROTECTION

- Security was enhanced by creating synergies between government employees and private land rhino sanctuary owners; private sanctuary scouts were trained at the KWS field training para-military school at subsidised para-military school at subsidised costs; KWS recommended a number of scouts for elevation to Kenya Police Reservists.
- Kenya took the lead in amending the CITES Resolution on rhinos with the aim of stronger working relations to relations to end illegal rhino horn trade in those countries whose citizens are implicated.
- De-snaring exercises and intensive surveys were undertaken in Aberdare, Nairobi and Lake Nakuru and Lake Nakuru National Parks.
- Dehorning took place of five rhinos at risk of poaching.
- Patrolling systems were enhanced through additional equipment and vehicles, and security strategies were revised.
- All rhino horn stockpiles were micro-chipped.

III. MONITORING FOR MANAGEMENT

- Kenya's rhino information management system continues to be used and was further refined through partners, the Zoological Society of London and the Asian Rhino Specialist Group. This system has evolved since 2000 and the experience from Kenya has been instrumental in the system and monitoring protocols being adopted (and refined to suit local needs) for rhino conservation in Nepal and at the landscape level for tiger conservation in India.
- There were 82 black rhinos ear-notched between 2008 and 2011. This contributed to raising the proportion of rhinos recognized by all rhino monitoring observers to 69% by 2011 against the national target of 60%.
- The use of on-line camera traps for security and monitoring of rhinos was piloted in Ngulia Rhino Sanctuary and IPZ in Tsavo West National Park. Real-time images can be received via emails or mobile phones.
- Distribution and abundance of black rhino in Aberdare National Park were estimated using remotely triggered camera traps in 2010. The study confirmed at least 8 black rhinos.
- Census, ear notching and fitting of transmitters and transponders to black rhinos in Tsavo East National Park was conducted in October 2010. Helicopter and three fixed-wing aircrafts were used in the exercise. A total 92 hours were flown systematically in an approximate area of 3,400 km², which translated to a search effort of about 35km²/hr. 11 rhinos were confirmed and seven were ear notched and fitted with transmitters and transponders.
- Rhino night census (and security) was enhanced in Ngulia Rhino Sanctuary through the construction of underground and tree hide outs.

IV. BIOLOGICAL MANAGEMENT:

- A total of 46 black rhinos were translocated as part of biological metapopulation management.
- More space for rhino conservation was established through identification, expansion and creation of new secure rhino conservation areas. Ol Pejeta Conservancy expanded from 97 to 300 km² increasing carrying capacity from 90 to 120 animals, Meru National Park expanded from 48 to 74 km² increasing

ECC from 13 to 39 animals; Ngulia Rhino Sanctuary expanded from 62 to 92 km² extending ECC from 60 to 90 rhinos; Ruma National Park was commissioned as a rhino sanctuary with a founder population of 21 rhinos. Borana Conservancy was approved for establishing a black rhino population; Taita salt lick, OI Arro Sera and Namunyak community lands were assessed and recommended for black rhinos.

- In June 2009 and September 2010 respectively, 229 and 203 buffaloes were translocated from Ngulia and Solio to improve on carrying capacities for rhinos in these areas. 255 elephants were also translocated from translocated from Ngulia Rhino Sanctuary in 2007.
- Genetic studies and swapping of rhinos to improve genetic pool were conducted; a PhD on the genetic diversity of the black rhino population in Kenya using tissue samples and dung and an MSc on genetic relatedness of the Chyulu black rhino population were undertaken.
- There were 28 black rhino translocations between three sub-populations (Solio, OI Jogi and OI Pejeta).
- Tsavo West National Park IPZ was established in 2008. A total of 24 rhinos were translocated with a net of 20 animals currently in the IPZ following two births, deaths of three animals and breaking fence back into Ngulia sanctuary of another three rhinos.
- An invasive plant species workshop was held in 2008; a draft Strategic Plan on prevention and control of invasive plants was produced.
- A PhD research into black rhino stress and reproductive hormonal changes and density dependence population performance was initiated.

