



Africa

Africa includes countries of Central Africa, Eastern Africa, Northern Africa, Southern Africa, Western Africa, and Western Indian Ocean.

PAST AND PRESENT: 1972 TO 2002

Land - Over the past 30 years, more and more land has been converted to agriculture. By 1999, around 202 million hectares (ha), nearly a third of it arable, was being cultivated.

Many marginal areas or important natural habitats such as wetlands and forests are being cleared leaving the land increasingly prone to erosion. About 25 per cent of the land is now subject to water erosion and about 22 per cent to wind erosion. Over 45 per cent of Africa is affected by desertification 55 per cent of which is at high or very high risk.

Soil erosion is also causing increased siltation of rivers and dams. In the Sudan, for example, the total capacity of the Roseieres reservoir, which generates about 80 per cent of the country's electricity, has fallen by 40 per cent in the past 30 years as a result of silting from the Blue Nile.

The issue of land degradation is being addressed. A soil fertility initiative for sub-Saharan Africa aimed at improving productivity and increasing farm incomes through a combination of policy reform and technology adaptation was established in 1996. National soil fertility action plans are currently being prepared in 23 countries. Fifteen national action programmes have been submitted within the framework of the United Nations Convention to Combat Desertification.

Freshwater - The availability of water resources in the region does not coincide with the highest population densities, so that many areas are weaker, stressed or dependent on external sources of water. Groundwater is the major source of water in the region, contributing 15 per cent to Africa's resources. It is used for domestic and agricultural consumption, particularly in the most arid sub-regions. However, areas heavily dependent on groundwater reserves are also at risk

Twenty-eight per cent of the global population without access to improved water supplies live in Africa. About 3 million people across the region die annually as a result of water-related diseases. In 1998, 72 per cent of all reported cholera cases in the world were in Africa.

Governments are improving the situation by developing environmental management policies that include waste management, urban planning and compulsory impact assessments for large projects. Other responses include schemes in Central Africa for purification and decontamination of freshwater systems and public awareness.

Forests and Biodiversity - Deforestation, both for commercial timber and for agriculture, is a major concern. Forests are lost annually at an estimated rate of more than 5 million ha, a surface roughly the size of Togo, and the highest rate of any region. Sixty per cent of the tropical forest areas cleared in Africa as a whole, between 1990 and 2000, was converted into permanent agricultural smallholdings.

Inappropriate economic development strategies and lax implementation of forest protection regulations are the principal pressures on forest resources. This situation is worsened by political instability and conflict in countries such as the Democratic Republic of Congo and Sierra Leone.

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Some large-scale reforestation programmes have been implemented but most are based on monocultures, ignoring the biological diversity of the natural forest they replace. Under another response, forests have been designated protected areas. Community-based forests management is also being established with considerable benefits to community income levels and forest conservation.

Poaching, civil war, high rates of land use change and population growth are key factors leading to the decline of biodiversity in Africa.

Central Africa had lost about half of its wildlife habitats by 1986. During 1980-1995, the number of extinct plants in Southern Africa increased from 39 to 58. More than 700 vertebrate species, and around 1 000 species of trees are threatened with extinction. Illegal hunting critically endangers even the black rhino, though banned from commercial international trade.

Africa is home to five internationally recognized areas of particularly high species richness and endemism, referred to as “biological hot spots”. These include the Western Indian Ocean islands, the Cape floristic region, the Succulent Karoo - the most species-rich desert in the world, the upper Guinea forest and the Eastern Arc Mountain forests of East Africa.

Approximately 7 per cent of the land falls within protected areas. In total, Africa has 1 254 protected areas, including marine protected areas, biosphere reserves, wetlands of international importance and World Heritage sites. Almost all African countries have ratified the Convention on Biodiversity, and the Convention on International Trade in Endangered Species.

Coastal and Marine areas - Unsustainable rates of resource extraction, high concentrations of people and inland activities such as the damming of rivers, increased use of fertilizers and clearing of natural vegetation has led to the degradation of coastal and marine habitats. Resource harvesting methods, like the use of dynamite in fishing, have added to the stress.

