

Effective use of climate science to improve adaptation in Africa

INTRODUCTION

Adaptation to climate variability is not new, but climate change is expected to intensify existing problems and create new combinations of risk with potentially grave consequences. This is particularly true in Africa where direct dependence on the natural environment for livelihood support combines with a lack of infrastructure and high levels of poverty to create vulnerability in the face of all types of environmental change. In regions of Eastern and Southern Africa, vulnerability is particularly high due to the large number of households that depend on the already marginalised natural resource base for their livelihoods.

Climate change is expected to place considerable additional stress on the biophysical, economic, political and social systems that determine livelihood security in Africa. Accordingly there is a growing need for “anticipatory adaptation”, in other words, proactive rather than reactive management of climate change risk. *Successful anticipatory adaptation requires the best available information concerning the nature of future climate risks: therefore it is vital that climate science is used more effectively in adaptation decision making.*

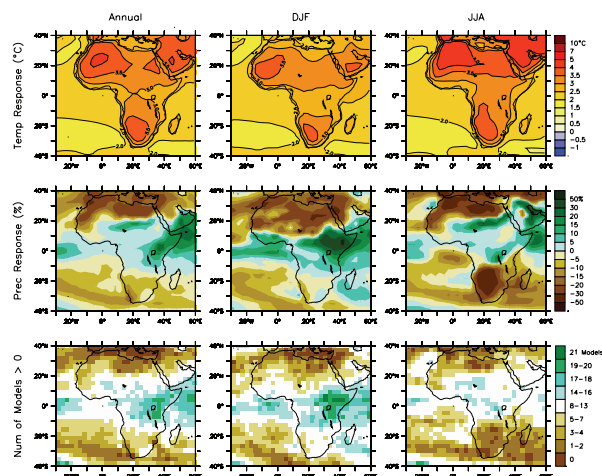
RECOMMENDATIONS

1. Improve access to historical climate data

Global climate models (GCMs) are not going to significantly increase in quality in the near future. However, by improving access to and availability of historical data, the quality of downscaling efforts would be enhanced and past climate trends could be more closely examined (see figure). ‘Rescuing’ historical data and converting these to workable (digital) formats would support this.

2. Strengthen skills for applying climate science

Climate scientists in Africa need to be better trained to apply climate change models, particularly at the local scale, using techniques such as downscaling. Resources are needed to support graduate students and provide employment opportunities for them at the post-doctoral level to encourage their continued contribution to developing and applying climate data. At the same time, efforts should be made to



An example of global climate modelling. Such large-scale data is used in ‘downscaling’ to provide finer resolution projections that are often more suited to use at the local level.

establish regional climate-science centres that have the necessary technology and institutional capacity to support climate modelling and downscaling.

3. Bridge the gap between information producers and information users

Communication between users of climate change model output (e.g. decision makers, practitioners and researchers) and producers of data (climate scientists) should be strengthened. To achieve this, it is necessary to:

- *build the capacity of users* to appropriately interpret and apply climate change projections while ensuring that the possibilities and limitations are well understood;
- *improve climate scientists’ understanding* of the information needs of different user groups, enabling them to more effectively target output; and
- *support ‘translators’*: individuals and organisations who understand the challenges to both users and producers, and who can act as information conduits between the two groups. This requires skills that many of those engaged in climate change adaptation have not developed. Specifically, it requires the ability to translate scientific concepts—without distorting them—into language that users can understand and apply. It also requires in-depth understanding of users’ needs and the potential uses of climate change projections. →

4. Create 'platforms' for collaborative action and information sharing

A 'platform' for climate change adaptation (web-based or otherwise) can provide space for collaborative action, mutual learning and the exchange of a range of material, for example from workshops, mailing lists, e-conferences, academic papers, policy briefs or information sheets (see box). A successful platform should be multi-disciplinary and have clear links to policymakers. It should also:

- offer a space for scientists, researchers, decision makers and practitioners to share knowledge and experience of climate change adaptation;
- be a repository for local climate, weather and climate change information; and
- store information on tools and methods to assess the impacts of climate change and contribute to the development of adaptation strategies.

5. Build on existing organisations and networks

Despite Africa's institutional deficit, there are a range of existing organisations and networks that have emerged to respond to local challenges. These should be the starting point for building adaptation responses. Typically, existing organisations benefit from a long-standing presence in the region and have built effective networks, credibility and trust among stakeholders. Often, such organisations are already grounded in the local reality—they understand local needs and know how to deal with the institutional constraints in the country in which they operate. Discussions should take place between newcomers and existing donors and players to ensure an effective response and avoid overlaps in roles and responsibilities.

6. Develop records of 'good' adaptation

To encourage local people, policymakers and development agencies to implement adaptation responses, evidence of 'good' adaptation is needed and should be recorded and catalogued (for example, cases of successful decision making in agricultural productivity or flood management that draw on climate change projection data). Evidence of 'good' adaptation would establish whether a policy or procedure is feasible and encourage its use elsewhere.

The weAdapt platform

The weAdapt platform (www.weadapt.org) unites modelers, practitioners, donors and others via a range of innovative tools and methods, datasets, experience and guidance. It is an interactive resource (including a wiki) for building capacity for adaptation practitioners. It provides a structure and forum for reading, discussing and contributing to current thinking and experience on responses to climate variability and change. It includes stories about living with climate variability from stakeholders in Africa, challenges to developing NAPAs and suggestions on the use of climate information. Another key element of the platform is the Climate Change Explorer (CCE) tool, which permits access to and exploration of past and projected climate outcomes.

Such records could also help to measure and assess the value of using climate change projections.

7. Focus aid to better support adaptation

Donor agencies have in the past three years shown increasing interest in climate change adaptation. In order to avoid the vagaries of supply driven interventions that have little relevance to local needs and priorities, it is essential to *focus resources on the needs that are emerging from within Africa*. Aid should:

- *Support longer-term processes.* Although one-off projects can help develop technical capacity to interpret and use climate information, experience has shown that building capacity in this way is a slow, resource-intensive process. Therefore it is important that funding is aimed beyond creating project-specific skills to strengthening existing networks and developing institutional capacity and stability.
- *Help integrate 'climate-driven' and 'development-first' approaches in institutional processes.* Some donors support independent adaptation projects that first assess impacts and climate change vulnerability and then develop adaptation strategies. Others focus on development projects at the outset and integrate climate throughout the project cycle. Both approaches are needed to address the complexity of climate change impacts.

This policy brief is based on the findings and recommendations of the report *Climate Change and Adaptation in African Agriculture* (2008), prepared by Ziervogel, G., Cartwright, A., Tas, A., Adejuwon, J., Zermoglio, F., Shale, M. and Smith, B., and supported by the Rockefeller Foundation. SEI interviewed 40 practitioners and donors in Africa to evaluate how the climate change adaptation sector could be better supported. This policy brief was prepared by Gina Ziervogel, Tom Downing and Molehi Shale. Copy-edit and layout by Tom Gill. For the full report or more information please contact gina.ziervogel@sei.se.

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