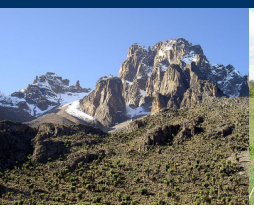
# Climate Adaptation to Protect Human Health

# KENYA





## A Global Pilot

The climate change and human health adaptation project is a unique global initiative jointly implemented by WHO and UNDP. This novel project, piloted in seven countries, seeks to identify and share solutions to address health risks caused and exacerbated by climate change and variability.

## Kenya Project Objective

To strengthen national focus and adaptive capacity to prevent malaria epidemics in the Kenyan highlands.

## Climate Change in Kenya

Kenya enjoys an equatorial, tropical climate. It is hot and humid at the coast, temperate inland and very dry in the north and northeast parts of the country. The lowlands are hot but mainly dry, while the highlands are more temperate. There are two annual rainy seasons, short rains during October and November, and long rains from March to May. Kenya's geographic location makes it prone to cyclical droughts and floods. Global climate change is expected to make such types of cyclical climate-driven events increase in intensity and frequency.

## Health Concerns and Vulnerability to Climate Change

Malaria has always existed in Kenya, however in the past, the higher altitudes of the highlands region limited highland malaria transmission to seasonal outbreaks, with considerable year-to-year variation.

Without enhanced control measures, climate change is projected to increase malaria in many areas of Kenya. In areas where malaria already occurs, transmission intensity is expected to increase along with the length of the transmission season. It is also expected that malaria will spread into new locations, particularly the higher altitudes of the highlands, where its prevalence is not currently actively monitored or forecasted. Communities living at altitudes above 1,100 meters are more vulnerable to malaria epidemics due to lack of immunity, lack of preparedness, climate variability and other factors.

Approximately 13 to 20 million Kenyans are at risk of malaria, with the percentage at risk potentially increasing as climate change facilitates the movement of malaria transmission up the highlands.

Studies into the affect of climate change on health in Kenya also reported potential increases in acute respiratory infections for ASAL areas; emergence and re-emergence of Rift Valley fever; leishmaniasis and malnutrition. Floods, occasional outbreaks of waterborne diseases e.g. cholera, dysentery and typhoid have been reported in lowland areas.

## Project Structure

The Department of Environmental Health (DEH) will be working with WHO under the usual bilateral relationship of technical support to the Ministry of Health. DEH is the principal implementing agent/ responsible party of the project on behalf of the Ministry of Public Health and Sanitation (MOPHS). WHO and UNDP jointly support this project, which is funded by the Global Environment Facility (GEF) and are guided by a collaborative agreement which outlines UNDP as the GEF Implementing Agency (IA) and WHO as the Executing Agency (EA).

Kenya is one of seven countries taking part in this Global Pilot. The seven countries, Barbados, Bhutan, China, Fiji, Jordan, Kenya and Uzbekistan, together represent four distinct environments (Highlands, Small Islands, Arid Countries and Urban environments,) and their related health risks. For more information visit the website at www.who.int/globalchange/projects/en

## Project Facts

Donor: GEF Special Climate Change Fund (SCCF)

Funding: 550,000 USD

Time frame:
2010—2014

Location:
The highlands of Kenya
Specifically:

- Kericho zone
- Nandi zone
- Trans-nzoia zone
- Kisii zone

Key Stakeholders:

- Kenyan Ministry of Public Health and Sanitation
- Kenya Meteorological Department
- IGAD centre of Climate outlook
- Moi and Kenyatta University
- Kenya NGO Alliance Against Malaria (KENAAM)
- Kenya Medical Research Institute
- International Livestock Research Institute

Country Contacts:
Dr. Kepha Ombacho (MoPHS)
E-mail: climateandhealthWG@domckenya.or.ke
Eng. Wilfred M. Ndegwa (WHO)

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World Health Organization

UNDP

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## Project Scope

The pilot project will provide training and development of tools to prepare malaria control programs to understand the influence of climate change and variability on the transmission risks of malaria in focalised areas. A model for predicting highland malaria was developed in 2006 and validated with previously observed malaria epidemics. It indicated a very high utility in predicting malaria epidemics three months in advance at areas higher than 1800 m. This project aims to take the model to the next step by operationally validating it and developing better tools for malaria forecasting to support decision-making on public health interventions that help prevent epidemics. To be able to do this effectively the following areas of adaptive capacity development will the specifically targeted in the project:

- **Improved use of weather forecasting** - Forecasting through global weather networks can provide the data needed to predict malaria epidemics. Currently there is limited access to short-term and long-term health specific weather information at the community, district and national levels.
- **Improved disease prediction capacity** - The development of an Early Warning System will significantly improve preparedness for malaria epidemics, despite current deficiencies in the quality of routinely collected health data.
- **Improved epidemic preparedness, and disease detection** - Districts have the capacity to develop plans for epidemic preparedness and response, however timely availability of the required resources has been a challenge. Most districts have adequate data to calculate threshold levels for existing epidemic detection only.
- **Improved outbreak response** - Many barriers to effective response currently exist and will be addressed in the project.

## Expected Benefits

The most significant benefit envisioned to arise from this project is the reduction in the burden of highland malaria epidemics.
Additional benefits include:

- Increased capacity of health actors to address climate sensitive diseases.
- Harmonized management structures across all provisions provided by the Annual Operational Plans (AOPs).
- Additional implementation of malaria epidemic prevention measures through the National Malaria Strategy.
- Strengthening partnerships, including: meteorological department provision of forecasting data to the Kenya Medical Research Institute (KEMRI).
- Improved interactions between health officers and stakeholders and sharing of resources and reduction in duplication of tasks within a district.

## Project Outcomes and Outputs

| Outcome 1: Climate-sensitive health risks are identified with sufficient lead-time for effective response. | Outcome 2: Capacity of health sector institutions to respond to climate-sensitive health risks will be improved. | Outcome 3: Disease prevention measures piloted in areas of heightened health risk due to climate change. |
|---|---|---|
| 1.1: Climate-sensitive health risk data are reported in timely and reliable manner to disease control agencies. | 2.1: Clarified and harmonized institutional mandates and procedures to respond to climate risks to public health. | 3.1: Advance planning of responses for pilot regions. |
| 1.2: Climate data are reported in timely and reliable manner to disease control agencies. | 2.2: Training syllabus and long-term support mechanisms for community and national level health protection from climate change developed. | 3.2: Preventative interventions applied on the basis of plan, in response to warning system information. |
| 1.3: Climate change-induced changes and drivers of health-risks are determined. | | |