The demand for fisheries resources is increasing but per capita fish catch has been fairly static since 1972, except in Southern Africa, where it has fallen sharply. The Cape rock lobster and abalone catches have declined steadily since 1950s, causing concern over the sustainability of these populations and leading to the setting of annual catch limits.

The waters of the Western Indian Ocean are major sea routes for an estimated 470 million tonnes of oil every year. This incurs a high risk of disastrous oil spills. Several oil spills have affected African penguins and other marine life.

Today fisheries management measures include closed seasons control agreements with foreign fleets and establishment of marine reserves. In West Africa, a Sustainable Fisheries Livelihoods Programme has been developed. National and regional oil spill contingency plans have also been established in several African regions

Atmosphere – Africa contributes less than 3.5 per cent of global emissions of carbon dioxide, the principle gas linked with global warming. Nevertheless, pollution related to human activities is a problem in some large cities in Southern and Northern Africa. Energy consumption has risen by 44 per cent in Northern African countries, contributing significantly to regional emissions.

A rapid increase in the number of private and commercial cars, most in very poor condition is an additional cause of concern because of their hydrocarbon emissions, which are linked to cancer and chemicals linked with atmospheric smog. The incidence of respiratory diseases is rising.

Some countries are encouraging conversion to newer and less polluting vehicles and unleaded petrol is becoming standard in some countries. Many national strategies for sustainable development also address ,the among other concerns, impacts of atmospheric pollution. Options for further exploitation of alternative sources of energy are being explored in both Southern and Northern Africa.

2032: CHOICES FOR FUTURE

We are at a cross roads with the future in our hands. The decisions taken today and tomorrow will define the kind of environment this and future generations will enjoy. GEO-3 in its Outlook chapter outlines four policy approaches leading to different outcomes over the next 30 years. Here we highlight two of the most contrasting scenarios: *Markets First* and *Sustainability First*. One envisions a future driven by market forces; the other by far reaching changes in values and life styles, firm policies and cooperation between all sectors of society

Land - Under a *Markets First* future, better quality agricultural land is taken over for commodity and cash crop production. The environment suffers as a result as soils are mined and the use of fertilizers and pesticides becomes more extensive. The extent of built-up areas rises from under 2 to over 3 per cent by 2032.

With *Sustainability First*, easier access to support services helps farmers to manage soils better, curtailing problems like compaction, erosion and salinization. Policies based on integrated land use management become commonplace in most parts of Africa. Technological advances prompted by a combination of government incentives and private sector innovations, help improve the productivity of degraded land. Under 2 per cent of the land is built-on by 2032.

Freshwater - Under the *Markets First* scenario, the number of people living in areas experiencing severe water stress increases to nearly 40 per cent, up from around 25 per cent now. As a result water withdrawals double with sub-Saharan Africa likely to face particularly hard conditions especially in Eastern Africa. There is increasing and competing demand between household industry and agriculture.

Under Sustainability First, a combination of technology transfer and additional policies that encourage water savings, reduces the pressure on water supplies so that the percentage of people living in areas with severe water stress is held at around current levels. The percentage of the population living with hunger falls to under 10 per cent in all regions except Eastern Africa. Efforts are made to enhance transboundary basin-wide management of water resources and water quality becomes a focus of attention because of its links with human health.

Forests and Biodiversity - More forests are cleared for agriculture and existing ones are more heavily exploited under a *Markets First* future in order to meet demands for food. Advances in agricultural efficiency and the efforts of governments and industry to protect some forests, reduce the losses somewhat.

Climate change and a growth in infrastructure intensify pressure on Africa's wildlife. By 2032, over 70 per cent of the region is impacted by roads, mining and other infrastructure developments.

Under Sustainability First, community-based management schemes which encourage reforestation, limit total losses. Nevertheless by 2032, the total area of natural forest has fallen to below 15 per cent. Strenuous efforts are made to reduce the level of habitat fragmentation in a Sustainability First scenario. By 2032, over 50 per cent of the land is affected by infrastructure, up from under 50 per cent now. Some biodiversity loss is unavoidable in the short term, particularly from the effects of climate change.

For more information contact

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