

outcomes and optimal use of limited adaptation resources.

4. Provide strong political support and champions to mainstream health considerations into climate change issues. Provide strong political support and champions to promote the uptake of health consideration into climate change policies, discourse and planning. Health dimensions of climate change should feature prominently in various forums including UNFCCC negotiations.

5. Need for more coordinated and dynamic adaptation planning that recognises future uncertainties Develop climate change adaptation strategies and toolboxes that recognize and target neglected diseases to provide responsive to future uncertainties in climate change circumstances.

6. Develop better understanding of the cost of climate change adaptation in the health sector. Establish better mechanisms for understanding the cost of climate change adaptation in the health sector, including the direct and opportunity costs of climate change in the health sector, to remove major gaps on implications of climate change adaptation planning.

#### Recommended Reading

AfDB (2006) Southern Africa Development Community Support to the Control of Communicable Diseases (HIV/AIDS, Tuberculosis and Malaria), Tunis, Tunisia: African Development Bank  
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Government of Malawi (2011) Malawi National Health Policy, Lilongwe, Malawi: Ministry of Health  
Government of South Africa (2004) National Climate Change Response Strategy, Pretoria, South Africa: Department of Environmental Affairs and Tourism  
Government of Zimbabwe (2009) The National Health Strategy for Zimbabwe 2009-2013, Harare, Zimbabwe: Ministry of Health and Child Welfare  
Hartmann, J., Ebi, K., McConnell, J., Chan, N. and

Weyant, J.P. (2002) 'Stable Malaria Transmission in Zimbabwe under Different Climate Change Scenarios', *Global Change and Human Health*, 3(1):42-54  
IPCC (2007) *Climate Change 2007: Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, UK: Cambridge University Press  
SADC(1999). *Southern Africa Development Community: Protocol on health*. Gabrone, Botswana.  
UNAIDS (2013) *How Africa Turned AIDS Around*, New York, NY: Joint United Nations Programme on HIV/AIDS

**About AfricalInteract** : AfricalInteract is a platform enabling research-to-policy dialogue for adaptation to climate change among a broad range of African stakeholders in sub-Saharan Africa. These include civil society, researchers, policy-makers, donors, and the private sector working on adaptation to climate change in the agriculture and health sectors as well as urban areas with water and gender as cross cutting issues. The overall objective of AfricalInteract is to develop a platform for the effective and efficient transfer of information to policy makers, with the ultimate aim of enhancing the resilience of vulnerable populations. AfricalInteract is funded by the International Development Research Centre (IDRC) and coordinated by the West and Central African Council for Agricultural Research and Development (CORAF/WECARD) under the auspices of the Forum for Agricultural Research in Africa (FARA). The regional focus of AfricalInteract is based on the Regional Economic Communities in the four sub regions of sub-Saharan Africa. Focal organizations coordinating regional activities are as follows: The Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) – East Africa; Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) – Southern Africa; Commission des Forets d'Afrique Centrale (COMIFAC) – Central Africa; and Energie-Environnement et Developpment (Enda) – West Africa.



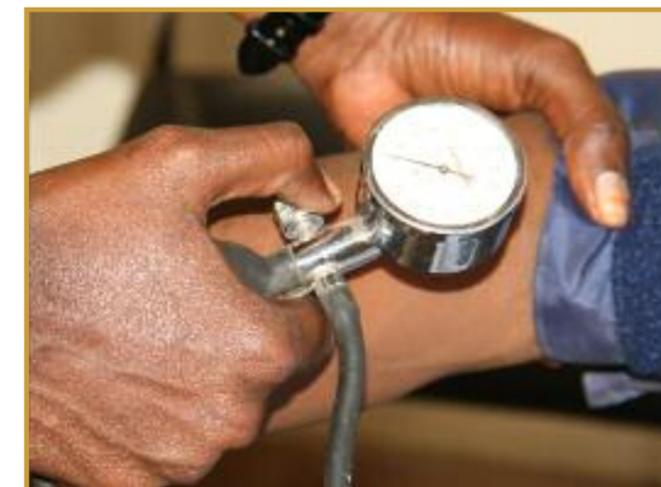
## Enabling research-to-policy dialogue for adaptation to climate change in Africa

