

Global Challenge Dialogue on Climate and Health in Africa

The Challenge

In consideration of climate change — to engage a diverse group of stakeholders from the climate, animal health, human health and entomology sectors in an exploratory Dialogue aimed at catalyzing action-oriented collaboration among these communities to improve responses to climate-related diseases across Africa.

Why a Challenge Dialogue is needed now

Both global warming and its attendant climate extremes can affect some of the most fundamental determinants of health, including air, water, food, shelter and freedom from disease.

The predicted effects of climate change – including more variable weather and more storms, floods, droughts and heat waves – are already having devastating impacts in different parts of the world. The European heat wave of 2003, Hurricane Katrina in America in 2005, the Rift Valley fever outbreak in the Horn of Africa in 2007, rising malaria incidence in the East African highlands, and the recent epidemics of cholera in Bangladesh provide a glimpse of the challenges facing public health that we have to confront directly and on a large scale. Indeed, the United Nations has estimated that all but one of its emergency appeals for humanitarian aid in 2007 were climate-related.

Urgent action is needed to address these challenges. The coming changes in extremes and variability of climate could be catastrophic to some of Africa's most vulnerable peoples. We know that climate is intimately linked to human and animal health on this continent, which offers ideal tropical conditions for many diseases to flourish. We also know that these age-old scourges and their vectors – including mosquitoes, sandflies, ticks and tsetse flies that transmit deadly diseases to their animal and human hosts – afflict Africa's poorest communities and are largely responsible for having retarded human development here for millennia. In addition, there is now increasing recognition that these diseases know no geographic boundaries and in an age of global movement of goods and people, an outbreak of a virulent disease in Africa can quickly pose significant health problems internationally.

Other things we know: Major killers of African children – including malaria and diarrhea – are sensitive to changes in temperature and rainfall and could become more common. Both the distribution and the impacts of Africa's vector-borne diseases – including malaria, schistosomiasis, yellow fever, Rift Valley and East Coast fevers, and sleeping sickness – vary with seasonal and longer-term climatic conditions. Water-borne infectious diseases are exacerbated by flooding and complicated by poor access to water. Droughts in the Sahel, the Horn and southern Africa force peoples and their animal stock to move to new environments that often pose new health risks.

What a Challenge Dialogue can accomplish

This Challenge Dialogue employs a structured yet flexible process to assist diverse stakeholders to collaborate and innovate in order to address complex issues. The Dialogue is designed to provoke 'purposeful' conversation that will stimulate and capture innovative thinking, leading to fresh and shared approaches.

The Challenge Dialogue will help identify priorities for research and opportunities for collaboration and possibly spur development of a new cross-disciplinary health and climate community. It will lead to actions that improve understanding and communication among these sectors and enhance the use of climate data in disease surveillance, prevention and mitigation programs. It will build on two parallel regional networks under development in Africa that aim to strengthen both local and regional climate modeling capacity and regional disease surveillance capacity in eastern and southern Africa.

We believe all those working to reduce Africa's disease burden and climate vulnerability could make a bigger difference in helping to solve these seemingly intractable problems if they simply knew more about each other's fields, shared their knowledge, and moved forward together. For example, those who know most about climate change often are little informed about infectious diseases and vice versa, and those in the thick of the battle against human pandemics often have little understanding of the dynamics of livestock diseases in which they originate.

Over the next several years there's likely to be a step-change in the availability, granularity and quality of weather and climate data and related information from Africa, in part due to increased use of satellite-derived remote sensing data. That opens big new opportunities. But we need to know more about the accuracy of given data as well as how to integrate vast and diverse data sets. We need to figure out how to best use these to meet the most pressing needs of the continent. Will we, for example, be able to use these datasets to better model disease outbreaks and disease vector dynamics? Will we be able to use them to predict emerging infectious diseases reliably? Will Africa's climate modelers understand the nature of climate data the health community needs? And will the health community understand the significant contribution climate research can make to health management? Can we link this understanding to productive action?

We think a dialogue bringing together expert communities working on disease and health challenges in Africa can make a difference. Together we could help set priorities for research. Together we could identify opportunities for cross-disciplinary work. Together we could find ways to use climate data to improve disease surveillance, prevention and mitigation. Together we might design a model network/coalition vehicle that can serve as a 'hub' to articulate publicly the significance of this type of initiative and to identify, connect and support key groups across the continent and internationally that are committed to tackling these challenges.

Outcomes sought

- Better understanding of climate-related health data and information requirements of various users by a wide range of stakeholders.
- Better understanding of the limits to climate prediction and its appropriate application to health problems, with implications for prediction, prevention and mitigation of infectious diseases across Africa.
- Identification of research priorities and innovation opportunities.
- Identification of actions aimed at addressing those opportunities.
- Identification of new partners that could support disease interventions for vulnerable families, communities and environments across Africa.

We invite you to become part of this. To make a difference.

Next steps

In a few days, we will send you (and 100+ others) the *Challenge Paper* with a request for you to submit your comments and suggestions to us **by June 6, 2008**. All the contributions we receive will then be synthesized and integrated into a first *Progress Report* that we will send to you in July. This synthesis of the feedback received will be used to design a face-to-face workshop with a representative group of participants, to be held Sept. 9–11 in Nairobi, the results of which will be captured in a second Progress Report. All Challenge Dialogue participants will receive these informative reports that capture the ideas of a large and diverse number of people.

Organizing Team for this Dialogue

Sponsor: Google.org **Project Leader:** Patti Kristjanson (ILRI)

Theme Champions for this Dialogue and area of expertise:

Gilbert Ouma (ICPAC), Philip Thornton (ILRI) – Climate change

Brian Perry (University of Pretoria), Delia Grace (ILRI) – Animal health

Rosemary Sang (KEMRI), Caroline Nyamai Kisia (Action Africa Help International, AAHI) – Human health

Baldwyn Torto (*icipe*), Peter Njagi (*icipe*) – Host-vector chemical ecology

Amy Luers (Google.org) – Environmental science

Dialogue Facilitator: Keith Jones (Innovation Expedition, IE) **Process Mentor:** Don Simpson (IE)

Project Administrators: Joyce Wanderi and Julius Nyangaga (ILRI)

Knowledge Integration/Strategic Communicators: Susan MacMillan, Margaret MacDonald-Levy, Clare Kemp, Grace Ndungu (ILRI)

