

Orange-Senqu River Awareness Kit

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People and the River

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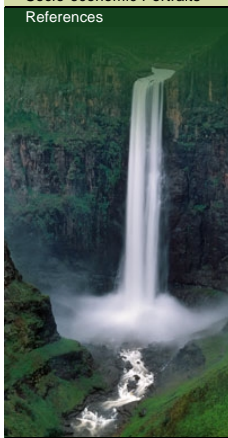
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People's well-being and Human development are inextricably linked to their environment. Without environmental Goods and Services we would not have [Access to Water](#), [Food Security](#) and also the cultural, spiritual and aesthetic qualities that fulfill us. The environment also provides us with some of the means to improve our [Health and Education](#); and it provides [Sustainable Livelihoods](#) for a certain portion of the people living in the Orange-Senqu River basin.

Ecosystem services are the benefits derived by people from nature (Scholes and Biggs 2004). These services have been classified into the following four categories by the Millennium Ecosystem Assessment (2005):

- **Provisioning Services** - products obtained from ecosystems such as freshwater, food and fuel wood
- **Regulating Services** - benefits obtained from regulation of ecosystem processes such as disease regulation, pollination and water purification
- **Cultural Services** - non-material benefits obtained from ecosystems such as the aesthetic, educational and spiritual
- **Supporting Services** - services necessary for the production of all other ecosystem services such as soil formation, primary production and nutrient cycling

These services contribute both directly and indirectly to human welfare and over-use of resources and the pollution of ecosystems can jeopardise the health of ecosystems that provide the basis for human well-being. Therefore, it is important that people living in and around the ecosystems of the Orange-Senqu River basin do not exceed the capacity of the ecosystem's ability to withstand these pressures. This could lead to collapse of ecosystem function, destroying sources of food, removing the valuable services that the river provides, such as flood protection and reducing the ability of local people to maintain a livelihood.

Southern African Millennium Ecosystem Assessment (SAfMA)

The Southern African Millennium Ecosystem Assessment (SAfMA) was conducted to evaluate the state of southern Africa's ecosystems, and their capacity to deliver services, across multiple scales.



The Lower Orange-Senqu River, near Daberas.

Source: Kruchem 2011

(click to enlarge)

The assessment concluded that there is a strong interaction between human well-being and the state of ecosystem services in the region (see Box below). Food, water and biomass energy provided by the ecosystem are directly linked to human well-being and human health is reliant on adequate nutrition. Information is available and documented for the provision of food through agricultural ecosystems; however, the informal sector and the role of hunter-gatherers are less documented and the contribution of ecosystem services to these activities most likely underestimated (SAfMA 2004). Food, fuel, medicinal plants and water are essential services to the rural poor in southern Africa, even if their use goes undocumented.

Box: HIV/AIDS and Ecosystem Services

No study of human well-being in sub-Saharan Africa can ignore the pervasive impact of the AIDS pandemic. The demographic effects – for example, the plummeting life expectancy at birth throughout the region – will have a noticeable, but likely transient impact on the human population growth rate over the next quarter century. Perversely, the impact of humans on ecosystems may well increase as a result of the economic stresses caused by the disease. Families without other resources, and burdened with the care of the formerly economically active and labour-providing members, fall back on the use (and sometimes over-use) of natural resources to survive. At the same time, the knowledge and skills needed to manage natural resources, from the local to the regional scale, are being lost through premature death.

Important interactions between ecosystem service issues (such as poor nutrition, unsafe water and diseases such as malaria), poverty, and the impact and spread of AIDS is one reason that the disease has had such an impact in the region. For instance, inadequate protein and micronutrient supply results in a more rapid progression from infection to a debilitated state and death. Consequently there is less money and labour to grow better crops, leading to

Interactive

Basin Map



Explore the sub-basins of the Orange-Senqu River

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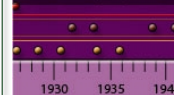
Video Tour



Tour video scenes along the Orange-Senqu River related to People and the River

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Timeline



View a historical timeline of Orange-Senqu countries, including water agreements & infrastructure construction

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River Journey



Journey along the Orange-Senqu River through images and interviews

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further under-nourishment. Similar exacerbating feedback loops exist for water and sanitation, and for control of vector-borne diseases.

Source: Southern African Millennium Ecosystem Assessment (SAfMA) 2004

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