### Research and Policies for Climate Change Adaptation in the Southern Africa Health Sector

#### Context and Importance of Climate Change in Southern Africa Health Sector

According to the Intergovernmental Panel on Climate Change (IPCC 2007), significant warming occurs in the Southern African Development Community (SADC) region. Whilst this warming is not uniform throughout the region, there are observed increases in the number of warm spells and decrease in extremely cold days. This temperature fluctuation has major implications for the health of the populations living in Southern Africa. Understanding the evidence base for this climate fluctuation and its implications for health will be critical for developing climate change adaptation response strategies in the region. The risks associated with climate change in Southern Africa are now recognised and several efforts are under way to develop mitigation and adaptation strategies to cope with this threat.

Research in Southern Africa has shown that increases in temperature and changes in precipitation patterns result in increased occurrence of malaria, cholera and other diseases such as strokes, dehydration and skin cancers. The impact of climate change on the Southern Africa health sector is manifested through three major pathways, namely (i)



food and water borne diseases, (ii) vector borne diseases and (iii) HIV/AIDS. Numerous climate change projections have been carried out for the Southern African region, which rely on downscaled global circulation models (GCMs) and regional climate models (RCMs). Most of the models project drier conditions as a result of increased warming for most parts of the region (Boko et al. 2007). Increased episodes of extreme events are also projected for some parts of the region, such as flooding in the Mozambican floodplains. Rainfall is projected to decrease across Southern Africa for the summer months of September, October and November,



which also coincide with the start of the rainy season in the region, suggesting reduction in early season rainfall (Christensen et al. 2007). Climate change impacts on the disease burden, together with the response capacity of countries in the region, need to be better understood in order to plan comprehensively for the best use of resources for an integrated approach to climate change adaptation.

### **Regional Policies related to Climate Change Adaptation in Southern Africa Health Sector**

In Southern Africa, there is wide variation regarding progress in the development of policies and strategies for addressing climate change in the health sector. Considerable progress has been made in incorporating climate change adaptation measures into South African policies and strategies, culminating in the COP17 summit in Durban, where a climate and health declaration was issued.

The National Climate Change Response Strategy for South Africa clearly states that climate change adaptation measures will be mainstreamed into the health sector, through the Department of Health Strategic Plan, which clearly outlines how South Africa will combat diseases such as malaria, whose transmission patterns are projected to alter as a result of climate change. Following the COP17 meeting in Durban in 2011, South Africa developed the National Climate Change and Health Adaptation Policy, as well as at the provincial policies in the Western Cape Province and KwaZulu-Natal. The local governments of the city of Cape Town and eThekweni municipality have specific climate and health adaptation policies.

The National Health Policy in Malawi identifies five healthcare priorities, namely (i) vaccines for preventable diseases; (ii) malaria; (iii) acute respiratory infections; (iv) diarrhoeal diseases including cholera; and (v) sexual and reproductive health (Government of Malawi 2011).

The Southern Africa Development Community (SADC) has formulated a Protocol on Health, which is the legal instrument for coordinating and

harmonising health sector activities in the region (SADC 1999). The protocol was ratified by Member States in 1999, and addresses a range of climate change issues. Although it does not address the threat of climate change explicitly, it highlights the need for a coordinated approach to disaster risk management, health and communicable and non-communicable diseases. The protocol also led to the establishment of a Health Sector Co-coordinating Unit (HSCU) and a Health Sector Committee of Ministers (HSCM). Furthermore, SADC has developed a Health Policy Framework to raise the regional standard of health care through promoting, coordinating and supporting Member States to improve access to high impact health interventions. The policy framework recommends the development of policies, strategies and priorities on several health issues such as HIV/AIDS, communicable and non-communicable disease control and health promotion.

