

Climate and Development Outlook

Stories of change from CDKN



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Climate and Development
Knowledge Network

Helping developing countries
to design and deliver climate
compatible development

How is long-term climate information being factored into decision-making in Africa?

The impacts of climate change in Africa will be significant and long-term (see for example www.cdkn.org/ar5-toolkit for some headline messages for Africa). Long-lived infrastructure and development planning are likely to be particularly affected. Factoring climate change into their design and implementation is, therefore, vital to development outcomes. Yet we know very little about how long-term climate information is used in African decision-making. While seasonal climate information is increasingly embedded in development and humanitarian actions across Africa, our knowledge of the barriers to, and opportunities for, the uptake of long-term climate information is comparatively scant.

It is this knowledge gap that the Future Climate For Africa (FCFA) scoping phase seeks to fill. FCFA is a five-year international research programme jointly funded by the UK's Department for International Development (DFID) and the Natural Environment Research Council (NERC). The programme aims to advance scientific understanding of sub-Saharan African climate

on decadal timescales and promote better communication, use and uptake of climate information in medium- and long-term climate resilience development strategies (5–40 years).

FCFA starts from the premise that we need to improve our understanding of Africa's climate system. However, more accurate and precise climate information will not lead to better decision-making on its own. How climate information is communicated, used and taken up by decision-makers will be of equal, if not greater, importance. The wider factors of political economy, institutional settings and responses to other drivers of development and environmental change also need to be considered. Above all, promoting the uptake of climate information in medium- and long-term decision-making requires not only an appreciation of climate science. It also requires an understanding of the economic, social and political processes that contribute towards its use.

Welcome to our special edition on African climate science

In informing the wider Future Climate for Africa (FCFA) research programme, the 18-month scoping phase evaluates the needs of users of long-term climate information against the strengths and limitations of current climate science. In so doing, four case studies have been selected in sub-Saharan Africa; these explore real-world adaptation challenges in Malawi, Zambia, Rwanda and Accra/Maputo (the latter is a combined urban case study).

Although the case studies are ongoing, common factors affecting the communication and use of climate information in medium and long-term climate-resilient development can be synthesised from the scoping activities to date. This newsletter describes the activities undertaken by the case study teams. It also presents a series of lessons learned relating to two areas, i) opportunities and barriers to the uptake of long-term climate information, and ii) ways to improve stakeholder engagement processes around the use of climate science in adaptation decisions. It also outlines recommendations for enhancing the science-policy interface and ways to encourage uptake of long-term climate information.



FCFA case studies

What types of investments and planning decisions are likely to be affected by long-term climate change in Africa? Is long-term climate information being considered in decision-making processes, and in what format? How can scientists and policy makers be brought together to promote the better uptake of long-term climate information in policy and planning? These are the types of questions that the FCFA case studies seek to address.

Case study methodologies include the analysis of qualitative information collected through semi-structured interviews, desktop research and multi-stakeholder workshops and meetings. To date, all four case study teams have conducted stakeholder mapping and consultation exercises, three of the teams have completed in-country workshops (see Figure).



ACCRA/MAPUTO CASE STUDY

University of Cape Town (UCT); START; Stockholm Environment Institute (SEI)

Sectoral focus: Urban adaptation

This case study engaged groups from two cities, Accra, in Ghana, and Maputo, in Mozambique; the participants from both cities were brought together in a participatory workshop held in Accra. The case study targeted a common adaptation challenge: how can large coastal cities contend with increased flood risk? The team focused on piloting a new 'co-exploration' approach to adaptation decision-making, where facilitators and participants collaboratively explored the vulnerability of a specific place to various climate and non-climate stresses. Adaptation options were framed around development issues, such as urban planning and drainage, with information on climate impacts employed to narrow the options for climate-resilient development. The assessment process was used to develop draft policy recommendations and city-specific messages on climate change.

MALAWI CASE STUDY

Kulima IDS; University of Leeds

Sectoral focus: Food security, disaster risk management and social protection

The Malawi case study focused on three thematic areas of importance: food security, disaster risk management and social protection. Interviews with government and non-governmental stakeholders explored the current nature of decision-making processes and policy-making across sectors, including assessment of the use of climate information for long-term planning. A multi-stakeholder workshop drew on role play and simulations of development situations. This was to help participants to identify the needs of farmers, planners, community workers and other information users, as well as new opportunities to work with them. A 'serious game' examined the role of uncertainty in climate predictions, with groups 'paying' for information with varying degrees of certainty within a disaster management scenario. The activities encouraged participants to discuss how they make decisions in their current role and asked what climate information would be most useful and relevant to them.



