

Climate change impacts, adaptation and links to sustainable development in Africa

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Strategies for sustainable development and climate change adaptation have many common elements, so addressing them jointly can create synergies.

Sustainable development, defined as “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs” (WCED, 1987), entails a harmonious integration of a sound and viable economy, responsible governance, people’s empowerment, social cohesion and ecological integrity. Sustainable development does not mean economic stagnation or giving up economic growth for the sake of the environment; it should entail promoting economic development as a requisite for maintaining environmental quality. Economic development leads to increased capacity to address environmental and social problems. Maintaining environmental quality, in turn, is essential for sustainable development.

The link between climate change and

sustainable development stems from the fact that climate change is a constraint to development, and sustainable development is a key to capacities for mitigation and adaptation (see Box). It follows that strategies for dealing with sustainable development and climate change have many common elements so that applying them together creates synergies. It also follows that since dealing with climate change exclusively could be very expensive, it has to be factored into the development agenda.

CLIMATE CHANGE IN AFRICA Observed and projected climatic changes

The Intergovernmental Panel on Climate Change (IPCC, 2007a) has reported a warming of approximately 0.7°C over most of the African region during

Some definitions from the Intergovernmental Panel on Climate Change

VULNERABILITY TO CLIMATE CHANGE

The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.

ADAPTATION TO CLIMATE CHANGE

Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

ADAPTIVE CAPACITY

The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.

Source: IPCC, 2007b.

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Habitats and ecosystems in Africa are under threat from a variety of stresses such as deforestation, land degradation and heavy dependence on biomass for energy, to which climate change is likely to be an additional stress factor

the twentieth century. This warming occurred at the rate of about 0.05°C per decade, with slightly more warming in the season from June to November than from December to May. A temperature rise of about 0.1°C per decade is expected for the next two decades, even if greenhouse gas and aerosol concentrations are kept at year 2000 levels.

IPCC has reported that extreme events, including floods and droughts, are becoming increasingly frequent and severe. Certain regions of Africa are more prone to such extreme events than others. It is probable that the increased frequency of recorded disasters is a result of a combination of climatic change and socio-economic and demographic changes.

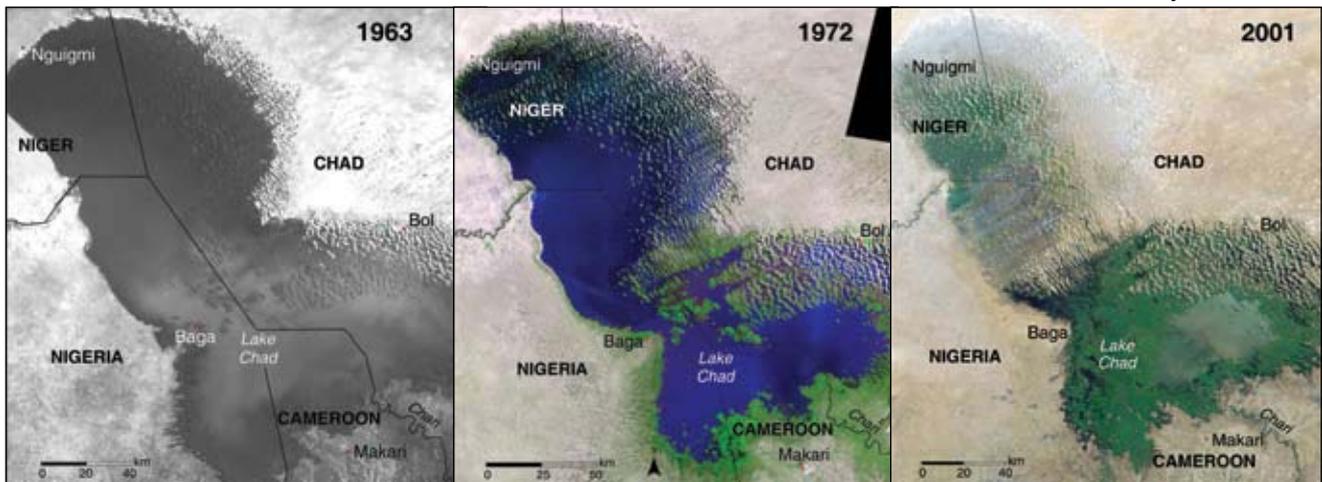
What climate change means for Africa
Habitats and ecosystems in Africa are currently under threat from a variety of stresses such as deforestation, land

degradation and heavy dependence on biomass for energy. In sub-Saharan Africa over 80 percent of the population depends on traditional biomass for cooking (United Nations, 2007). Climate change is likely to be an additional stress factor (Figures 1 and 2).

The key vulnerable sectors identified by IPCC (2007b) include agriculture, food and water. Sub-Saharan Africa is expected to suffer the most not only in terms of reduced agricultural productivity and increased water insecurity, but also in increased exposure to coastal flooding and extreme climatic events, and increased risks to human health.

