

# Africa

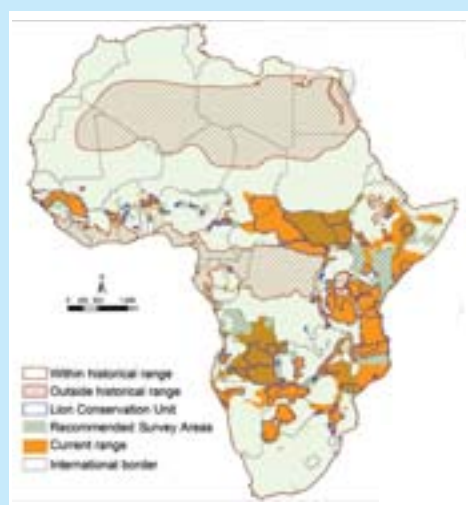
In 2006, man-made and natural disasters continued to hamper Africa's development opportunities. However, environmental cooperation proved to be a valuable tool for reducing conflict, increasing economic opportunities, and enhancing livelihoods as well as achieving conservation objectives.

## ENVIRONMENTAL COOPERATION—AN INVESTMENT IN PEACE AND REGIONAL INTEGRATION

Violent conflict and pressures on arable land continue as significant causes of environmental degradation in Africa, leading to deforestation and the bush meat trade as well as undermining the resilience of local communities. But conversely, environmental cooperation can offer a promising route to regional peace and integration (Hamill 2005). Several new and ongoing environmental initiatives in Africa are exploring this promise for different species and for different ecological regions.

Lion populations have disappeared from about 80 per cent of their former rangelands (Figure 1)

**Figure 1: Africa's lion population is in steady decline. Lion Conservation Units are areas that are critical for the long-term conservation of lion populations. In Recommended Survey Areas further monitoring and research are necessary to determine population status and appropriate responses.**



Source: Wildlife Conservation Society

(UNEP-WCMC 2006). Over the last two decades their numbers are believed to have declined by 30-50 per cent and current estimates suggest that between 23 000 and 39 000 lions remain (Bauer and Van der Merwe 2004, Chardonnet 2002). Approximately 90 per cent of the remaining lion population is located in eastern and southern Africa, half of these in Tanzania. There are smaller viable populations in Kenya, South Africa, Mozambique, Botswana, Zimbabwe, Zambia, and Namibia. Lions have been completely eliminated in Egypt, Libya, Tunisia, Algeria, Morocco, and Mauritania. In western and central Africa only small, fragmented lion populations remain. This biodiversity loss also represents an economic loss, as lion populations are a focal point for tourism.

In 2006, 24 lion range states began a process to develop a pan-African lion conservation strategy. Two sub-regional strategies—one for western and central Africa and another for eastern and southern Africa—have been developed (IUCN ROSA 2006). Africa's lion range states recognize that protecting this asset means addressing the causes of declining lion populations (IUCN ROSA 2006). These include the vulnerability of lions in conflict zones, conflicts between lions and rural people whose lives and livestock they may threaten, and various diseases (Dudley and others 2002, Chardonnet 2002, Frank and others 2006).

Great apes are even more severely threatened by the bush meat trade, encroachment, and conflict (Box 1). The 2005 Kinshasa Declaration on Great Apes pledges signatories to reduce the current loss of great ape populations by 2010 and to secure the future of all species and subspecies of great apes in the wild by 2015. Sierra Leone and Sudan signed the declaration in March 2006, followed by Rwanda and Gabon in May and by Equatorial Guinea in June (UNEP 2006a). Only two of the 23 African great ape range states have not yet signed. By connecting protected areas, the parties hope to improve conservation and livelihood opportunities (UNEP and UNESCO 2005).

## Box 1: Building peace through environmental cooperation

The International Gorilla Conservation Programme (IGCP) promotes cooperation for mountain gorilla conservation in the Great Lakes region, which has experienced multiple conflicts over several decades.

IGCP has three coalition partners—African Wildlife Foundation, Fauna & Flora International, and the World Wide Fund for Nature. It works with all stakeholders whose activities potentially affect the survival of gorillas and their habitat including farmers, park and military authorities, local and regional governments, and environmental experts. By building partnerships and developing synergies between conservation and development, IGCP has changed attitudes to the gorillas.

Since IGCP's inception, there has been a 12 per cent increase in the mountain gorilla population which totalled 700 at the time of the latest census. Preliminary assessments suggest that conservation activities have improved dialogue between different stakeholders. Improved communication builds trust and understanding while joint activities create interdependencies, all of which helps to reduce political tensions.



