

Impact of 30 years of Conservation



Most of Kenya's forests are in mountain areas – in Mount Kenya, the Aberdares, the Mau complex, the Cherangani Hills, and Mount Elgon. They are known as the 'water towers' of Kenya, forming the upper catchment of all main rivers of Kenya. The water towers are vital national assets in terms of climate regulation, water storage, recharge of groundwater, river flow regulation, flood migration, control of soil erosion, and conservation of biological diversity. They are Kenya's single most important source of water for direct human consumption and for industrial and farming activities. The majority of Kenyan livelihoods depend in some way on the rivers, climate, forest and wildlife of these mountain ecosystems. They also help mitigate the impacts of climate change, such as flooding. The protection of these forested areas is a national necessity.

Since its establishment in 1988, Rhino Ark has been spearheading and is implementing fencing and conservation interventions in Kenya's water towers, in particular in Mt. Kenya, Aberdares and the Mau Forests Complex. To date, over 80,000 households benefit from the protective functions of the 620 kilometres of electric fences built to date. These fences are instrumental as a management tool in addressing key challenges affecting these mountain forests: (i) regular crop damage and occasionally human fatalities caused by marauding wildlife, especially elephant; and (ii) threats arising from human activities, including poaching, bush-meat hunting, snaring, illegal logging, charcoal burning and encroachment.

Rhino Ark activities have expanded rapidly since the early days, as has the need to protect the black rhino and reduce human-wildlife conflict. What was originally a 38 km fence along the park salient of the **Aberdares** became – over 21 years – the world's longest conservation fence, nearly 400 km in length, protecting over 2,000 sq km of prime forest and water catchment, now called the Aberdare Conservation Area. The electric fence, rising seven feet above the ground and wired down to three feet below ground, was completed in 2009. It was formally commissioned by President Mwai Kibaki and Prime Minister Raila Odinga in March 2010.

In March 2013, Rhino Ark started an integrated conservation project in the **Mount Eburu ecosystem**, in the Mau escarpment, with a comprehensive electric fence around the entire protected forest of nearly 9,000 hectares. This natural forest, rich in biodiversity, is home to over 40 species of mammals, including the critically endangered Mountain Bongo antelope. However, surrounded on all sides by human settlement, and impacted by illegal logging and charcoal burning, the forest cover had been seriously degraded and the wildlife decimated by bush meat hunting. Another fence – drawing on the experience of the Aberdare fence – was an obvious solution and, with private sector support, the 43.4 km long fence was completed in November 2014.

Mount Kenya, the third project to be tackled by Rhino Ark, in partnership with the Kenya Forest Service and the Kenya Wildlife Service, was designated as a World Heritage Site by UNESCO in 1997.

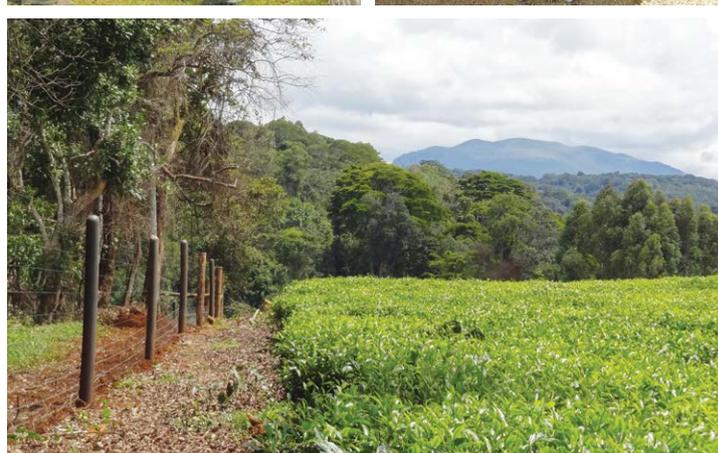
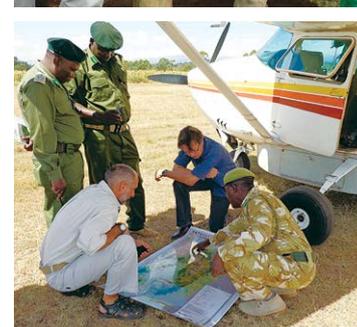
Mount Kenya's forests are rich in biodiversity, not only in terms of ecosystems but in terms of species. It also plays a critical role in water catchment for the entire country – including the Ewaso Nyiro and the Tana River, Kenya's largest. However, it has faced daunting challenges, with dense forests next to some of the most populated areas of the country. Regular crop damage – particularly by elephants – is a major problem for farmers, sometimes leading to human fatalities.

Based on the experience of the Aberdares, it was decided to build an electric fence around Mount Kenya – a fence that would be even longer than the Aberdare fence, at 450 km in length. Work was started in September 2012 and, as of October 2020, 205 km have been completed.

The lessons learned from the successful fencing projects undertaken for Aberdares, Mount Eburu and Mount Kenya have opened up other forested areas for fence protection. These now include the **South Western Mau** and possibly the **Kakamega Forest** in western Kenya.

