

AFRICA ECOLOGICAL FOOTPRINT REPORT

Green Infrastructure for Africa's Ecological Security

"AFRICA HAS CHOICES. EMBRACING A MORE SUSTAINABLE APPROACH TO DEVELOPMENT CAN GENERATE BENEFITS IN TERMS OF ENVIRONMENTAL SECURITY, HUMAN WELLBEING, AND INCREASED COMPETITIVENESS."

> DONALD KABERUKA, AFRICAN DEVELOPMENT BANK PRESIDENT

Earth's natural systems provide the flow of goods and services on which all life depends. They provide the food we eat and the materials we use for shelter and fuel, and they ensure the quality of the air we breathe and the water we drink. Ecosystems are the foundation on which all human economies are built. Yet in Africa and around the world we are seeing unprecedented decline in the state of our environment as a result of humanity's escalating demand for natural resources. Erosion of natural capital is endangering our future prosperity and undermining efforts to enable Africa's growing population to move out of poverty.

The Africa Ecological Footprint Report examines trends in resource use, as well as its effect on ecosystems within Africa and globally. It uses the complementary measures of three indices: the Living Planet Index, the Ecological Footprint and Water Footprint. The analysis is complemented by a series of case studies that illustrate emerging good practice in managing Africa's ecological infrastructure through initiatives at regional to local scales supported by governments, the African Development Bank, private sector, and NGOs such as WWF.

The Africa Ecological Footprint Report concludes by presenting a two-fold path to sustainable development on Africa, identifying options to i) manage the underlying drivers of growth in Ecological Footprint and ii) to protect and restore Africa's ecosystems by investing in ecological infrastructure.

TRENDS

The Africa Ecological Footprint Report takes a look at the health of Africa's natural systems, as well as its footprintthe surface of land and sea needed to sustain human activity. Trends in both areas are worrying.

1. The health of natural systems is declining. The Africa Living Planet *Index*, which tracks changes in wildlife populations, shows a biodiversity decline of nearly 40% over the last four decades. Decline in biodiversity reflects stressed or degraded ecosystems, which are less able to sustain the lives and livelihoods that depend on them.

2. Footprint is increasing.

In Africa, the Ecological Footprint more than doubled between 1961 and 2008. This can be attributed to population growth, as well as increased per capita consumption in some countries. While current consumption is within the limits of its own biocapacity, Africa's footprint as a whole is projected to exceed the biocapacity available within its borders, by 2015.

Africa is now at a crossroad in terms of its development options. Pursuing the resource-intensive pathways taken in other parts of the world will accelerate its path to biocapacity deficit, with associated environmental degradation and increased vulnerability to climate change impacts. However, with its relatively low per capita footprint, Africa is well placed to develop more resource efficient pathways than those seen in other regions, using known and cost effective technologies.



Figure 1. Africa's Living Planet Index (1970 – 2008). The final index value indicates there has been an overall reduction of 39 per cent in animal populations over the 38-year period (WWF/ZSL, 2012)



Figure 2. Historical trends in Africa's Ecological Footprint (1961-2008) (Global Footprint Network, 2011)

DEFINITIONS

The Africa Living Planet Index is a composite index that tracks trends in species populations (terrestrial and marine) from the continent of Africa.

The Ecological Footprint measures the amount of biologically productive land and water area required to produce all the resources an individual, population, or activity consumes, and to sequester the carbon dioxide they generate, given prevailing technology and resource management practices.

The Water Footprint of a nation is defined as the total volume of freshwater that is used to produce the goods and services consumed by the inhabitants of the nation.



Woman watering plants at tree nursery, Shimba Hills, Kenya

Forests Africa's forests stock some 98 billion tonnes of carbon, equivalent to 145 tonnes per hectare. Fifty six billion tonnes is stocked in biomass, 34 billion in soil, and 8 billion in dead wood and litter

Fisheries In 2008, inland capture fisheries in Africa yielded two and a half millio tonnes, nearly a quarter of the world total

Water towers in Guinea the Fouta Djallon highlands in Guinea are

the source of half of West Africa's rivers, including seven international rivers

Mountain gorilla Each mountain gorilla is estimated to generate \$1 million per year in tourist revenue for the Ugandan economy. (Source: http://wwf.panda. org/?uNewsID=201576)

Figure 3. Examples of ecosystem services

OPPORTUNITIES

Transitioning to a green economy requires maintaining the natural systems on which all life depends. Healthy ecosystems not only provide food, water and fuel; they also sustain livelihoods and protect against extreme weather conditions. In Africa the sustainable use of natural resources needs to be mainstreamed in economic development. Now is the time to invest in Africa's green infrastructure.

Coral reefs

support artisanal and commercial fisheries, protect coasts, absorb carbon dioxide and are the basis for a thriving recreational and tourism sector. The total economic value of the 12,000 km² of coral reefs in the Western Indian Ocean is estimated to be US\$7.3 billion per year

Medicin

Long used in traditional medicine, the Madagascar periwinkle (Catharantus roseus) is the source of alkaloid compounds used in the treatment of numerous illnesses including diabetes and cancer. Survival rates for childhood leukaemia have increased from 20 to 80 per cent as a result of the plant's therapeutic properties

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CALL TO ACTION

Over the next decade, Africa will make important decisions on large-scale infrastructure, resource planning, and economic development. Investing in natural capital now will ensure ecological and financial security in the future. AfDB and WWF call on decision-makers to act decisively on a green growth pathway.

Invest in Africa's Ecological Infrastructure

Ecological resilience and biocapacity can be enhanced through a suite of measures including good agricultural and forestry practices; restoration of degraded lands; careful use of limited water resources in the context of river basin management; and sustainable food production and access to markets.

Keep footprint in check

The three main drivers for increased footprint in Africa are population growth, increased demand for energy, and urbanization. Africa is well-placed to develop more resource efficient pathways by using known and cost effective technologies. This includes investing in renewable energies, promoting green cities and sustainable urban lifestyles and enabling choices about population.

Set – and meet—sustainability targets The way we currently measure economies means that ecological limits are overlooked in strategic decision-making and day-today transactions. Failure to account for the values of ecosystems is a significant factor in their continuing loss and degradation. This can be countered by incorporating environmental performance indicators into national development strategies, using full-cost accounting to capture social and environmental externalities and implementing economic and regulatory instruments to better align social and environmental benefits with economic ones.



This report was produced in joint collaboration between WWF and the African Development Bank. It was made possible through financing from the Brazilian Government's South-South Cooperation Trust Fund hosted by the AfDB. Technical partners are the Global Footprint Network and the Zooological Society of London. For more information and to download the report:

www.panda.org/lpr/africa2012; www.afdb.org



Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. www.banda.org

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