Map showing location of FCFA case studies

Full report to be launched in early 2015

A full range of outcomes and reflections from the full FCFA scoping phase will be presented in six final policy briefs, due January 2015. Please visit www.cdkn.org for details.

RWANDA CASE STUDY

Global Climate Adaptation Partnership (GCAP); UK Met Office

Sectoral focus: Climate fund management, hydropower investment and social protection

This case study looked at a series of adaptation challenges relating to the management of Rwanda's environment and climate change fund (FONERWA), hydropower investments and social protection activities. The Rwanda case study approach differed from the other three in choosing not to host a consultative workshop. Rather, bilateral meetings were held with key stakeholders in these sectors in an effort to allow for a greater depth of understanding of the needs of specific information users. In addition, a detailed assessment of existing literature and a review of country needs were conducted to allow the team to target their efforts and identify relevant stakeholders.

ZAMBIA CASE STUDY

Red Cross Red Crescent Climate Centre; UK Met Office

Sectoral focus: Transport infrastructure, health, agriculture and environment

The Zambia case study explored and promoted dialogue among decision-makers and climate scientists. An interactive workshop provided a forum in which stakeholders could articulate the adaptation decisions they confront in their work and brainstorm the types of information that are most relevant and can be acted upon. Participatory games for understanding medium-term projections were used during an initial workshop (early June) for defining criteria, protocols and decision-support mechanisms to turn science-based information into recommended courses of action. A second and final workshop, held in September, sought to communicate earlier results and match needs with available information provided by the UK Met Office.



LESSONS LEARNED FROM THE FCFA SCOPING PHASE

After 12 months of literature reviews, workshops, bilateral meetings and reports, what lessons have we learned so far from the scoping phase? More importantly, what does it mean for efforts to improve the uptake of long-term climate information? In presenting the preliminary findings, we separate the general lessons learned into two key areas, a) insights into the opportunities and barriers to the communication, use and uptake of long-term climate information, and b) reflections on how to bring together multiple stakeholders to discuss the utility of long-term climate information.

OPPORTUNITIES AND BARRIERS TO THE COMMUNICATION, USE AND UPTAKE OF LONG-TERM CLIMATE INFORMATION

Long-term climate information is important in certain decision-making contexts, but not all:

Low levels of socioeconomic development and high vulnerability to current climate stressors in many African countries mean that many development decisions focus on immediate needs – and understandably so. Reflecting this reality, decision-makers consulted during the FCFA scoping phase were interested primarily in seasonal forecasts. Where climate projections were already in use, these tended to be used to better understand historic trends and the impacts of short-term climate variability on decision-making in the coming years (typically for 1 to 5 year horizons).

Decision-makers showed less concern for longer-term, multi-decadal climate projections. For example, the longest timeframe for government decision-making in Malawi is 10–15 years, through its Vision 2020 plan and the design of its successor. However, climate information is not factored into the appraisal of new projects or policies under these two initiatives. The case study also found no evidence of ministries using longer-term climate information in their current decision-making. This may reflect a number of issues, primarily: the immediacy of the challenges faced by most development activities; the short-

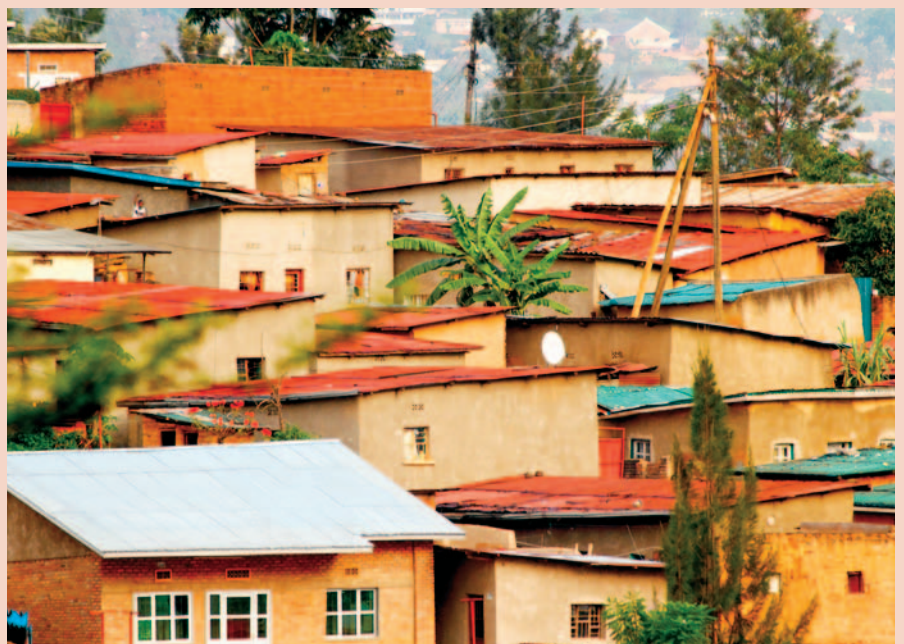
term nature of political time horizons; and the uncertainties associated with long-term climate information, making it difficult to present a simply and readily-actionable business case to decision-makers.

