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Ensuring climate information guides long-term development

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How can climate information support long-term development objectives?

Adapting to climate change is a challenge that spans timescales. While communities are feeling the effects of climate change now, the most severe impacts will be felt in decades to come.¹

This presents significant obstacles to long-term development objectives. Nowhere is this more apparent than in sub-Saharan Africa, a region confronting a large current adaptation deficit and undergoing rapid social, economic and demographic transitions.² Factoring medium- to long-term climate information (associated with interannual, decadal and multi-decadal timescales) into investments and planning decisions can therefore play an important role in guiding climate resilient development and helping to safeguard economic development across the region.

Though effective adaptation requires more than just an understanding of future climate risk,³ the importance of promoting the uptake of medium- to long-term climate information often centres around two arguments. Firstly, it can support anticipatory adaptation and help to identify long-lived investment and planning decisions in the face of changing external stressors.⁴ Secondly, it can assist decision makers to identify and manage the risk of current actions leading to increased levels of vulnerability in the future.⁵ In particular, long-term interventions with long-lived implications – such as national or sector development plans, strategies for economic growth and large infrastructure investments – offer clear entry points owing to the scale of investments and operational time frames involved.⁶

However, findings from case study research conducted under the Future Climate For Africa (FCFA) programme suggest that many sub-Saharan countries are failing to incorporate medium- to long-term climate information into core national development processes.⁷ This is despite recent gains made in promoting the uptake of short-term climate information (associated with weather, sub-seasonal and seasonal timescales) in decision making across Africa.⁸

Here we argue for a step-change in how medium- to long-term climate information is produced, communicated and acted upon in order to achieve meaningful impact on decision making in sub-Saharan Africa and elsewhere. In particular, we identify needs on the part of all relevant stakeholders to: address the communication mismatch between producers and users of climate information; tailor climate information to the needs of relevant decision makers; encourage greater recognition of the political economy of sub-Saharan African decision making; and adopt a more nuanced appreciation of the ethics of promoting a long-term climate agenda in a world dominated by short-term political timeframes and immediate development priorities.

Understanding the shortfall in climate information uptake

The reasons for poor uptake of medium- to long-term climate information in sub-Saharan Africa are manifold. To begin with, our scientific knowledge of past and current African climate is poor relative to other regions, and large gaps exist in the observational record. Such knowledge would help to inform our understanding of existing climate risk, improve projections of future risks and support identification of suitable adaptation options. Opportunities therefore exist to enhance the quality and quantity of observation networks and infrastructure, as well as recovering large swathes of historical data yet to be digitised; a thorough understanding of past and current climate variability and associated impacts will often provide great insight in guiding adaptation actions, compared to projections of future regional climate alone. There is also a pressing need to build the capacity of African climate scientists and scientific institutions to undertake this work.

However, scientific and technical barriers account for only a fraction of the impediments to information uptake. Many further barriers relate to social, economic and political factors,⁹ particularly as the immediacy of development challenges inevitably focuses decision makers' attention on shorter timescales. For instance, Maputo in Mozambique and Accra in Ghana both

currently experience high climate vulnerability which affects drainage and transport infrastructure, leading to health impacts and economic disruption. High discount rates and large uncertainties over future climate change further reduce the incentives, and political will, to account for long-term climate in many investments.

Promoting the uptake and use of climate information is, therefore, not just about improving our understanding of the African climate, but responding to social, political and economic realities. **Rethinking how climate information is produced, communicated and acted upon**

One clear priority is to address an apparent communication mismatch: information delivered to African decision makers is often overly technical, prone to misunderstanding of associated uncertainties, and ill-suited to decision makers' needs.¹⁰ Care needs to be taken to ensure that climate information speaks directly to the practical questions to which decision makers seek answers.¹¹ For example, rather than the current focus on changes in annual average temperature or precipitation, information on key decision-relevant events such as changes to the onset of the rainy season, frequency and duration of dry spells early in the growing season or water availability for hydropower or irrigation are often of far greater significance.¹² Production of such applied information often requires engagement and partnerships between economic, social and environmental disciplines and across research, policy and practice domains. Yet African decision makers rarely have access to relevant integrated assessments or support tools for decision making under uncertainty in order to guide investment and planning choices.

Communication of climate information also requires active involvement of a number of stakeholders at different levels, from scientific institutions to government departments and local communities. There is considerable scope to enhance the roles played by 'boundary organisations' in sub-Saharan Africa, promoting more effective dialogue between producers

and users of scientific information.¹³ Few organisations currently have the skills and mandate to convene, collaborate, translate and mediate between different stakeholders across the continent. Improving the uptake of climate information into policy will require expanding the remit of those organisations that have the influence and capacity to act - such as the Africa Climate Policy Centre (ACPC) and Regional/National Climate Outlook Forums (RCOF/NCOFs) - as well as supporting new boundary organisations that can promote greater dialogue between producers and users of climate information at various levels of governance.