Source: Johannes Reifisch

Separating farming communities and the gorilla population, the Nkuringo buffer zone along the south side of Uganda's Bwindi Impenetrable Forest is 12 kilometres long and a few hundred metres wide.

IGCP aims to build partnerships between development and humanitarian agencies and environmental efforts. Mainstreaming environment in development and humanitarian activities potentially creates new support for conservation development initiatives that can enrich local livelihoods. However, success depends on making sure that interventions do not entrench inequities or create new ones—such as unequal rights to land and forest resources.

Sources: IGCP 2006, Besançon and Hamill 2006, van der Giessen 2005, Larjouw undated

The declaration encourages cooperation, including partnerships with the private sector, to create sustainable economic activities that enhance livelihoods.

Ecological regions can also act as a focus for regional cooperation. The upper Zambezi and Kavango region is biodiversity-rich and home to the well-known Okavango Delta. The area has significant tourism potential but three decades of violent conflict have hindered investment. Landmines from Angola's 26-year civil war have displaced communities, disrupted livelihood activities, and blocked elephant (*Loxodonta africana*) migratory routes, restricting the largest surviving elephant herd to Botswana's northern protected areas (Hoare 2004, UNEP undated). This constrained elephant herd is growing at an unsustainable rate of five per cent per year, resulting in environmental degradation and conflict with communities living nearby. On 7 December 2006, government ministers from Angola, Botswana, Namibia, Zambia, and Zimbabwe signed a Memorandum of Understanding that establishes the Kavango-Zambezi Transfrontier Conservation Area



After de-mining in Angola, elephants in Botswana's wetlands should be able to resume their transfrontier migratory habits.  
Source: © BIOS Gunther Michel / Still Pictures

## Box 2: Regional cooperation in early warning and conflict management

In east Africa, environmental change and the lack of rural investment combine to create fertile ground for pastoral conflict. The convergence of pastoral groups around state boundaries increases the likelihood of cross-border migrations. In recent years pastoral conflict has increased and currently there are 30 potentially threatening inter-community conflicts in the region. Tension points include the Karamoja cluster composed of pastoral groups in southwestern Ethiopia, northwestern Kenya, southeastern Sudan, and northeastern Uganda.

Increased tension is linked to:

- growing competition for land as a result of desertification, displacement of pastoral people, and population growth among herders and farmers;
- the breakdown of traditional cattle-raiding rules and the commercialization of raiding;
- the proliferation of small arms from wars in the region; and
- reduced food security and water availability due to rainfall variability and extended droughts.

In one significant regional initiative, the Intergovernmental Authority on Development (IGAD) has linked its drought and conflict monitoring activities into the Conflict Early Warning and Response Mechanism (CEWARN). CEWARN monitors pastoral conflict and provides timely information on specific events and their causes, thus helping member states to prevent escalation into larger conflicts. CEWARN's Drought Monitoring Centre reports on drought and forage conditions and makes food production projections—important factors influencing migrations.

Sources: CEWARN 2006, Grahm 2005, Nori and others undated, Arne 2006, NASA 2006

((KAZA TFCA) (Peace Parks Foundation 2006). The KAZA TFCA will link human security and development with conservation. An initial step will be a project run by UNDP, Conservation International, Roots of Peace, and the Government of Angola to de-mine 150 000 hectares and restore elephant migratory routes. This will link protected areas within KAZA TFCA, increasing tourism potential and related development (Suich and others 2005). The initiative will restore elephant migratory routes.

Covering an even larger area, the African Union is considering a 'Green Wall for the Sahara Initiative,' which will include over 20 countries in a 30-year project.

This initiative aims to arrest desertification and improve sustainable livelihoods in the fragile Sahelo-Sahara zone. The Green Wall concept recognizes that policy coordination and better integration of environment in development policies are essential to harmonize approaches to community participation, to rehabilitate transboundary ecosystems, and to develop a strong data base (AU Commission 2006).

Recovering from violent conflict can leave countries and communities vulnerable to natural and man-made disasters (**Box 2 and Box 3**). Regional cooperation can build local resiliency as well as transboundary conservation success.

## Box 3: Illegal dumping crisis in Côte d'Ivoire



Citizens of Abidjan wait outside a local hospital to be examined by medical personnel for the effects of toxic exposure.