Nonetheless, all four case studies highlight a number of investment decisions that do require planning on longer-term timescales, and a failure to recognise this adequately runs a risk of inadvertently increasing climate vulnerability. Infrastructure development, urban spatial planning, service delivery and long-term growth strategies are each an example of the long-lived investments discussed in the FCFA scoping activities.

Planners are required to consider the implications of long-term drivers of change: both with regards to external stressors on development, as well

as demands for the use of services, and the implications of these drivers for today's investment decisions. Yet, although there are relatively widespread requirements for the consideration of climate information in long-term planning (particularly with regards to infrastructure and economic planning), such information is seldom meaningfully applied to and embedded into policies. Decisions explored during the FCFA scoping phase highlight that where long-term climate information is considered, it is often outdated or neglected as a result of larger uncertainties.

Recommendations: *Not every decision requires long-term climate information. Care should be taken to ensure that information is targeted towards investments and planning decisions that are relevant to longer-term timescales, particularly where there is a high risk of*





maladaptation. At the same time, more can be done to increase awareness of the implications of recent trends and drivers of multi-decadal variability on planning decisions in Africa (such as the Indian Ocean Dipole). Enhancing the accuracy and communication of near-term decadal climate projections – considered ‘a new endeavour in climate science’ by the IPCC – may also offer advantages in providing information that can be acted upon within the timescales relevant to many decision-making processes.¹

Recognising the interactions between climate change and wider drivers of environmental and developmental change is key:

Many African countries, including the case study countries, are undergoing significant social, economic and demographic transitions. Climate change is likely not only to influence these transitions, but climate change impacts will often affect these phenomena indirectly (e.g.

in the form of rising food prices or enhanced competition for scarce natural resources). Urban adaptation challenges highlight this clearly. Alongside rising sea levels and temperatures, both Maputo and Accra face rapid population growth, expanding areas of unplanned settlement, and increased pressure on critical infrastructure (particularly drainage systems). Any consideration of long-term climate information for adaptation and urban planning in the context of these two cities, and any other African city, must recognise the role of, and interplay with wider drivers of development. It should also be weighted against the immediacy of wider development needs.

Recommendations: *Simply providing decision-makers with climate projections for informing long-term planning decisions is ineffective and misleading. Climate change is likely to be one of many drivers of change that will influence the effectiveness of long-lived investments. Efforts should be made to clearly demonstrate the development trajectories and wider drivers of change alongside climate change. Recognising and adequately communicating the various overlapping uncertainties*

associated with each of these sources of information will be critical.

An appreciation of the political economy and institutional context of decision-making can significantly enhance science–policy dialogues:

The science–policy interface is messy and complex. Alongside knowledge and capacity gaps, many of the barriers to the effective uptake of climate information relate to institutional mandates, hierarchical structures and a lack of adequate incentives. For example, in the context of national policy-making in each of the case study countries, many of the ministries traditionally mandated with acting on climate change (such as ministries of environment or natural resources) wield little power. Compared with the ministries responsible for the planning and delivery of long-term development and growth they are under-resourced. Understanding the barriers, and more importantly the entry points, to the better uptake of long-term climate information requires a careful appreciation of the political economy of decision-making in any given context.

