



## Air and Water Quality under Pressure in Africa

The African continent has large untapped environmental resources: together with Latin America and the Caribbean, the continent has the largest reserve of agricultural land, accounting for 80 per cent of the global total.

Africa is home to important biodiversity assets and ecosystems, including the Congo Basin rainforest – the second largest tropical rainforest in the world. However, the continent's natural capital is under pressure from urbanization and industrialization as well as from a growing population. This has resulted in the degradation of air, land and water quality.

Poverty and lack of investment has accelerated this deterioration in many regions, preventing people from utilizing the continent's natural resources in a sustainable manner.

Sustainable management of natural capital is key to ensuring continued economic development of the continent. The GEO-6 presents the state of play for air, water and land in Africa and looks at how these resources can be tackled.

### Air quality

Air pollution, both indoor and outdoor, poses a major problem for the continent, both for the environment and human health. About 90 per cent of people in Sub-Saharan Africa are exposed to indoor air pollution, impacting both economies and livelihoods while contributing to increased emissions of greenhouse gases.

#### *Drivers*

- **Urbanization**, industrialization and motorization have all led to an increase in outdoor air pollution on the continent.
- Reliance on solid fuels: due to unpredictable income streams making electricity unaffordable for large parts of the population, most people in sub-Saharan Africa still rely on solid fuels for cooking, heating and lighting.
- Underutilization of the continent's vast renewable energy resources.

#### *Impacts*

- **Human health:** an estimated 600,000 deaths per year can be attributed to indoor air pollution in Africa.

#### *Responses*

- Reducing the dependence on solid fuels for cooking and heating through affordable energy by utilizing Africa's vast renewable energy resources, particularly solar, wind and hydropower.
- Investing in transport solutions that reduce the need for travel, such as sustainable mass transport systems.
- Monitoring of indoor and outdoor air quality.

## Freshwater quality and access

Africa's expanding economies are resulting in greater demand for freshwater, but its quantity and quality are decreasing as a result of over-exploitation, climate change and pollution, while the growing population means that average internal renewable water resources will continue to dwindle. The proportion of the population served with clean water is increasing and grew from 64 per cent in 2005 to 68 per cent in 2012, although absolute numbers of people without safe drinking water remain high. More than half of the population in sub-Saharan Africa still does not have any access to improved sanitation, compared to 90 per cent coverage in North Africa, with a vast difference between urban and rural areas.

### *Drivers*

- African megacities such as Cairo, Kinshasa and Lagos, and emerging megacities such as Dar es Salaam, Johannesburg and Luanda, face challenges from poor management of sanitation services due to inadequate and deteriorating infrastructure resulting from underinvestment.
- Land-based activities causing pollution of freshwater bodies ultimately impact coastal and marine resources.
- There are 320 coastal cities in Africa, with associated high levels of economic activity, such as mining, oil and gas exploration, extraction and refining, and transportation.

### *Impacts:*

- The quantity of water available for a range of human needs is variable, depending on the climatic and geological setting. Africa's main water consumer is agriculture, which often results in unwanted wastage through evaporation and runoff.
- Owing to their easy accessibility, lakes, rivers and streams are the main recipients of pollution across Africa and the quality of the water is often compromised. These aquatic systems, used as an immediate source of water for large cities, may not be suitable for direct consumption and such water is either wasted or requires expensive treatment

### *Responses*

- There is need to invest in low-cost technologies for the management of wastewater, as well as the delivery of safe drinking water.
- Groundwater represents a significant under-exploited water resource, but as an initial priority there is a need to substantially improve the information base regarding this resource.
- With 63 shared river basins, Africa is strongly urged to engage in effective integrated water resources management for the better protection of catchments and increased intra-basin cooperation for equitable use of limited water resources.
- Aquaculture holds great promise for exploiting the fish resources which are a potential sustainable source of protein, but it is a necessary pre-requisite to take biodiversity and other environmental implications into account when promoting this industry.

## Land degradation

Africa's landmass of 30 million square kilometers makes the region the second largest continent in the world, after Asia. With maize making an annual contribution to the economy of nearly \$21 billion in 2013 and livestock bringing in \$65 billion, land is Africa's most prized asset for food production, nutritional health and economic development. Despite its importance, about 500,000 square meters of land in Africa is being

degraded due to soil erosion, salinization, pollution and deforestation. This land degradation can adversely affect agricultural productivity, nutrition and human health.

#### *Drivers*

- **Urbanization:** The region has six of the world's top ten countries experiencing rapid urbanization.
- **Deforestation:** The forest cover in Africa is projected to continue shrinking, declining to less than 600 million hectares by 2050 due to the increasing conversion of forests to agricultural land to support the rising population and growing demand for firewood.
- **Unsustainable farming practices,** such as over-cultivation and overgrazing.

#### *Impacts*

- **Reduced agricultural productivity.**
- **Reduced food security** that in turn can lead to migration, with associated health impacts, such as the spread of disease, including HIV/AIDS.

#### *Responses*

- **Implementing sustainable land-management practices.**
- **Securing land tenure** for both women and men to ensure Africa's land capital is both valued and protected.

## **Illegal trade in wildlife**

The illegal trade in wild flora and fauna is a global problem but it poses serious economic and security risks for Africa. The illegal trade in flora and fauna damages ecosystems and rural livelihoods, and threatens national and regional stability.

#### *Drivers*

- **High prices of illegal wildlife and forest products:** For example, illegal trade in animals, including fish, and plants, including for timber and charcoal, is one of the largest sources of criminal earnings in the world, estimated to be worth \$50–150 billion per year.
- **Demand:** Growing demand primarily from South East Asia and China for certain species.

#### *Impacts*

- **Loss of biodiversity:** Both the rhino and the elephant are threatened with extinction because of the illegal wildlife trade. Official estimates show that close to 25,000 elephants were killed in 2013 to supply the illegal ivory trade.
- **Lost opportunities:** Africa's biological resources have multiple applications that the region has not yet exploited, including the sustainable use of wild fauna and flora for the purpose of sustainable development.

#### *Responses:*

The African Union has agreed on a strategy to combat the illegal trade in wild fauna and flora, which includes the following objectives:

- **Increase the level of political commitment** to prevent, combat and eradicate the illegal exploitation and illegal trade in wild fauna and flora, and recognize illegal trade in wild fauna and flora as a serious crime.
- **Improve governance integrity** and enhance regional and inter-regional cooperation.
- **Enhance engagement** with consumer states to reduce demand, supply and transit of illegal products of wild fauna and flora.

- Increase the capacity of source and transit states in detecting illegal wild fauna and flora products, including at exit and transit points.

#### **Overall recommendations for Africa:**

1. Governments need to adopt a sustainable management approach towards natural capital.
2. Diversifying the energy portfolio and utilizing the vast untapped renewable energy potential would have clear environmental and economic benefits for the continent.
3. Governments should strengthen weak resource management practices.
4. Ensuring that future growth and exploitation of natural resources are climate resilient.
5. Increasing intergovernmental cooperation to improve and coordinate policy responses.