


African climate change science is emerging as a region leader

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The advances made during UN Framework Convention on Climate Change's (UNFCCC) 27th Conference of the Parties (COP27) in Sharm el-Sheikh in November 2022 can best be described as largely incremental. They maintain a trend of underwhelming multilateral commitments to address human-caused climate change without the vigour required to reduce risk to African societies. Once again, the most vulnerable nations of the world remained under-supported by the results of months of preparation and weeks of hard negotiations. Even worse, this lack of progress follows the harnessing of the strongest evidence so far of the risks to African nations, as determined by the high quality African Regional Chapter of the most recent Intergovernmental Panel on Climate Change (IPCC) Assessment cycle (Trisos et al., 2022).

The IPCC's African Regional chapter underlined the real potential of African scientists to critically assess climate risks to the continent and its peoples and belies the apparent invisibility of African science in the international climate science arena (<https://qz.com/africa/2021448/reuters-hot-list-of-climate-scientists-excludes-global-south>). The fact that less than 4% of the global research funding for climate-related research supports African science, revealed by Trisos et al. (2020), is an almost scandalous situation. It highlights the relative efficiency of African climate scientists in leveraging paltry resources to produce a body of evidence that demonstrates a real lead in many aspects of climate change impacts and adaptation in comparison to other regions. This is a message that needs to be better communicated and used to leverage the level of funding support that is so urgently required on this continent.

Given this context, three key questions face a new *African Journal of Climate Studies* (AJOCS):

How can this new journal support the academic resources now growing in African institutions, further strengthen and refine the evidence needed to better support an African voice at the international level, and provide guidance for accelerated implementation at national, sub-national and local levels?

In Africa, the effects of climate change are already being felt and are expected to become even more severe in the coming years. In order to address these challenges, it will be necessary for researchers from a variety of disciplines to work together. A transdisciplinary scientific journal focused on climate studies in Africa could greatly enhance such an effort. A journal with this mandate must provide a platform for researchers from different disciplines to share their findings and contribute to enhancing collaboration on common goals, especially by supporting efforts to leverage appropriate and sustainable funding. It must also serve as a primary resource for policymakers, planners, and practitioners, fast-tracking the latest research into decision-making processes.

One area where interdisciplinary approaches are particularly important and which remain under-addressed, is in understanding the economic and social impacts of climate change in Africa, how these are projected to intensify, and at what levels of warming critical risks will emerge. Because most African countries already face significant economic challenges, the added burden of climate change must be related to how existing challenges will be amplified. For example, not only must projections of changing temperature and rainfall patterns be better translated into water and food insecurity and related socio-economic impacts, but the increasing frequency and severity of natural disasters must be simultaneously understood in terms such as their disruption of transportation networks and infrastructure. By combining these varied perspectives, a more coherent understanding will be developed of the complex ways in which climate change is affecting African societies. The integrated projection of such multiple stresses,

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overlayed on existing vulnerabilities, will be invaluable in planning for and leveraging the appropriate resources for adaptation.

Another key area where interdisciplinary research is needed is in developing sustainable solutions to climate change challenges in Africa. While this includes finding ways to avoid development pathways that minimise greenhouse gas emissions, an even more powerful approach is to integrate such responses with sustainable adaptation to the inevitable changes that are already occurring – a very tall order, but one which can possibly be better addressed in Africa than on any other continent. In this regard, engineers and technologists can play a key role in developing and adapting the technologies required to an African context, while social scientists can help understand how best to implement these technologies appropriately in varied cultural and economic settings.

A further major opportunity for African climate scientists concerns how natural scientists can collaborate more closely with the social sciences and humanities. For example, ecological study of the impacts of climate changes on ecosystems and biodiversity are primed for collaboration with anthropological study of the ways in which different communities are adapting to these changes and employing

local and indigenous knowledge. By bringing such potentially synergistic perspectives together, the *African Journal of Climate Studies* can help to better understand the complex interplay between the natural and social worlds and develop more effective adaptation strategies.

In conclusion, the AJOCS has the benefit of being able to tap into a growing body of researchers in Africa who are working on climate change-related issues and who are well versed in the importance of interdisciplinary approaches to address this crisis. The AJOCS has the potential to provide a vehicle for new work in many topic areas, stimulated by the most recent IPCC Africa Regional chapter and thus could rapidly build and foster collaborations across disciplinary boundaries. The prospects for interdisciplinary climate change studies in Africa are promising, to say the least, and we are poised to convert this promise into effective strategies to address the climate crisis in Africa.

Reference

- Trisos, C.H., Adelekan, I.O., Totin, E., Ayanlade, A., Efitre, J., Gameda, A. et al. (2022). Africa. In H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, & B. Rama (Eds.), *Climate change 2022: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1285–1455). Cambridge University Press.