V. CAPACITY:

- Rhino monitoring training was institutionalized in KWS and incorporated into the curriculum of KWS Manyani paramilitary school.
- Capture and translocation facilities were enhanced by establishing an additional facility at OI Pejeta Conservancy for emergency interventions and translocations of black rhinos within Laikipia District and KWS areas on a cost-recovery basis.
- A total of 15 rhino staff went through formal training during this period with 3 MSc, 1 BSc, 7 Diploma and 4 Certificate qualifications.

VI. COMMUNITY:

- Two communities in the Masai Mara region and two communities in Sera and Namunyak were supported to prepare them for rhino conservation.
- Educational materials were produced in Swahili and English and provided to schools and communities.
- Community and education awareness was conducted on the plight of rhinos in the Tsavo and Laikipia a regions.

B: KEY CHALLENGES AND SOLUTIONS

- i. Drought: The Kenya Government declared the drought and hunger in Kenya a national emergency and disaster in 2008/2009. This situation posed a great challenge for rhino conservation in sanctuaries and free-ranging rhino populations as communities around these areas engaged in illegal activities including

the killing of wildlife for food. Security for wildlife and education and awareness activities were intensified. Community relations were also enhanced in some instances where access was allowed into conservation areas for grazing and water for livestock.

- ii. Effects of the world economic recession: This affected budgets for conservation and timely implementation of certain important rhino conservation activities. Available resources were re-focussed on critical conservation activities, particularly wildlife security. Several donors and partners provided much needed support.
- iii. Increased incidences of rhino poaching: A total of 52 black and 23 white rhinos were poached between 2008 and 2011 constituting about 8% of the overall black and white rhino population. The majority (71%) of poaching occurred in populations on private lands in the Laikipia region, 17% in the free-ranging population of Tsavo East National Park, and the remaining 12% in three State lands and one county council land sanctuaries. Several mitigation measures to reduce poaching of rhinos and trade in parts and derivatives at different levels include but not limited to the following:
 - a. Kenya is keen to see full implementation and compliance to Res. Conf. 9.14 Rev CoP 15. At CoP 15, Kenya urged the CITES Secretariat to fast track official communication with WHO and Traditional Medicine Companies to establish if any, efficacy of rhino horn as “medicine”.
 - b. Kenya has institutionalized a mandatory vetting of its Rhino Monitoring staff. This is intended to address any cases of collusion of Rhino Monitors with poaching criminals.
 - c. Improved prosecution through use of forensics is being implemented in collaboration with other African rhino range states through the continental Rhino DNA Indexing System (RhODIS), a database of DNA profiles of African white and black rhino with samples collected from as many live animals as possible during routine interventions; and those obtained from legally and illegally hunted rhinos as well as from stockpiles. The main aim of this database is the forensic application of matching recovered horns to rhino carcasses. Kenya is committed to cooperate with other range States in support of Rhino DNA Indexing System (RhODIS) and use of forensics in wildlife crime prosecution.
 - d. The Director Kenya Wildlife Service, as head of the Wildlife Management Authority for the country declared 2011 as the year for the Rhino in Kenya. This ensured more focus to rhino conservation and management resulting in more resource being allocated towards rhino activities. For instance, rhino surveillance and monitoring received additional 120 rangers. This constituted 25% of the new ranger recruits in 2011 specifically deployed to Rhino surveillance after the law enforcement training
 - e. Most rhino monitoring scouts on private lands with rhinos have been upgraded into law enforcement officers in the category of police reservists. Consequently, they are allowed by law to carry automatic weapons and arrest criminals within and outside the conservation areas. Additionally, Kenya Wildlife Service continues to train at its field paramilitary training school at subsidized rates, community scouts to impart ranger skills. More so, there have been increased joint anti- poaching operations between the Government and private land rhino sanctuary staff and deployment of rapid response teams in hotspot areas.

