

# WHAT IS THE COST OF CONSERVATION?



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**TOP RIGHT:**  
KWS Black Rhino Strategy 2012-2016.

**BELOW:** Upgrading fence line in Sera Rhino Sanctuary.

As more and more land is being taken over by human settlement, new roads and other infrastructure, there is growing demand for land to be set aside to protect Kenya's wildlife and particularly endangered and iconic species such as the rhino and lions.

At the same time, populations of species such as these, that are held in fully fenced areas to avoid conflict with neighbouring communities, are outgrowing the available space.

This means there is a growing need for more wildlife conservation areas, but how easy is it to establish a wildlife sanctuary especially one that can be home to the critically endangered black rhino?

In Kenya, the Wildlife and Conservation Act 2013 lays out the legal requirements for a Wildlife Conservancy or Sanctuary. The Act states: "The Cabinet Secretary may, upon successful registration of the applicant with the County Wildlife Conservation and Compensation Committee grant a general permit for non-consumptive wildlife user rights."

Non-consumptive use includes wildlife-based

tourism, commercial photography and filming, educational purposes, research purposes, cultural purposes and religious purposes.

The Kenya Wildlife Service (KWS) has the role of advising the owners on the management, control and maintenance of the new wildlife conservation area. This includes the development of a management plan.

The Fifth Schedule of the Act details the minimum information that has to be included in the plan. It includes a legal description of the area, goals, objectives and activities, species and habitat descriptions, and community involvement. As the conservation area is developed there are additional requirements such as details relating to tourism, carrying capacity

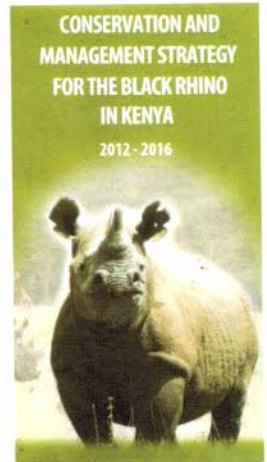
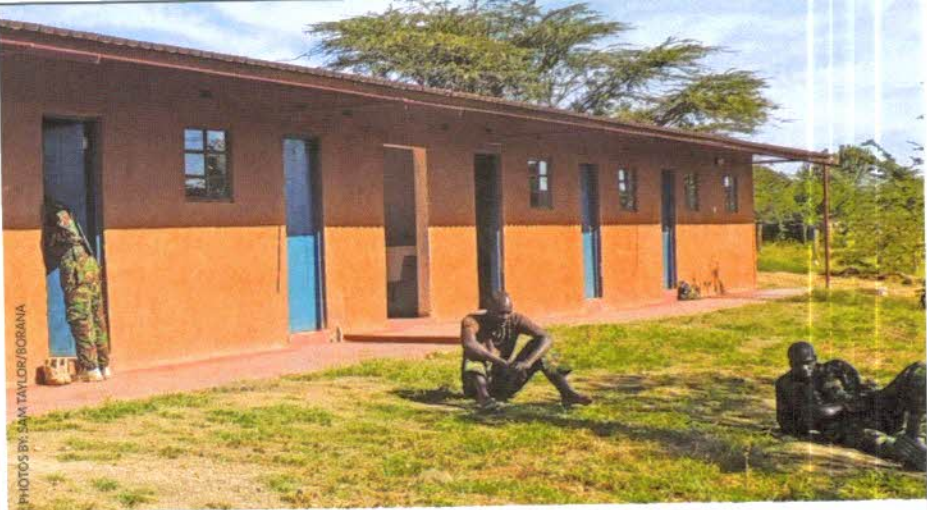


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**TOP LEFT: A fully equipped new ranger.**

**TOP RIGHT: New ranger housing.**

**BELOW RIGHT: New water point.**

Management Strategy for the Black Rhino in Kenya 2012-2016". With the well-publicised threat from poaching, the security and law enforcement levels need to be much higher than in a general wildlife sanctuary requiring increased manpower and resources.

The health and general safety of the rhinos requires regular monitoring by specifically trained staff additional to security personnel. The monitoring system involves capturing and analysing behavioural data which means each rhino has to be individually identified with an up-to-date record kept on how to identify them, as well as records of their location.

Population figures of competing browsers (especially elephants, buffalo and giraffe) and of predators (principally lions and hyenas) are also necessary to ensure they are not negatively impacting on the growth of the rhino population. A computerised GIS-based information management system is essential for this.

The Wildlife Act and Rhino Strategy documents set the legal framework around which land owners can progress to a wildlife conservancy. But what are the practical realities? Recently, three areas have been approved and now hold black rhinos - Sera Rhino Sanctuary, Borana Conservancy and Ruma National Park.

**SERA**

The rhino sanctuary is part of the wider 3,450 sq km, community owned, Sera Wildlife Conservancy,

and controls, measures to prevent human-wildlife conflict, monitoring systems and any further infrastructure development.

Having obtained the relevant approval and subject to the management plan, the owners can only then progress with constructing the fences, roads, buildings, tourism facilities and other such works that are needed - presuming the funds are in place to do so.

To be approved as a sanctuary for black rhinos adds further demands which are laid out in the document entitled "Conservation and

**IN KENYA, THE WILDLIFE AND CONSERVATION ACT 2013 LAYS OUT THE LEGAL REQUIREMENTS FOR A WILDLIFE CONSERVANCY OR SANCTUARY.**



# 2012

The year an Environmental Impact Assessment (EIA) for the reintroduction of rhino into Sera sanctuary was approved by NEMA.

