

Africa is endowed with abundant natural resources, accounting for about 10 per cent of global freshwater resources, 17 per cent of global forest cover, a quarter of mammal species and a fifth of bird and plant species. Most rural households rely on these resources to meet their nutrition, health and energy needs. If well managed, this exceptional richness offers opportunities for improving human well-being.

However, ecosystems are under growing threat throughout the African continent. For instance, from 1990 to 2000 deforestation took place at a rate of 0.8 per cent per year in Africa, versus 0.2 per cent at the global level. Population and economic growth are major factors fuelling increased demand on resources. Another underlying cause of environmental and land degradation is inadequate management of natural resources on which a large part of the economy is based¹⁷. In many officially protected areas, effective safeguards of ecosystems and biodiversity remain a concern due to inadequate protection funding¹⁸. Disruption of ecosystems through over-logging and overfishing reduces the resilience of many species, making the recovery of ecosystems difficult if not impossible¹⁹. In addition to threatening the livelihoods of the rural poor, natural resource depletion and degradation has widespread effects on ecosystem services, on Africa's river systems and on the expansion of deserts.

Ecosystems and the biodiversity they support form part of the 'natural capital' of a country, which includes cropland, subsoil resources, pasture, forests, marine and freshwater resources, and protected areas²⁰. Substitutes are available for some ecosystem services, although often the cost of technological substitutions is too high and not all services can be replaced. For example, although water treatment plants can substitute for ecosystems in providing clean drinking water, they may be expensive and will not overcome the impacts of water pollution on other components of the ecosystem and the services they provide. Therefore, the preservation of African ecosystems is a priority for the sustainable development of the region. As the Millennium Ecosystem Assessment (MEA) points out, "many of the (Millennium Development Goals, MDGs) targets are unlikely to be achieved without significant improvement in management of ecosystems²¹." The two case studies here present innovative solutions to achieve this objective.

Wetlands cover about 1 per cent of Africa's total land area and are found in virtually all countries²². They form an important component of agro-pastoral production systems and local livelihoods²³. The vital role played by wetlands in many rural economies (for the provision of highly productive agricultural land, dry season grazing for migrant herds, fish, fuel wood, timber needs and medicines) is only now being adequately considered in national water policies. As a result, wetlands have been increasingly endangered by poor cultivation, deforestation, draining to increase agricultural land and overgrazing²⁴. The 'Working for Wetlands' programme restores degraded wetlands across South Africa to enhance water supplies and conserve biodiversity.

In the second case study, the 'Cows to Kilowatts' project, a south-south partnership, uses the waste produced by a local abattoir in Nigeria to manufacture low-cost household cooking gas and organic fertiliser. Before the project was conceived, the waste caused high levels of organic pollution and pathogens in the Bodija River. Communities located downstream from the slaughterhouse were affected as they used the polluted river water for domestic purposes, such as washing and sometimes drinking.