- f. There has been increased Cross border collaboration to respond to poaching incidences; these efforts have resulted into formation of EAC-Rhino Management Group and increased joint operations with Lusaka Agreement Task Force (LATF) as a regional law enforcement agency. There has also been increased closer and increased cooperation between customs officials and the law enforcement officers of the Wildlife Authority. Partnerships and synergies with other law enforcement agencies such as INTERPOL have been strengthened to counter poaching syndicates.
- g. Through addition of manpower, the Wildlife Authority has strengthened the capacity of its department of regulatory, enforcement & compliance affairs. The department is the focal point of the Wildlife Authority with respect to licensing of all transactions of wildlife within the provisions of The Wildlife Act CAP 376.
- h. In 2011 Kenya revised its Rhino Strategic Plan to incorporate emerging issues and interventions with respect to Rhino conservation and management in the country. This has resulted in a new Strategic Plan for 2012 -2016. The notable new components to the new Strategic Plan as compared to previous one are the emphasis on Rhino population expansion, awareness on and public support for Rhino conservation and management, and enhancement of coordination of the implementation of the Strategy by introducing a Steering Committee to monitor the implementation. In addition to protection and law enforcement, biological management and monitoring; these new components are aimed at addressing the decreasing sizes of secure conservation areas for rhino, the increasing illegal demand for rhino horn and the increasing rhino poaching rates.
- i. Establishment of a canine Dog Unit at the Wildlife Authority and in some private rhino reserves has been of significant success. Sniffer dogs have been placed at the international airports in Nairobi and Mombasa to detect illegally trafficked rhino horns and elephant ivory and plans are underway to place more sniffer dogs at other ports of entry in the country. Tracker dogs have also been deployed in various national parks and rhino conservation areas. This has been implemented in line with the Wildlife Authority's strategic objective of modernizing its security force through regular training and equipment to respond to wildlife crime challenges such as organized and sophisticated wildlife crime syndicates and gangs
- j. Regular review of patrolling systems and their success has been institutionalized in wildlife law enforcement. Analyzing of poaching trends and patterns is being given more emphasis. Mobility and access in rhino conservation areas for law enforcement and security surveillance has been made relatively reliable and cheaper through introduction of horses and motorbikes for patrols and monitoring. Rhino monitoring and data collection, archiving and analysis have been strengthened and use of camera traps increased especially in difficult-to-monitor landscapes. Census of rhinos in large areas by aircrafts and helicopters is structurally and periodically done.
- k. Horns of rhinos considered vulnerable to poaching are trimmed off and or fitted with radio tracking transmitters. In addition, Kenya has through ear-notching increased proportion of its individually identifiable rhinos from 55% in 2009 to 72% in 2012. This enhances rhino monitoring and contributes to accurate estimates of rhino numbers. Nevertheless, there have been situations where the threat has been very high prompting relocation of entire populations to new or existing safer conservation

areas.

- l. Involvement of local NGOs and communities to mitigate poaching crisis has been enhanced. In For example, in April 2012, the Wildlife Authority jointly with African Wildlife Foundation convened a rhino poaching crisis summit in Nairobi that brought together a number of NGOs and government representatives from rhino range States. A number of immediate and long-term measures were recommended for strengthening rhino surveillance and anti-poaching units; strengthening law enforcement and coordination at national and regional levels; conducting public education and awareness to curb rhino horn demand and illegal trade; and expanding outreach to influence policy makers, financiers and government officials at the highest appropriate levels.
- m. Weak penalties: The national legislation on Wildlife Conservation and Management Amendment Act Cap 376 of 1989, legal notice no 120 of 1977 and legal notice no 5 of 1978 prescribe penalties. Currently the maximum violation penalty is approximately USD 150 and/or twelve months imprisonment. These penalties are very lenient. More punitive penalties for wildlife crime with respect to Rhinoceroses and other endangered species have been proposed in 2012. A commitment by the responsible Ministry to spearhead the amendments to the wildlife legislation to effect the application of the penalties was made through a Ministerial statement in January 2012.
- n. Disease: Nine black rhinos died from a disease suspected to be Clostridial enterotoxaemia between May and July 2010 in the Ol Jogi Pyramid population. Relocation of surviving females and calves to adjacent Ol Jogi Ranch was carried out. The animals were treated and vaccinated. Extensive consultation with relevant international wildlife vets was undertaken. Meru National Park in May 2011 reported at least five rhinos (both white and black) with extensive ulcerative skin lesions. A parasitic worm suspected to be Parafilaria bansonii was isolated from the lesions and is undergoing molecular characterization to confirm identity. The animals were treated and recovered. However, one sub-adult male that was not reported in good time for treatment died of the condition. These situations called for emergency protocols and tools for disease investigation and instituting appropriate control and prevention measures.
- o. Secure rhino conservation areas: Laikipia Nature Conservancy, Mugie Rhino Sanctuary, Mt. Kenya and Kitale private lands rhino sanctuaries were decommissioned as rhino conservation areas by relocating their rhinos to safer areas with the majority of the rhinos moved to the newly established Ruma NP rhino sanctuary in 2011. Tsavo East NP's free-ranging rhino population is being moved into a rhino fenced sanctuary within the park following severe rhino poaching. There is however urgent need to secure more land for black rhino conservation as a means to achieve the vision of 2000 animals in their natural habitat.
- p. Irregular meetings of some committees: Technical and area committees irregularly met. The technical committee for instance corresponded via emails only. Area committees met only when there was an urgent need. The rhino consultative committee met once a year on average instead of quarterly. A review on number of committees and frequency of meetings and composition is essential.