Source: Luc Gnago/Reuters/The Bigger Picture

In Abidjan, Côte d'Ivoire's largest city, the illegal dumping of over 400 metric tons of toxic sludge in late August killed at least 12 people and led more than 100 000 others to seek medical care. Reportedly, a ship unloaded petrochemical waste into trucks that then dumped it in at least 15 sites around Abidjan. The waste contained a mixture of petroleum distillates, hydrogen sulphide, mercaptans, phenolic compounds, and sodium hydroxide.

The disaster led to the resignation of the government, which had been reaching the end of a UN-brokered administration comprised of parties that were warring factions in the recent civil war. International waste treatment experts helped with the first phase of clean-up but even by the end of 2006 residents still suffered as local dumps were closed and waste piled up on city streets. The Ivorian Government estimated a total cost of US\$30 million to recover and transport the waste to France for de-contamination. As of 20 December 2006 US\$15 million was still needed from international donors to finish the job.

Source: (UNNS 2006, UNEP 2006)

## INVASIVE ALIEN SPECIES

Invasive alien species (IAS) are the second largest threat to global biodiversity after habitat loss (MA 2006). In many small island developing states, IAS are the greatest threat to biodiversity. They pose a region-wide challenge to Africa, driving environmental change, affecting agriculture and water availability, and under-mining the continent's ability to meet the Millennium Development Goals and other efforts to reduce extreme poverty and hunger (GISP 2006).

The threat is likely to increase due to the combined effects of climate change, land-use change, and globalization (Mooney and Hobbs 2000). Climate change and land conversion disrupt ecosystems and favour the establishment of opportunistic species (Mace and others 2006). Increased human mobility and trade have opened new pathways of introduction, creating new management challenges and complicating efforts to exclude IAS (Chenje and Mohamed-Katerere 2006, Barnard and others 2006).

Globally-accepted IAS policy focuses on the prevention of new introductions as top priority. Once a species becomes established, the focus shifts to eradication and control. The parties to the Convention on Biological Diversity (CBD) agreed to significantly reduce the rate of biodiversity loss by 2010—including the loss attributable to invasive species. For IAS, the goals are to control pathways of invasion and to establish management plans for the most threatening alien species (CBD 2002, CBD 2004).

With only four years left before the 2010 target date, challenges to meeting these goals remain and it seems unlikely that IAS can be eradicated in the foreseeable future. For example, by 2006 only five countries out of the 22 assessed had identified some or all major IAS and established a tracking system. Africa's capacity to control IAS is affected by weak policy and institutions, inadequate

funds, and lack of information and managerial capacity (GISP 2006). Prevention measures are insufficient: There is a lack of standards to address animal IAS, as well as inadequate control measures on IAS introductions via civil air transportation, shipping, transboundary waters, tourism, and emergency relief (CBD 2006a).

IAS can affect livelihoods in positive as well as negative ways, making some management choices difficult. While particular IAS may have financial value, in situations where these species displace native species and cause significant environmental change, the environmental and social costs may outweigh any economic benefits. For example, in 2005 the export of Nile Perch fillets from Lake Victoria earned Uganda, Kenya, and Tanzania US\$272 million. But since the species was introduced in the 1950s, Nile Perch have transformed Lake Victoria's ecosystem and reduced the diversity of fish species on which many local people rely (Josupeit 2006).

Once established, IAS are extremely difficult to eradicate (MA 2005). One promising approach that complements other control measures is to encourage enterprises that use IAS by-products, creating an incentive to harvest invasive species (**Box 4**). In Niger, planners are considering management approaches to develop economic use of the invasive *Prosopis spp.*—commonly known as mesquite (Geesing and others 2004). Mesquite was introduced to Mauritania, Senegal, and other Sahelian countries to help combat desertification by stabilizing dunes. In some parts of northwestern Africa mesquite is one of the sole sources of firewood. While mesquite has become an invasive problem in areas with more rainfall, in parts of Africa subject to desertification and drought due to climate variability and climate change mesquite serves as a valuable resource (**Box 5**) (FAO 2006).

In 2003, the New Partnership for Africa's Development (NEPAD) named IAS as a priority area in its Environmental Action Plan, marking a first step towards establishing a regional framework and identifying 14 projects to address the issue (NEPAD 2003). However, only 29 African countries met reporting requirements under the CBD in 2006 and country reports reveal ongoing managerial challenges (CBD 2006b).

