

9. Biodiversity

CASE STUDY

ADAPTING TO GLOBAL CHANGE IN A DIVERSE LANDSCAPE: THE KRUGER TO CANYONS BIOSPHERE RESERVE

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The Kruger to Canyons study area (K2C) was designated as a Biosphere Reserve under UNESCO to preserve the integrity of the conservation areas while improving the livelihoods of the people who live within its borders. One of the consequences of conservation initiatives in the past has been the economic underdevelopment of rural areas adjacent to conservation areas. Being home to a substantial portion of the bird and mammal species in South Africa, K2C displays a substantive topographic and climatic diversity, and is the site of multiple stressors. This makes it an excellent subject for considering how global change impacts might be successfully managed in a diverse landscape.

The case study is focused on the highly diverse land use area of K2C where a range of stakeholders are active, including Bushbuckridge Municipality, South African National Parks, Mpumalanga Parks Board, the previously named Department of Water Affairs and Forestry (DWAF) and a range of civil society initiatives.

By incorporating state conserved land, communally managed nature reserves, communally grazed areas, former homeland type dense settlement areas, commercial agriculture, private conserved areas, commercial forestry and provincial conservation, the area is highly appropriate to demonstrate the potential benefits of more accessible information on global change projections and risk and vulnerability planning around potential impacts for the area.

Global change may already be occurring

Previous studies indicate that global changes in the area may already be occurring. Key areas of critical impact include water supply and quality; commercial agriculture; forestry (including the reversion of commercial forestry in certain areas); health; commercial rangeland management; communal agriculture and livestock; and conservation management at the landscape scale (Kruger National Park).

Part of the K2C area comprises former homeland areas (see Chapter 4), with an accordant backlog of service delivery and infrastructure as well as a considerable health risk and disease burden (60% HIV infection rate and chronic lifestyle diseases such as strokes, diabetes and heart attacks). These communities have a high dependence on natural resources that provide a free or cheap alternative to other commercial commodities. These resources are already under increasing pressure from changing environment conditions, which could increase these rural communities' vulnerability to future global change.

This study will draw on the findings of a significant amount of research that has already taken place in the area. There is a keen desire amongst diverse stakeholders to access global change information (for example, the use of such information to inform the Bushbuckridge Municipality IDP), as well as to interactively develop an understanding of what global change implies for critical sectors in the area.

It is hoped that the outputs of this project will include diverse stakeholder planning and decision-making for the area – directly informed by global change predictions – and improved resilience of such sectors under global change.