Because most of the discourse on climate change impact on the Southern Africa health sector is academic, only a few countries in the region have national climate change health response strategies, which in some cases, are too broad to address issues specific to the health sector. There is often a lack of coherence in policy development and implementation. Current policies are not based on strong evidence, as a very small pool of research related to climate change has been carried out for the region. This is because climate change policies do not clearly identify the strategies that need to be implemented to address the situation. For example, the National Water Resource Management Policy of Malawi does not state clearly the kind of strategies that need to be put in place to manage sanitation, placing a huge burden on the implementation of such a policy. Many climate change adaptation policies are not comprehensive in their approach; for example, the climate change adaptation strategy for Zimbabwe has been criticised for having a very strong focus on rural areas without saying much about urban settings (Brown et al. 2012). This has major implications for the management of diseases as urban populations grow due to rural-to-urban migration.

### **Key research findings to be considered for informed decision making in Climate Change Adaptation in Southern Africa Health Sector**

Research in Southern Africa has shown that increases in temperature and changes in precipitation patterns result in increased occurrence of malaria, cholera and other diseases such as strokes, dehydration and skin cancers. The impact of climate change on the health sector varies according to the geographic location and economic circumstances of each country and is manifested through three major pathways, namely through food and water borne diseases, vector borne diseases and HIV/AIDS.

Studies conducted on the link between climate change and water and food borne diseases, demonstrate a strong association between high temperatures and increased episodes of diarrhoeal diseases in adults and children. In Zambia, a study that investigated the incidence of diarrhoeal incidence in children during a specific rain season, found that 18 percent of the children infected resulted from contamination of drinking water (Nchito et al. 1998) A similar study in the Limpopo river basin found that children were adversely impacted by climate related ailments, mainly diarrhoea, respiratory infections, asthma and malaria (Thompson et al. 2012). In a study of climate change vulnerability and adaptation preparedness in Zimbabwe, Chagutah (2010) found that 'disease often deprives households of labour during critical periods, adding to vulnerability'. The most vulnerable groups include elderly populations (especially women), orphans and urban residents.

In the Southern African region, studies have shown that changes in temperature and precipitation alter the geographic distribution of malaria in Zimbabwe, with areas that were previously unsuitable for malaria becoming affected (Hartmann et al. 2002). The areas suitable for malaria in the region will extend further south, presenting new challenges for South Africa, which was previously not been at the epicentre of malaria infections.

Brown et al. (2012) reported that the Zimbabwe National Network of People Living with HIV and AIDS is concerned about the impact of climate crisis on the vulnerability of people living with HIV/AIDS. Studies in the region established a direct link between HIV/AIDS, climate change and institutional capacity in the management of disasters, and found that in Malawi, HIV/AIDS had a major impact on staff performance, with high levels of absenteeism and increased workload (Suarez et al. 2008). Policy Options for consideration in the Health Sector of the Southern Africa Region

Options which may be considered in the formulation of policies for climate change adaptation in the health sector in Southern Africa, include the following:

1. Gather more primary data and locally relevant information to improve the evidence base for linking climate change to the occurrence of diseases in the region. Improve understanding of the impact of climate change on health through building the evidence base to provide reliable information to decision-makers for policy formulation and informed decision making.
2. Streamline communication of research outcomes to unlock barriers to uptake of research outcomes by policymakers and practitioners. Make publications available that specifically target policymakers, such as policy briefs, on climate change and the health sector and packed in a format that is suitable for policymakers to access. Research outcomes should be communicated in a manner that targets various audiences, such as the science community, government and the general public. These pathways should be unlocked through the use of knowledge brokers such as the traditional media outlets and more recently social media, which has become a very powerful medium of communication.
3. Promote stronger alignment between the different sectors in trying to understand the impact of climate change. The impact of climate change on the health sector should be considered with other sectors such as agriculture and urbanisation, since these are vclosely linked to each other. Climate change adaptation planning should therefore adopt a holistic approach to develop measures that have multiple