

# WHITHER BIODIVERSITY?

## CLIMATE AND SOCIAL CHANGE IN SUB-SAHARAN AFRICA

**Research** looks at the conservation threats facing Africa in light of numerous challenges

**W**hile Africa is home to some of the most biodiverse regions in the world, it is also among the poorest and most populous, facing challenges from population increases, rapid urbanisation, great needs to improve education, climate change, and environmental conflict. In addition, twenty percent of the continent's land surface has been degraded. To face these and other challenges, new approaches to conservation are required as is the will to enact meaningful change.

### Some facts about Africa

The continent is home to an estimated 50 000 to 73 000 plant species and 1 100 animal species including 194 primates, 91 antelopes, 2 500 birds, 5 000 freshwater fish, 950 amphibians and more than

2 000 reptiles – around a quarter of all the world's mammal and bird species. Most of these species populate the 7 800 protected areas (around 5.3 million km<sup>2</sup> or 17% of the continent's land area).

### Forests shrink as cities grow

The natural capital of Africa, however, faces severe challenges from the continent's rapidly increasing human population which is currently around 1.1 billion and predicted to increase to around 2.4 billion by 2050 and 4.2 billion by 2100. The 10 nations with the highest population growth rates are located within sub-Saharan Africa. Nearly half (43%) of its people are below the age of 15 and 60% are younger than 24 and, while fertility rates were predicted to decline over the last two decades, the decrease has been only a quarter of what was predicted. Its population dynamics have led to rapid

urbanisation with the continent's cities increasing in population by 22 million people annually. As a result, greater impacts are experienced as cities grow and the demand for resources increases, leading to deforestation to meet the demand for increased agricultural activity and for wood as building material and fuel. For example, the rainforest in the Congo Basin, which covers 200 million ha, lost 16 million ha between 2000 and 2014, mostly to small scale agriculture. In addition, many African countries sell land to foreign interests – around 50 million ha of farmland has been appropriated by Middle Eastern and Asian countries. In Uganda, this accounts for 14% of farmland while in Mozambique and the DRC it accounts for 21% and 48% respectively. As infrastructure is further developed across the region, deforestation increases.

### The uncertainties of climate change

As population growth, urbanisation, and deforestation threaten the region's biodiversity so, too, does climate change, often in ways that are not reliably predictable. Rainfall patterns have changed as average temperatures rise, leading some climate scientists to predict increases in rainfall in some areas and declines in others. Extremes such as drought and flooding are already being experienced in many areas and their intensity is likely to increase. The current population trends could see an additional 36 million Africans affected by drought-related famine by 2050. Climate change will also affect animal populations as food sources start to disappear. Already, data has shown an 11% decline over the last decade in body condition of fruit-dependant elephants in Gabon's Lope National Park. Along with a decline in food resources, there will likely be a decline in the nutritional value of what food remains.

### The fight for resources

Climate change is predicted to also increase political

conflicts within the region as resources such as food and water become scarcer. One of the fallouts of such conflict is the loss of wildlife and natural areas as armies exploit them for food. For example, the conflict in the DRC from 1996 to 1997 radically affected the wildlife populations in the Garamba National Park with reductions in the number of elephants by half; buffalo by two thirds and hippo by three quarters.

### Conservation: The way forward

If the future of conservation is to be assured, a number of factors must be considered including funding, research, and education. It is estimated that it would cost an extra US\$10.2 billion annually to protect Africa's biodiversity across 1 812 national parks covering 3.1 million km<sup>2</sup>. And this

amount excludes the costs of improving associated infrastructure and institutions such as the education system. Also critical to conservation's future success is the will to act. This could be achieved through education programmes designed to include populations closest to areas of biodiversity as well as urban dwellers. Tying conservation to development is another way that would help

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the sustainability of conservation efforts. Eco-tourism and revenue sharing schemes can address social needs such as employment and education while at the same time generating essential funding. Lastly, education and capacity building are essential to ensuring the region's biodiverse future. Investments must be made in building the conservation education, research, and management capacity of sub-Saharan Africa's 46 countries including more development of and funding for universities, centres of excellence and training hubs.

There is hope for the future of the region's biodiversity despite the challenges. A strong stance and the will to implement policy will ensure its sustainability. 