Building a fence is one part of the equation. **Equally, fences need to be maintained and protected.** In the Aberdares, parts of the fence are over 20 years old and have to be replaced. Vigilance, too, is a crucial part of fence management. Working with its partners, Rhino Ark conducts ground and aerial patrols and surveys of the forested areas it covers – identifying illegal activities and taking remedial action as necessary. Engaging local communities has been an essential part of Rhino Ark strategy – both to guard and protect the fences. Schools, on the periphery of the fences, are involved in bringing home to pupils and students the necessity of conserving Kenya's natural and national heritage. Initiatives such as the community livelihoods platform in Eburu provide value and inspiration to forest-adjacent communities.

For all this activity – building, maintaining and protecting – **the funds raised by the Rhino Charge can be used flexibly** and are not restricted to a particular part of the project. They are therefore essential for the long-term benefit of Rhino Ark, and ultimately for the future health of Kenya itself. The work is essential – and every contribution to the Charge plays its part in supporting the work of Rhino Ark.



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The true impacts of the conservation effort implemented by Rhino Ark

In 2010, Rhino Ark commissioned an independent study on the environmental, social and economic assessment of the fencing of the Aberdare Conservation Area. The study was co-funded by UNEP, Rhino Ark and Kenya Forests Working Group and supported by the Kenya Wildlife Service, the Kenya Forest Service and the Greenbelt Movement.

Ecological benefits

The study revealed **key positive outcomes attributable to the fence**, including improved forest cover, safer living conditions for local communities and greater security for wildlife. It affirmed that the fence has been instrumental as a management tool in addressing the challenges that were affecting the Aberdare ecosystem. Specifically, the study revealed:

- a 20.6% increase in forest cover between 2005 and 2010;
- a 54% decrease in open areas (grassland and cultivation) inside the now fenced 2000 km² Aberdare Conservation Area;
- and a 47% increase in exotic plantations outside the fenced area.

Data indicates that the Aberdares' rivers are "more stable than the Mount Kenya rivers" – a fact it attributes to better land cover in the ecosystem. The report's economic analysis gives a breakdown of identifiable benefits provided by the Aberdares to many parts of Kenya. The value of providing domestic water supply to central Kenya, parts of the Rift Valley and the Tana River valley, for example, is estimated at KES 646 million (US\$ 6.9 million) annually. For Nairobi, where almost all the water supply comes from above and below ground Aberdare sources, the value given is KES 1.46 billion (US\$ 15.6 million).

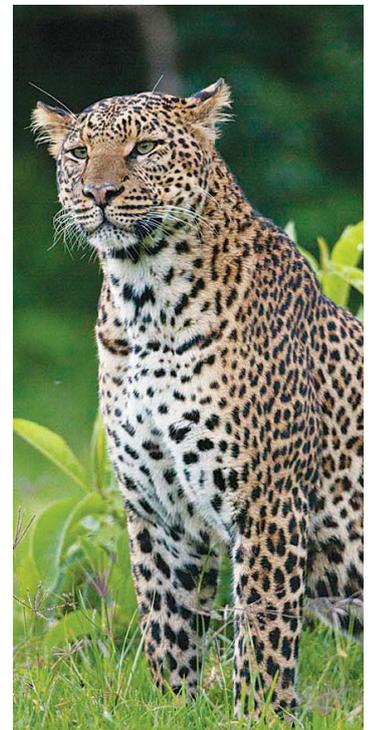
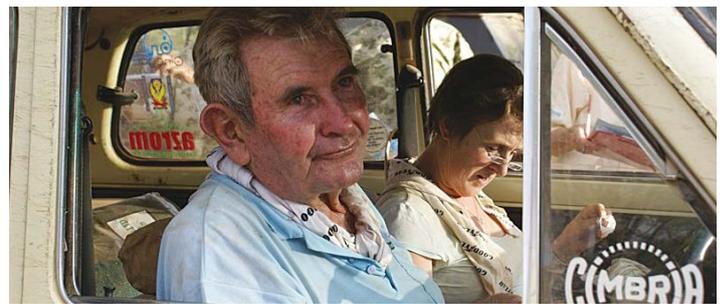
On carbon sequestration and soil erosion control, the report assesses the annual value at just under KES 1.9 billion (US\$ 20.3 million). Carbon credits account for KES 450 million (US\$ 5 million) annually.

Socio-economic benefits

The study recorded socio-economic effects, such as higher household incomes and land values (as high as 300% in some cases) due to improved farmland security, crop yields and safer living conditions.

Wildlife crop destruction has been all but eliminated and children travelling to school face fewer risks from animals. In addition, cattle rustling using the forest as an escape route has ceased and disease transmission between wildlife and livestock has greatly reduced.

In addition, the study's economic analysis highlighted the importance of the environmental services that are protected by the fence and that serve key national and global interests. The study estimated the **total values of products and environmental services provided yearly by the fenced ecosystem at KES 63 billion with an additional KES 32 billion for biodiversity conservation**, amounting to an overall total of KES 95 billion.



"The Aberdares conservation efforts underline the extraordinary and wide-ranging returns possible when a more creative, decisive and sustainable approach to managing nature is undertaken—they also offer a model for exemplary public-private partnerships."

Achim Steiner, former United Nations Under-Secretary-General and Executive Director of UNEP.