APPENDIX 2: TERMS OF REFERENCES FOR RHINO MANAGEMENT COMMITTEES

A. RHINO EXECUTIVE COMMITTEE (REC)

- To take decisions beyond the limit of the Rhino Steering Committee.
- To appoint members of the Rhino Steering Committee.
- To report to the KWS Board of Trustees.
- To meet at least twice per year (prior to KWS Board meetings as set in calendar).
- To receive progress reports from the Rhino Steering Committee.

The REC will continue to be constituted as follows:

1. Chairman: Director, KWS
2. Secretary: RPC
3. Other members: DD-W&CS, DDS, DDBR&M, DDF&A, DDCS, DD-HC, DD-S&C, SAD-SCM, Chair APLRS.

B. RHINO STEERING COMMITTEE (RSC)

- To oversee, coordinate and drive the implementation of this Strategic Plan.
- To make decisions on timely implementation of the Strategic Plan.
- To review and update the Strategic Plan regularly as per calendar.
- To meet three times per year as per calendar.
- To report to the Rhino Executive Committee.
- To report/communicate to all rhino stakeholders on Strategic Plan implementation progress as per calendar (three reports) to motivate and inspire all actors.
- To convene at least one meeting with all the rhino stakeholders each year. A quorum for the meeting is constituted when eight members are present with at least three members not being from KWS.

The RSC to be constituted as follows:

1. KWS Head of Species (Chairman), alternate Chair shall be KWS Head of Wildlife Protection Department
2. KWS Rhino Programme Coordinator (Secretary and Strategic Plan Coordinator), alternate Secretary shall be Chairperson of APLRS
3. Head - Wildlife Protection Department – KWS
4. Senior Assistant Director Parks & Reserves – KWS
5. Head-Veterinary and Capture Services – KWS
6. APLRS Chairman
7. APLRS Secretary
8. APLRS member
9. County Council Masai Mara National Reserve
10. NGO with nationally implemented rhino conservation programmes
11. Co-opted technical expertise as needed
12. KWS ADs from rhino areas

Note: A Secretariat for the RSC will be formed.

C. AREA RHINO MANAGEMENT COMMITTEE (ARMC)

- To oversee the implementation of the Strategic Plan as described in the Conservation and Management Strategy for the Black Rhino in Kenya at the KWS conservation area level.
- To report to the Rhino Steering Committee on implementation progress of activities at the area level.
- To meet and report quarterly as per calendar.
- To take decisions at the local area level to ensure timely implementation of activities.
- To ensure harmony with other species strategies at the local level (through liaison with KWS Head of Species).