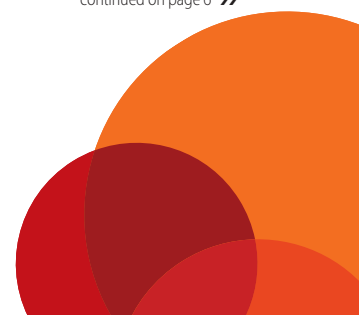
Recommendations: *Spending time and investing resources to understand the local policy context and engage with local partners can help to tailor the more effective communication and use of climate information. For this, identifying and establishing meaningful relationships with relevant users and sustained engagements are of particular importance.*

‘Boundary organisations’ can play a pivotal role in the communication and uptake of climate information into policy:

At the national level, the role of communicating climate information is typically mandated to formal science bodies, such as national meteorological agencies. However, the case studies note that

¹ Kirtman, B. et al. (2013) ‘Near-term climate change: projections and predictability’, in: T.F. Stocker et al. (eds), *Climate change 2013: the physical science basis. Contribution of Working group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge and New York: Cambridge University Press.

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once information is passed to end users – whether at the local or national levels – this information often arrives in a form that is overly technical, ill-matched with decision-makers' needs and prone to misunderstanding of the uncertainties associated with it. The Rwanda case study highlights a clear need for primary climate information to be translated into 'adaptation-ready' information and guidance in a format that can be acted upon by decision-makers. It is here that a considerable role for boundary organisations exists. The advantages that boundary organisations provide are an ability to understand the needs and speak the language of both science producers and end users. Despite this, few boundary organisations with the ability to effectively promote the communication, use and uptake of long-term climate information in African decision-making exist. Those that do exist tend to be poorly resourced and their mandate is often tied to project-based working arrangements.

Recommendations: *Strengthening the capacities of key boundary organisations may be an effective way of linking and addressing the needs of various stakeholders. Identifying appropriate organisations with the right skill-sets and the ability to take advantage of appropriate policy windows will be key in expanding their role. At present, the majority of boundary organisations are involved in the communication of seasonal and short-term climate information. More can be done to expand their remit to support the uptake of long-term climate information in key investment and policy decisions (such as growth strategies and long-term development plans). Doing so requires new capabilities, capacities and networks.*

Decision-makers need greater support and tools for making decisions under uncertainty: Climate projections inherently come with uncertainties. Often decision-makers use these as a basis for disregarding apparent future risks or for delaying



decision-making. Participants in the Accra/Maputo case study noted that available climate information is inadequate for their decision-making needs; a fact that is compounded by sparse data coverage and temporal gaps in observational data. As such, many case study participants placed a heavy emphasis on the need for higher resolution downscaled climate projections, giving information specific to a particular district or even town. Despite the high demand, there is little appreciation about the increased levels of uncertainty associated with projections at such a fine resolution. These factors highlight the need for a better understanding of, and tools for working with, uncertainty. For example, the Rwanda case study found that in almost all cases examined, end-user applications of climate information had completely ignored both scenario uncertainty and climate model uncertainty. When questioned about why uncertainty was omitted, most users made reference to time, resource and capacity constraints. Many also stressed that including uncertainty was too complex and detracted from being able to make concrete policy recommendations.

Recommendations: *Plenty of tools exist for supporting robust decision-*

making in the face of uncertainty about precise future climate trends. Yet many of these are heavily conceptual in nature, with few recommendations that decision-makers can act upon. Improving and tailoring these tools to suit the needs of African decision-makers and finding ways to incorporate clear communication of long-term climate information will be a useful step forward. Finding ways to better understand the drivers behind model uncertainties and helping decision-makers to understand that inaction in the face of large uncertainties is often an ineffective and costly option, will be equally important.

CONVENING STAKEHOLDERS TO PROMOTE BETTER UPTAKE OF LONG-TERM CLIMATE INFORMATION

The FCFA scoping phase also shone light on how to improve approaches for bringing together stakeholders for better communication, use and uptake of long-term climate information into decision-making. Here is what the teams found.

Specific adaptation challenges need to be pinpointed: One of the primary challenges faced by the FCFA case study teams was defining a particular adaptation challenge.

In designing their approaches, each chose to address issues across a number of different sectors and decision-making contexts. While this allowed case study participants to more readily engage with the content and relate it to their day-to-day activities, it made it difficult to delve deeper into specific barriers to the effective uptake of climate information.

Recommendations: *Bringing together a wide range of stakeholders is always a challenge, particularly on a complex topic like climate change. While choosing the appropriate level of contextual detail inevitably requires trade-offs, lessons from the scoping study suggest that it may be easier to limit the focus to a single or small number of case studies and adaptation challenges. This allows participants to explore each issue in greater depth and can result in more meaningful reflection.*

Traditional workshop approaches have their limitations: Workshop-based approaches can be a useful means for sharing information in some contexts. However, experience from all the case study groups shows that workshops are limited in their ability to bring about the meaningful engagement of different stakeholders. Some of these challenges can be overcome through novel ways of running workshops; others require the development of different, non-workshop approaches to user engagement.

