


Breaking the
of **CRADLE**
humankind

A research team highlights the plight of an important landscape in Africa, going largely unnoticed but due to experience major changes in the years to come. Mar Cabeza, Álvaro Fernández-Llamazares, Daniel Burgas, Sara Fraixedas and Adrià López-Baucells explain.



Sibiloi National Park is known as the 'Cradle of Humankind.' Mounting evidence over the last five decades indicates that this remarkable landscape, located in the north-eastern shore of Lake Turkana, Kenya, is one of the most likely points of origin of the human species. The fossil remains found here, including the most complete human skeleton ever discovered, have contributed more to the understanding of human evolution than any other site in the world. As such, it was inscribed to UNESCO's World Heritage List since 1997 for its 'outstanding universal value' in both cultural and ecological terms. But the unique ecological and cultural importance of this site is at risk.

The area surrounding Lake Turkana is about to undergo one of the biggest social-ecological transformations in its history. This will mainly be caused by the development of a number of large-scale infrastructure projects over the catchment area on both the Kenyan and the Ethiopian side. Firstly, a massive hydropower dam (Gibe I-V) on the Omo River is due for



Left: Local Daasanach children carrying water to the community. Above: Local communities digging wells to extract underground water. Right: *Taterillus* spp.



completion in 2016, becoming the largest hydropower complex in Africa and promising to generate the entirety of Kenya's energy needs. Critically, the control of the Omo River's flow will also allow the establishment of a large-scale irrigation complex, equivalent to the total area currently irrigated in Kenya. Second, the largest wind power complex in Africa, the Lake Turkana Wind Power Project, is under construction. The wind farm will cover 162 km², comprising 365 wind turbines set in communally owned land that belongs to indigenous pastoralist tribes from this area. And third, the Lamu Port Sudan Ethiopia Transport Corridor, which will be the second biggest transport infrastructure in Kenya, may also

affect the Turkana region.

Pastoralist communities are worried about potential land grabs and disruptions to their livelihoods. Overall, the coupled effects of all these changes are expected to transform Lake Turkana into Africa's Aral Sea, with unforeseen social and ecological consequences.

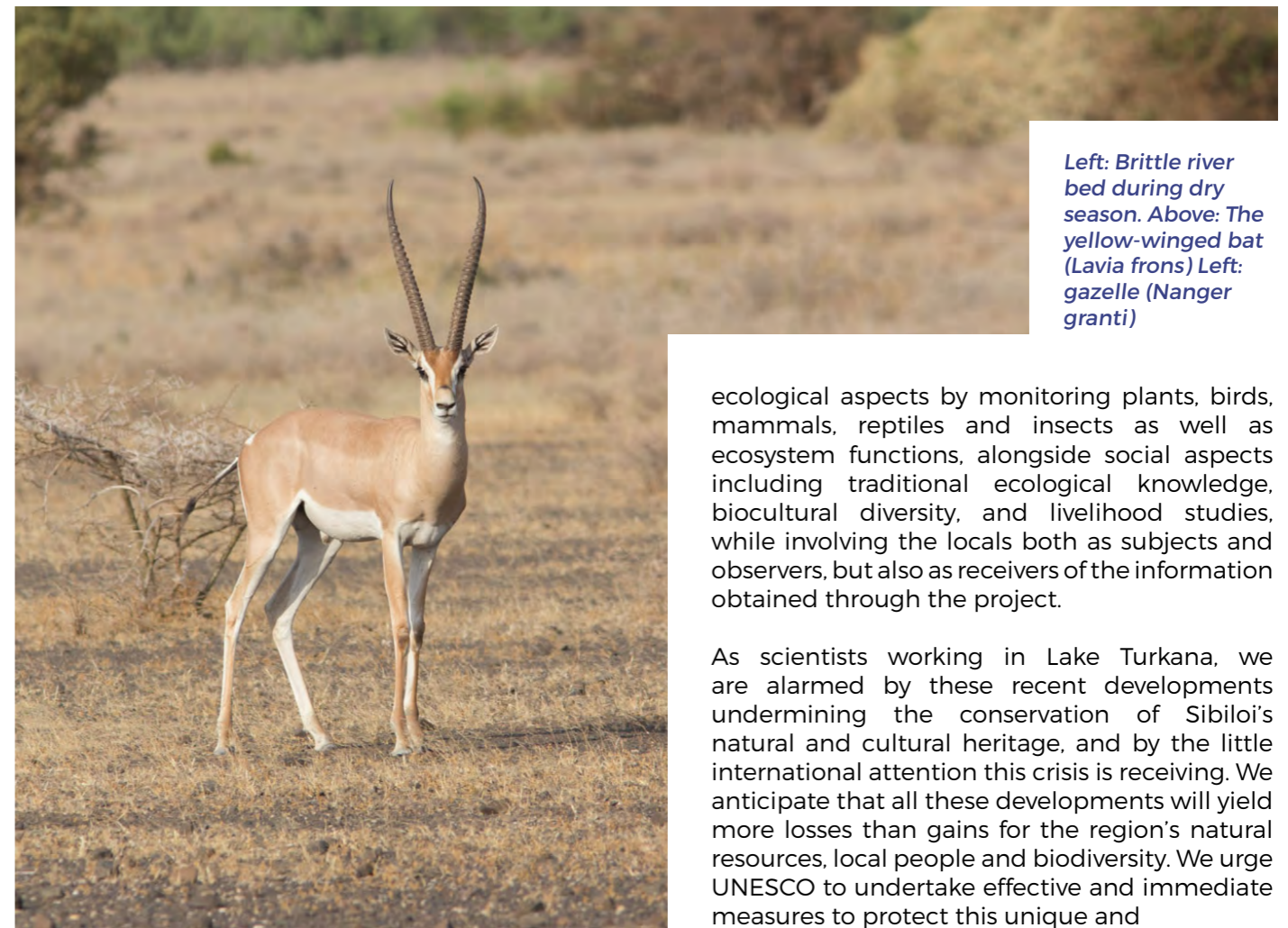
Moreover, climate change is expected to affect the area, with increasing frequency in cyclical droughts and reduced water availability. Combined with the increasing water demands from the large-scale infrastructure projects, the salinity of the lake is expected to increase as the water level decreases.