**BELOW:**  
Translocation logistics.

created in 2002. Its conservation-focused work covers an area of 520 square kilometres, where conservancy rangers carry out wildlife monitoring and security operations, livestock grazing is carefully managed, and where there are no human settlements.

The conservation area is divided into a core area of 107 square kilometres (the Rhino Sanctuary), and a 413 square kilometre buffer zone which can act in the future as an Intensive Protection Zone (IPZ) for rhinos.

An ecological assessment of Sera was needed to determine the habitat suitability and availability for black rhino, plus a veterinary assessment of disease threats and vectors with a separate dedicated assessment for tsetse flies undertaken. Only anthrax was considered a threat, which could be controlled and managed by fencing the rhinos in and keeping cattle out.

A security assessment recommended the number of staff for both an armed and unarmed monitoring team. It recommended recruiting and training local community personnel as community rangers and as fencers and rhino monitoring staff.

To support the security system meant new vehicles, an electric fence, ranger outposts, water troughs, piping for distribution, digging of wells, installing a radio communications system and establishing informer networks.

An Environmental Impact Assessment (EIA) for the reintroduction of rhino into the sanctuary was a legal requirement and was approved by National Environment Management Authority (NEMA) in early 2012. Infrastructure work began

in early 2013 and was completed in December 2014.

The 45 km fence line demarcating the sanctuary was cleared and fence posts erected using plant, equipment and labour. The purpose of the 12-strand, electrified, metre-high fence was primarily to contain the rhino population. There were too many elephants within the enclosed area so 30 had to be removed.

Access roads, ranger tracks, four airstrips and three water points were established. Four main gates and gate house complexes were constructed which also house electric fencing energizers, and store maintenance equipment and supplies. The four ranger housing units comprise of an accommodation block, kitchen, toilets and showers. A full time pilot with a pilot house is based in the Sanctuary along with a Piper Super Club.

The recruited 18-man fence maintenance team is tasked with daily inspection, clearance and basic maintenance of the fence. A Toyota Land Cruiser was purchased to assist the team and the rhino monitoring rangers. VHF radio equipment was installed to support communication.

Recruitment specific to the Rhino Sanctuary comprised of a Conservancy Operations Officer, a Rhino Sanctuary Officer, a Rhino Security Unit (RSU) response team of 18 armed rangers, 24 unarmed Rhino Monitoring Rangers and a fence maintenance team of six. The RSU team is backed up by 29 Sera Conservancy rangers, who patrol the entire conservancy.

In order for rhinos to be released into the sanctuary, a holding facility was built in case

PHOTO BY FELIX PATTON







**TOP LEFT: A team of rangers load a rhino into vehicle in Ruma.**

**TOP RIGHT: Sensitising the community on rhino conservation.**



PHOTO BY: NORTHERN RANGELANDS TRUST

Heavy investment was made in training staff. The total cost of the upgrade to a rhino sanctuary meant that the annual budget went from \$400,000 to between \$900,000 and \$1 million.

### **RUMA**

The introduction of black rhino into the government-managed Ruma National Park in 2012 gave a two-fold benefit - it improved the economic prospects for communities in western Kenya by boosting tourism while offering suitable habitat for the essential expansion of the critically endangered species.

The 120 sq km park was originally established in 1966, largely to protect the endangered population of roan antelope, but the area had also been home to black rhino as recently as the early 1950s.

Problems with bush meat poaching and human-wildlife conflict led to the erection of a simple wire fence in 1994, but many areas were vandalized and the problems persisted. In addition, Ruma was infested with the trypanosomiasis [sleeping sickness] causing tsetse fly for both livestock and humans. On the positive side, the park had minimal predators.

While a 2006 feasibility study demonstrated that Ruma needed to address the usual issues of security - fencing, water, and roads and other infrastructure developments - there was an additional, and costly, need to control the tsetse flies and introduce more grazing species such as buffaloes, zebras, plain game species and white rhinos to stimulate habitat improvement.

As with Sera and Borana, the recommended upgrades were carried out. Despite this, controlling bush meat poaching is an annual challenge requiring regular de-snaring (snare traps are also the cause of rhino injuries and mortality) and community sensitization at a cost of \$10,000 per year on top of the basic cost of the Rhino Unit of around \$50,000.

Whether the land is community, private or government owned/managed, the legal requirements of planning and upgrading facilities to protect and manage an endangered species such as rhinos the costs are substantial, not the least of which is the cost of catching and moving the rhinos to their new locations. How these costs are financed will be addressed in the next issue of Swara. ●

there was need for veterinary intervention. The total cost of establishing the Sera Rhino Sanctuary was around \$1.7 million, with an annual operating budget of \$296,000 - the funding for which will be discussed in a future article.

### **BORANA**

The privately owned Borana Conservancy, a 32,000-acre cattle ranch made wildlife its primary focus in 1992. The vital need for more land for rhino conservation led the shareholders, in 2008, to agree to upgrade the facilities and resources to meet KWS approval as a rhino sanctuary. As with Sera, both a habitat assessment and security assessment were carried out. The staffing, resources and infrastructure recommendations made were duly implemented.

The wildlife security now consists of 24 armed anti-poaching rangers and 74 unarmed monitoring rangers (scouts). All have been well equipped with uniforms, binoculars and radios. New housing accommodation has been built; gatehouses, fences and roads added or upgraded.

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