Climatic variability and change are a major concern for public health in Africa. The livelihoods of hundreds of millions of people are dependent on rain-fed agriculture and seasonal water resources. Poor rural communities also suffer from under-nutrition and bear the greatest burden of infectious diseases and natural disasters while having the least access to public-health services. Many of Africa’s most important cities are on the coast and at risk of sea level rise. Without adequate infrastructure they are vulnerable to pouring sanitation during floods and shortages of drinking water and loss of hydroelectric energy. Rising temperatures, air pollutants and dust threats to increase heat stress and respiratory disease.

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change predicts increased rain in eastern Africa over the coming century. Yet there has been a region-wide drought over the past ten years. Policy-makers want to know whether to prepare, short-term, for floods or droughts. They also need to know if the current drought has aided malaria-control interventions in the region. But answering such questions is tricky.

Climate information is not readily available, so is rarely incorporated into development decisions. At the same time, few public-health institutions or practitioners are equipped to understand or manage the information. Non-climatic factors (for example drug resistance, and local environmental change) could be driving the increased malaria incidence. Researchers who found evidence of significant warming at this site during recent drying have been constrained by poor, non-climatic factors (for example drug resistance, and local environmental change).

The value of the data held by national meteorological and hydrological services was made evident through a recent analysis of 30 years (1979–2009) of daily temperature and rainfall data from the Kericho meteorological station managed by the Kericho meteorological station managed by the Kenya Meteorological Department, the data conform to World Meteorological Organization standards. The study shows that increases in value the more times the data is used.

Go to the next page to read the rest of the text.
technical support by the IRI through a cooperative agreement between Columbia University in New York (where the IRI is located) and the US National Oceanic and Atmospheric Administration.

This high-quality database will be used to create free-access climate reports tailored to the needs of the Ethiopian health community and other development sectors, such as agriculture and water resources. It will also be used to improve assessment of climate-sensitive interventions such as the indoor spraying programmes supported through the Roll Back Malaria initiative. One would expect such measures to work when conditions are least favourable to malaria transmission, for example, during a drought. The database will also help the development of local, seasonal climate forecasts — of unusually wet or dry conditions, say.

The Ethiopian climate database, the first of its kind, provides an opportunity to establish the value of climate information to improving health. Now that the system has been developed, the process can be more readily repeated in other countries. Doing so will build capacity where it is needed most — in the national meteorological agencies, regional climate centres and local universities.

BETTER TOGETHER

Health professionals need skills to understand and interpret climate data, and to request new types of information or services. They also need to develop mechanisms to incorporate this information into current epidemiological approaches in a cost-effective manner.

One way forward is to target professional training and research in schools of public health. For instance, health-surveillance communities routinely monitor and prevent outbreaks and epidemics, through the analysis of current and historic epidemiological data. Where such events are climate-sensitive (for example Rift Valley fever epidemics) seasonal forecasts, meteorological information and satellite data could help map, monitor or anticipate changes in risk.

The Climate Information for Public Health Action Network, led by the IRI, and its associated training are steps in the right direction. The curriculum enables climate and health experts to work together on common data sets and analyses, focusing the results on the needs of decision-makers. As a result, the African Field Epidemiology Network is exploring how climate information might be used in training for outbreak investigation.

The Climate for Development in Africa project was launched in October 2010. This is a joint initiative of the African Union Commission, the United Nations Economic Commission for Africa and the African Development Bank. The project has a start up fund of US$136 million and a clear mandate from African heads of state to help fill key gaps in policy, practice, services and data across the continent. It is a daunting but necessary task. To achieve its development targets, the initiative will need to respond directly to the needs of climate-sensitive sectors, including health.

The global health community has worked for decades to get the resources necessary for effective control of diseases that affect poor people globally, especially malaria. Some people understandably fear that hard-won gains in political and financial support may be diluted, or worse derailed, by the climate-change agenda — especially in such aid-slicing times. But ‘turf’ anxieties are no reason for poor science. True interdisciplinarity requires more than fair-weather friends.

Climate is most important as a driver of infectious disease where and when control efforts are weak and societies are poor. Climate information can help to put resources where they are needed most. It is an essential additional layer of data for disease prevention, control and elimination.

History tells us that success against a single infectious disease such as malaria may be short lived if we are over-reliant on too few controls and lose a broad understanding of the disease. Rather than pursuing parallel agendas, the climate and health communities must work together now to deliver measurable health improvements in Africa in the next ten years and beyond.