Most workshops operate a one-way flow of information. Knowledge is held by one group and communicated to recipients (often in the form of presentations), thus building recipients' capacities. Yet these models often fail to stimulate effective learning and knowledge sharing. Efforts to promote two-way communication and the co-production and sharing of knowledge can enhance the engagement process significantly. This is particularly the case when different stakeholders are brought together, as the Accra/Maputo and Zambia case study teams

found in piloting their respective co-exploration and 'serious games' approaches.

Many of the case study teams encountered more general challenges with workshop-based methodologies. For two of the case study workshops, fewer than half of the expected participants attended, despite extensive preparatory activities from the organisers and confirmations from the targeted decision-makers. A combination of a 'per diem' or 'daily subsistence allowance' culture and 'workshop fatigue' may be partly to blame. Experience from one case study highlighted how this expectation of financial compensation for attendance and competition with other workshop hosts, can negatively affect who and how many people are willing to attend. Certain local 'ways of working' may also undermine attempts to engage with the appropriate decision-makers. Navigating these contextual environments is a difficult, yet necessary, process in ensuring desired levels of commitment and the success of workshop outcomes.

Recommendations: *While traditional workshops have their merits, efforts to bring together stakeholders should consider the adoption and use of more innovative tools for engaging with stakeholders. These can include approaches embedded within a normal workshop format, such as 'serious games', participatory downscaling and tools for promoting co-exploration or experiential learning. Also, workshop activities can be piggy-backed onto other meetings where the attendance of particular levels of decision-makers is more certain. Alternatives to workshops also exist. For example, bilateral engagements and advisory support services to particular decision-makers or institutions may also be appropriate. Whatever activity is ultimately chosen, it should take into consideration the end-users' needs and local contexts in the design of the engagement processes.*

Ways forward

The FCFA scoping phase case studies highlight the messiness of the science-policy interface. While not all decisions require a long-term perspective, they also show that long-term climate information does have a lot to offer African decision-makers. Effective uptake of climate information is a key element of robust decision-making and can play a role in reducing the risk of maladaptation, particularly in the context of long-lived investments and planning. Identifying what types of decisions require longer term information, weighing up the capabilities of current science against decision-makers' needs, and understanding how uptake can be effectively incentivised remain key priorities. Addressing these will require new institutional mandates and different ways of working – both on the part of decision-makers and scientists. Above all, it is clear that effective uptake of climate information is contingent not only on the availability of relevant climate science, but on understanding and addressing the various political, social and economic factors that influence it.

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Longer-term engagement is needed to have a meaningful impact: Little happens through isolated workshops. This is nothing new. This point was clearly underlined by the experiences of the case study teams. Many argued that the short-term time frame of the scoping phase and the limited mandate to follow up with carry-on activities hampered their ability to meaningfully engage with respondents. Restricting engagement to one-off activities may be a common approach to capacity building and knowledge sharing, but it rarely translates into effective learning and action. The Accra/Maputo case study team described short-term engagements as necessarily creating artificial environments removed from real decision-making contexts. Sustained engagement processes, which build relationships of trust with a network of decision-makers over a longer time

period, are necessary for sharing knowledge and developing meaningful partnerships within the context of real decision-making processes.

Recommendations: *In thinking through and designing engagement processes it is crucial to consider how activities are likely to enable change. If the objective is to build capacity, share knowledge or inform real development or adaptation decisions, then standalone workshops or meetings are unlikely to result in meaningful change. Promoting longer term engagements and linking with other related activities can help to deliver better results. Related to this, clear knowledge of the political context is key. Above all, longer-term engagements require considerable time and resource commitments; leaving engagement processes to the very end of a project will seldom have impact.*

Written by Lindsey Jones (Overseas Development Institute/CDKN), Jean-Pierre Roux (SouthSouthNorth/CDKN), Charlotte Scott (SouthSouthNorth/CDKN) and Thomas Tanner (Overseas Development Institute/CDKN)
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CDKN Global

7 More London Riverside
London
SE1 2RT
+44 (0) 207 212 4111
www.cdkn.org
enquiries@cdkn.org

Regional contacts

africa@cdkn.org