The ecology of the grazing plains as well as fishing activities will be seriously affected, probably leading to escalating inter-tribal ethnic pastoral conflicts over land and water.

Sibilo National Park has witnessed cycles of evictions and encroachment, which have become increasingly unpopular amongst the local communities. Such encroachment within the park is allegedly the reason behind the degradation of the area, which is already suffering what many have labelled as an 'Empty park syndrome' – a situation where most bird and mammal species larger than approximately two kilograms have either been extirpated or exist at extremely low densities.

The Global Change and Conservation research group (University of Helsinki) in collaboration with the Turkana Basin Institute and National Museums of Kenya have recently started an interdisciplinary project to improve our understanding on the causes and impacts of the environmental transformations in the region. To do this, we are evaluating



Left: Brittle river bed during dry season. Above: The yellow-winged bat (*Lavia frons*) Left: gazelle (*Nanger granti*)

ecological aspects by monitoring plants, birds, mammals, reptiles and insects as well as ecosystem functions, alongside social aspects including traditional ecological knowledge, biocultural diversity, and livelihood studies, while involving the locals both as subjects and observers, but also as receivers of the information obtained through the project.

As scientists working in Lake Turkana, we are alarmed by these recent developments undermining the conservation of Sibilo's natural and cultural heritage, and by the little international attention this crisis is receiving. We anticipate that all these developments will yield more losses than gains for the region's natural resources, local people and biodiversity. We urge UNESCO to undertake effective and immediate measures to protect this unique and

still forgotten site and encourage the international community to sum their voices to these concerns, demanding a proper social and environmental impact assessment.

It is an ironic and heart-breaking metaphor to realise that the 'Cradle of Humankind' is now an unsettled territory, filled with serious inter-tribal conflicts and a natural heritage threatened by a number of large-scale development projects that will most likely result in major environmental and social problems in the years to come. It seems that our ability to scorn wildlife is limitless, being able to profane even the cradle of our own species.

The team carried out a multidisciplinary pilot survey in collaboration with local communities, and will be going back this November in order to start long-term monitoring program. Photography by Adrià López-Baucells, Daniel Burgas and Mar Cabeza