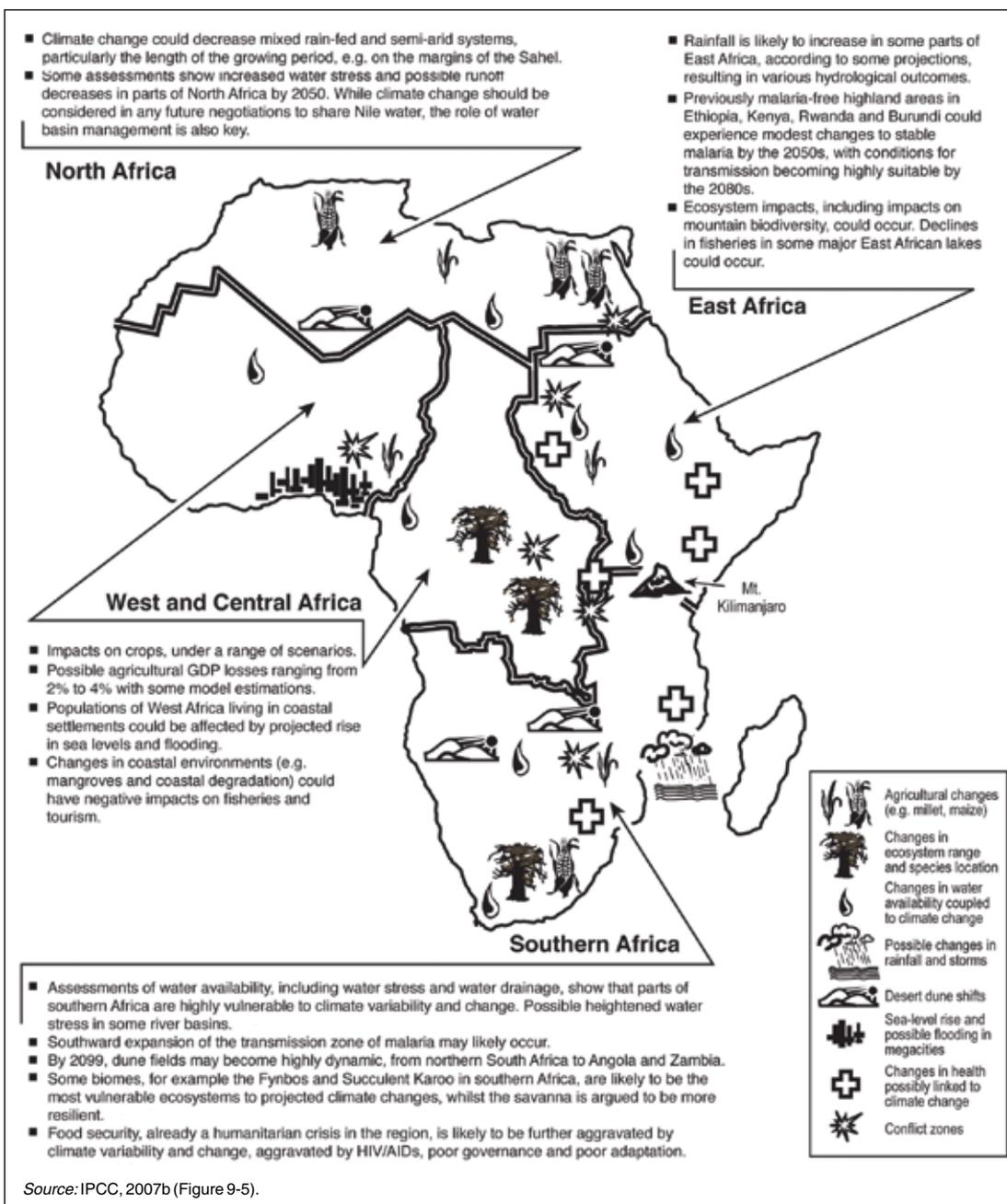
Africa's vulnerability to climate change is exacerbated by a number of non-climatic factors, including endemic poverty, hunger, high prevalence of disease, chronic conflicts, low levels of development and low adaptive capacity. The average income per capita in most African countries is lower now than it was 30 years ago. Sub-Saharan Africa is the only region that has had negative annual growth of per capita gross domestic product (GDP), -1 percent between 1975 and 1999, compared with 6 percent for East Asia and the Pacific and 2.3

1
Climate change impacts on Lake Chad, showing a continued decline in lake surface area from 22 902 km² in 1963 to only 304 km² in 2001



Source: UNEP, 2008.

2 Climate change impacts on Africa



percent for South Asia. One-third of the people in sub-Saharan Africa suffer from chronic hunger (FAO, 2007). Four in ten people are infected with HIV/AIDS in some African countries (UNDP, 2007). The costs associated with health spending and losses in labour and productivity are greatest in some of the poorest countries; these losses amount to about

5 percent of GDP, or some US\$28.4 billion annually, in sub-Saharan Africa (UNDP, 2006). Of the 25 countries in Africa that faced food emergencies in 2003, ten are currently experiencing civil strife and four are emerging from conflicts. Conflicts often divert scarce resources into military budgets and away from development needs, and result in

high numbers of internally displaced persons and refugees.