In 2006, the CBD drew attention to the need for a multilevel cooperative approach to capacity-building at national, sub-regional, regional, and global levels to promote consistency and mutual support for adopted measures (CBD 2006a). A 2006 UNEP Global Invasive Species Programme capacity-building initiative will assist countries to develop and implement national and regional strategies and action plans, as well as facilitate information sharing.

## LOOKING TO THE FUTURE

For Africa, building durable peace as the basis for development and human prosperity will remain a long term priority. Environmental cooperation can contribute to this vision by decreasing tensions over livelihood resources, by equitable sharing and joint planning—and by building trust. Successful environmental cooperation requires improved funding to support better integration of environment and development policies and stronger partnerships between governments and other stakeholders.

By continuing to invest in environmental cooperation among governments and other stakeholders (including non-governmental organizations, experts, communities, and entrepreneurs) Africa can make important steps towards achieving sustainable development goals and reducing vulnerability to both man-made and natural disasters.

### Box 4: Value-added industries

In South Africa, 8 750 plants are introduced species and 198 of those are classified as invasive. Recent estimates suggest that these plants cover over 10 million hectares—about 8 per cent of South Africa's land area. South Africa's 2006 report to the CBD noted that its Working for Water (WfW) Programme invests heavily in eradication, increasing from about US\$6 million in 1995/6 to more than US\$72 million in 2003/4, and has cleared over a million hectares of land of invasive alien plants. Nevertheless, invasive alien species continue to spread—wasting 7 per cent of water resources, intensifying flooding and fires, eroding soils, silting dams and estuaries, degrading water quality, and reducing biodiversity.

WfW's Valued-added Industry Programme encourages entrepreneurs to use the biomass collected from land-clearing operations. IAS biomass is used to make screens and blinds, interior décor items such as lamps, bathroom accessories, indoor and outdoor furniture, fencing and arches, and toys, as well as fuel.

The programme has three primary objectives:

- Improving the economic benefits of the WfW programme, by creating extra jobs through the harvesting and processing of plant material.
- Reducing the cost of clearing invasives by involving entrepreneurs, contributing to the sustainability of the WfW programme.
- Minimizing the potential negative environmental impacts, such as fire damage, by leaving less biomass behind after clearing.

Source: Working for Water Programme 2006, Government of South Africa 2006



Craftsperson using bark from IAS, Working for Water Programme, South Africa  
Source: Working for Water



## Box 5: Climate change mitigation and Africa

Climate change in Africa was one of the key priority topics at the 12th Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC), held in Nairobi in November 2006. A conference background paper reported that Africa is acutely vulnerable to climate change. It is already stressed by climate factors such as rainfall variability, water shortage, and low crop yields as well as climate-related diseases such as Rift Valley fever, cholera, and malaria. During the 21st century 30 per cent of Africa's coastal infrastructure could be inundated by sea-level rise. Cereal crop yields could decline by up to five per cent by the 2080s. Meanwhile the range, frequency, and severity of disease outbreaks may increase.

So far Africa has received the least help with mitigation efforts that benefit developing countries. The Clean Development Mechanism (CDM) permits industrialized countries to offset their CO<sub>2</sub> emissions by funding emission-reducing projects in developing countries. But sub-Saharan Africa had just five of the 410 registered Clean Development Mechanism (CDM) projects—four in South Africa and one in Nigeria, as of November 2006. This compares with 192 for Latin America and the Caribbean and 203 for Asia. The situation with projects in the planning stage is no better.

Africa has a huge potential for carbon sequestration through afforestation and reforestation projects that would also deliver strong local community, environmental, and economic benefits. However, these approaches are not yet accepted under the CDM.

Several initiatives announced at the UNFCCC Conference will begin to remedy this situation. UN Secretary-General Kofi Annan announced the Nairobi Framework—a joint initiative of five UN agencies to help poorer countries benefit more from the CDM. UNEP and UNDP announced a partnership to help poorer countries, especially those in sub-Saharan Africa, to secure a greater share of the international carbon finance market. This partnership will provide rapid expert support to governments assessing potential climate change impacts on infrastructure projects such as roads, dams, and power systems.

Meanwhile the World Bank announced that its Community Development Carbon Fund will buy 900 000 tons of carbon credits from the Kenya Electricity Generating Company (Kengen). Clean geothermal energy from the planned expansion of Kengen's Olkaria II power plant will displace electricity produced by fossil-fuel powered plants, equivalent to 150 000 tons of carbon dioxide per year. This is the first CDM geothermal project on the continent.

Sources: UNFCCC 2006a and 2006b, World Bank 2006, UNEP 2006b, Ayeiko 2006.

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