There is critical need to help communicate the merits and limitation of climate information to decision makers as well as supporting the use of more pragmatic and evidence-based approaches to decision making under uncertainty. In addition, opportunities exist to support the generation of authoritative national projections of climate change across sub-Saharan Africa, offering levels of confidence that can guide policy actions across a range of national bodies – government, civil society and the private sector. These opportunities can help to generate greater levels of consensus and understanding amongst producers and users of climate information at all levels of governance.

Engaging with power and politics

Alongside knowledge and communication gaps, many barriers to uptake relate to issues of political economy and governance. Overlapping organisational mandates, hierarchical structures of governance and weak incentives to include medium- to long-term climate information in decision making are each significant obstacles. For example, adaptation often falls under the mandate of typically weaker line ministries, such as those responsible for environment and natural resource management. More influential line ministries, such as those responsible for finance, development and planning, need greater incentives and the mandate to act on long-term climate information if adaptation is to happen at scale and be mainstreamed into policies that make a difference to people's lives.

With this in mind, more effective understanding and communication of the economic benefits of acting on medium- to long-term climate information are key to enhancing its uptake amongst more influential stakeholders. It also requires greater inter-ministerial cooperation and coordination, coupled with institutional capacity building. Few sub-Saharan countries have instigated such transitions. Where efforts have been made, it is often by capitalising on political windows of opportunity and leveraging high-level 'champions' that drive the climate agenda forward. In Rwanda, for example, President Paul Kagame's backing for national action on climate change, alongside the involvement of relevant ministries across Government, is a crucial driver of the mainstreaming of climate change into national economic development strategy.¹⁴¹⁵

The ethics of promoting long-term climate information in a short-term world

Promoting the use of climate information in long-term decision making also raises important ethical questions. For example, given current low-demand for the inclusion of longterm climate information in core development processes across sub-Saharan Africa, should funders, governments and knowledge brokers be supporting work in this area? More importantly, does such support serve the long-term self-interests of recipients?

Clearly, in contexts where a lack of demand arises from a misalignment with the underlying value systems of beneficiaries or where immediate development needs are strongly prioritised, promotion of a long-term climate agenda needs to be approached with considerable care. Yet, these concerns do not mean that the generation and uptake of long-term climate information should be discouraged. Far from it: we argue that there is a moral imperative to act on relevant knowledge that can reduce future risks, safeguard livelihoods and ensure cost efficiency. More needs to be done, by all relevant stakeholders, to recognise the ethics of promoting long-term climate information in investment and planning decisions.

For a start, it is paramount that any intervention aimed at promoting the uptake of medium- to long-term climate information adheres to principles of honesty, precision, transparency and relevance.¹⁶ However, ethical considerations do need to go far beyond introspection and openness, towards a fundamental shift in how climate information is generated, communicated and taken up. More needs to be done to promote meaningful processes of dialogue between producers and users of long-term climate information, including those most vulnerable.

Crucially, dialogue cannot be a one-way flow of information and should recognise the different interests and agendas promoted. Doing so is likely to encourage local ownership of climate information – a key reason behind the low priority given to its inclusion in local and national decision making across sub-Saharan Africa. Improved dialogue also allows for more open and frank discussions around difficult issues that matter and require better decision support tools, such as comparing the costs and benefits of proposed activities that accrue across timescales and how to best make decisions under uncertainty.

We argue that resolving the ethical challenge is therefore at once technical and political, requiring nuanced appreciation of how climate information fits into a complex decision-space. Researchers, funders and development practitioners can therefore gain considerably from a greater understanding of local decision contexts and value systems as well as developing more meaningful local and national partnerships. This challenge requires a move towards: long-term funding cycles; greater flexibility in the delivery of adaptation and development activities; and more user-driven research agendas.

Lastly, it is important to note that many of the scientific, political and ethical challenges we highlight relate not just to the context of sub-Saharan Africa, but are common across all regions and continents. This includes Europe and North America to a large extent.¹⁷ The scale of the task ahead is significant. It further underscores the need to broaden the range of

stakeholders currently engaged in promoting the uptake of medium- to long-term climate information, explore new ways of enhancing dialogue between producers and users of climate information, and promote more effective sharing of knowledge and experiences amongst developed and developing countries alike.

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