The ARMC will be constituted as follows:

1. KWS Assistant Director for relevant Conservation Area (Chairman)
2. KWS Area Scientist
3. KWS Senior Wardens and scientists from rhino areas
4. County Council Senior Wardens from rhino areas
5. Officers-in-Charge of rhinos and Chief Executive Officers of rhino sanctuaries/conservancies
6. NGOs involved in local area rhino conservation implementation project/programme head
7. Co-opted technical representatives as needed

D. ASSOCIATION OF PRIVATE LAND RHINO SANCTUARIES (APLRS)

APLRS was registered on 17th Jan 1990 (Reg. No. 14474) under societies Act to:

- Conserve and manage all Rhino on private lands in consultation and collaboration with KWS.
- Represent and arrest of the Private sector involved in the conservation and management of all Rhinos on private land.
- Provided secure land and offer security to all Rhinos held in private land
- Fund raise in consultation with KWS for Rhino management on private lands
- Build capacity for Rhino monitoring and security teams
- Offer advice on issues relating to Rhino conservation and management to members of Association.
- Share logistical support amongst members.
- Coordinate channelling of specific issues relating to Rhino on private land to the Rhino steering committee

The APLRS will be constituted as follows:

- Chairman-as elected by members
- Secretary-as elected by members
- Representatives of private land Rhino sanctuaries
- Rhino program coordinator
- KWS District warden in Rhino conservation areas
- KWS Senior scientist-other species
- Co-opted members as decided by the association

Note: The secretary/coordinator of the ARMC will be selected by the Committee.

APPENDIX 3: LIST OF WORKSHOP PARTICIPANTS

	NAME	ORGANIZATION	PHONE NUMBER.	E-MAIL ADDRESS
1	Antony King	LWF/ APLRS	+254720416148	director@lwf.org
2	Antony Wandera	KWS	+254721805930	awandera@kws.go.ke
3	Benson Okita Ouma	KWS	+254733949281	bokita@kws.go.ke
4	Cedric Khayale	KWS	+254722835928	cedric@kws.go.ke
5	Chris Olando	KWS	+254722747529	colando@kws.go.ke
6	Christine Adhiambo	KWS	+254722577034	cadhiambo@kws.go.ke
7	David Ndeereh	KWS	+254722556380	dndeereh@kws.go.ke
8	Elsiphet Akinyi	Student - Kenyatta University	+254723220299	elsiphetodhiambo@kws.go.ke
9	Francis Lesilau	KWS	+254714007666	flesilau@kws.go.ke
10	Geoffrey Chege	Lewa Wildlife Conservancy/ APLRS	+254720996089	geoffrey.chege@lewa.org
11	George Odhiambo	KWS	+254722623268	george@kws.go.ke
12	Hellen Kezengwa	KWS	+254721601819	species@kws.go.ke
13	Jamie Gaymer	Oi Jogi Ranch Ltd/ APLRS	+254722228634	warden@oljogiltd.com
14	Japhet Kiragu	KETRI	+254722812790	jmkiragu@hotmail.com
15	Linus Kariuki	KWS	+254722602174	lkariuki@kws.go.ke/ rhino@kws.go.ke
16	Martin Mulama	Oi Pejeta Conservancy/ APLRS	+254733733053	martin.mulama@ olpejetaconservancy.org
17	Moses Kuyioni	Maasai Mara National Reserve / Narok County Council	+254722373111	mpkuyioni@yahoo.com
18	Patrick Omondi	KWS	+254722791718	pomondi@kws.go.ke
19	Phillip Muruthi	AWF	+254722526817	PMuruthi@awf.org
20	Rajan Amin	ZSL	+44 (0)2074496441	Raj.Amin@ioz.ac.uk
21	Sam Weru	WWF	+254722207705	sweru@wwfesarpo.org
22	Samuel Kasiki	KWS	+254721446729	skasiki@kws.go.ke
23	Shadrack Muya	JKUAT	+254721804614	muvui@yahoo.com
24	Titus Mitau	KWS	+254722284406	tmitau@kws.go.ke



PLATE 2: Participants of the Strategic Plan review workshop at Izaak Walton Inn, Embu 27-29 June, 2011.



PLATE 3: Rhinos under a shade.





Kenya Wildlife Service
P. O. Box 40241 00100 Nairobi Kenya
Wireless: 020 210745 / 2379407-15
Email: Kws@kws.go.ke
Rhino@kws.go.ke