



United Nations Fact Sheet on Climate Change

Climate Change and Adaptation

Climate change is not necessarily a new phenomenon—humans have been adapting to changing climatic conditions for centuries. However, the climate change that the world is presently experiencing is occurring far more rapidly than anything the earth has experienced in the last 10,000 years.

Significant changes in climate are already underway. Africa, for example, is already suffering from recurring droughts and floods, and with global warming the climate is predicted to become more variable, with more severe droughts and more intense flooding.

Despite efforts to mitigate climate change and to reduce greenhouse gas emissions, some degree of climate change cannot be avoided, and thus adaptation to these impacts becomes essential. According to the Intergovernmental Panel on Climate Change, adaptation is an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Adaptation will need to include the development of robust responses to the pernicious threats posed by climate change – extreme weather events, flooding, rising pestilence, increased incidence of vector and water-borne diseases, decimated harvests, and eroding coast lines. These threats will not only impede countries' progress toward attaining the Millennium Development Goals but more starkly, endanger the health and welfare of people and their communities around the globe, particularly the world's poorest and most vulnerable.

A major new assessment of climate change will be available next year, as the IPCC 4th Assessment Report "Climate Change 2007" will be published. The volume on "Impacts, adaptation and vulnerability" will be released next April in Brussels. It will address present and future vulnerability and impacts, as well as response measures for main sectors and regions and the inter-relationship between adaptation and mitigation. The Intergovernmental Panel on Climate Change is the leading body in the assessment of climate change, set up by the United Nations.

Climate change has, and will have, a direct effect on people's lives, particularly in Africa:

- Africa has warmed by 0.7° C during the 20th century, with very high temperature records occurring towards the end of the century. Scientists forecast that by 2100 mean surface temperatures in Africa could increase by 2-6° C.
- Sea levels could rise by 15 to 95 cm by 2100, according to some estimates. The number of people at risk from coastal flooding in Africa will rise from one million in 1990 to 70 million by 2080. An estimated 30 per cent of Africa's coastal infrastructure could be at risk, including coastal settlements in the Gulf of Guinea, Senegal, the Gambia and Egypt.
- A study of more than over 5,000 plant species in Africa concluded that around 80 to well over 90 per cent of species' suitable habitats will decrease in size or shift due to climate change. By 2085, between 25 per cent and over 40 per cent of species' habitats could be lost altogether.

While adaptation to climate change is important to all countries, it is particularly important to developing countries, whose economies heavily depend on climate-vulnerable sectors such as agriculture, and which have less capacity to adapt than industrialized countries.

- Without adaptive efforts, a 2.5° C increase in temperature is likely to result in a 0.5 to 2 per cent decrease in gross domestic product, with higher losses in most developing countries. As an example, Sierra Leone estimated that the full protection of all its vulnerable shores will require an estimated amount of US\$ 1,100 million, which is about 17 per cent of its GDP.
- Making development projects more resilient to climate impacts is expected to increase project costs anywhere between 5 and 20 percent.
- Estimates show that only a small portion of official development assistance-financed projects currently incorporate climate risk into planning.

Examples of efforts to address adaptation include:

- Glacial retreat and glacial lake floods are major problems linked to climate change. In Bhutan, a Global Environment Facility (GEF) project being implemented by the United Nations Development Programme (UNDP) is enhancing adaptive capacity in the Puna-kha-Wangdi and Chamkar valleys by strengthening disaster management capability, artificially lowering waters in Lake Thortormi, and installing an early warning system.
- In Colombia, the Integrated National Adaptation project is promoting adaptation measures in the Las Hermosas Massif in the central range of the Andes, including by regulating water for hydropower generation and maintaining environmental services in this important mountain ecosystem.
- Kiribati is one of the world's most vulnerable countries, spread over 33 low-lying atolls in the central and western Pacific region. An adaptation programme is providing vulnerable communities with the information and means to enhance adaptive capacity, including improved management, conservation, restoration and sustainable use of biodiversity, improved protection and management of mangroves and coral reefs, and strengthening government capacity by fully integrating adaptation into economic planning.
- In Mozambique, a GEF project is integrating climate into sustainable land management practices to reduce the impacts of extreme weather events on populations and ecosystems.
- The UNDP and the World Bank are launching a series of GEF projects to assist African communities to assess risks and options to adopt to drought, coastal flooding and health risks.

Previous sessions of the Conferences of the Parties to the UNFCCC have established a number of funding opportunities for adaptation projects including through the GEF Trust Fund and three special funds: the Least Developed Countries Fund, the Special Climate Change Fund and the Adaptation Fund under the Kyoto Protocol.