Other non-climatic factors adding to Africa's vulnerability include heavy dependence on primary products; fast-growing population, leading to pressure on already degraded landscapes; poor governance and weak institutions; low capital investment; lack of access to

foreign markets; poor infrastructure; inadequate technology transfer; and continuing high levels of external debt despite debt forgiveness programmes of recent years.

CLIMATE CHANGE: AN EQUITY ISSUE

Africa has the world's lowest CO₂ emissions (Figure 3). Climate change is now recognized as an equity issue because the world's poorest people, those who contributed least to the atmospheric buildup of greenhouse gases, are the least equipped to deal with the negative impacts of climate change. Wealthier nations that have historically contributed the most to global warming are better able to adapt to the impacts. Addressing disparities between developed and developing countries is integral to the success of global climate change mitigation and adaptation.

Sustainable development in Africa cannot be addressed effectively without accounting for the impacts of climate change on agriculture, conflicts and disease patterns, all of which have



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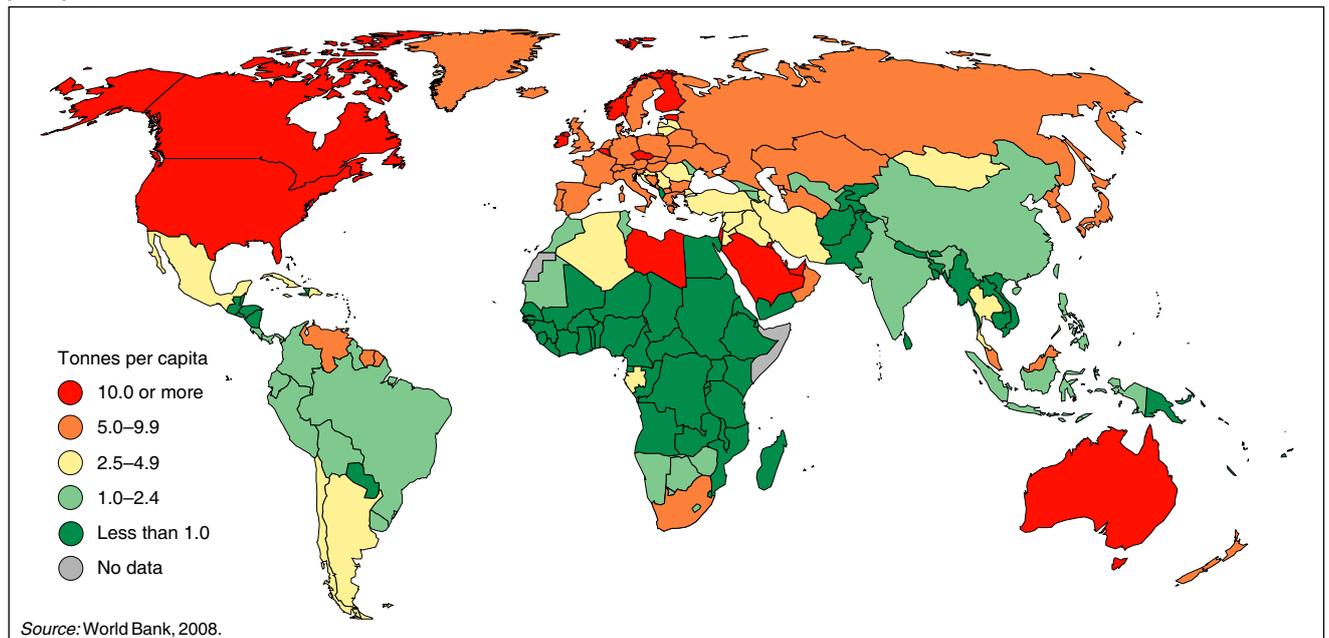
particular impact on the poor. Sustainable development and adaptation are mutually reinforcing; an important conclusion of IPCC is that adaptation measures, if taken up in the sustainable development framework, can diminish negative impacts from future climate change.

KEY CHALLENGES FOR AFRICA

In facing the challenges of climate change, the priorities for African countries are:

- achieving high political recognition for Africa on the platform of international negotiations;
- allocating resources appropriately;
- ensuring food and energy security;
- managing and adapting to long-term climate risk.

3
Carbon dioxide emissions per capita, 2000



These goals require good governance; access to technology; investment in innovation; the involvement and commitment of all segments of society; and international, national and regional cooperation.

Climate-proof development implies extra costs over and above business as usual and a need to assess and address climate risks in national development programmes. This means that additional resources are required. Who will provide them, under what mechanisms and in what time frame are the key questions to be answered. ♦



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