Infobrief

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WISER
Weather and Climate Information Services for Africa

Nurturing innovations in climate information services to drive uptake

The climate information landscape is changing. Advances in technologies are giving rise to new innovations that are spurring the generation, packaging up and dissemination of climate information. ACPC is seeking to harness the opportunities presented by this shifting landscape through a range of initiatives that will nurture new ideas, identify solutions and capture best practices.

KEY POINTS

- Across Africa, a mismatch persists between what producers of climate information view as useful information and what is needed to support on-the-ground, day-to-day decision-making.
- New, low-cost information and communication technologies are advancing solutions to make weather and climate services more easily available to climate vulnerable individuals and communities.
- ACPC is leading a range of initiatives to drive new innovations to help get climate information into the hands of, and used by, individuals and communities whose livelihoods rely on weather-dependent resources.

With high vulnerability and low adaptive capacity, Africa – despite having barely contributed to climate change – is set to bear a disproportionate burden of the impacts. An increase in severe droughts, floods and storms are expected to threaten its people and economic growth as a whole.

Across the continent, it is individuals and communities whose livelihoods rely on weather-dependent resources that will be at the frontline of an increasingly variable and changing climate.

Timely, accurate and reliable climate information services are a useful tool for building the adaptive capacities of local communities and reducing vulnerabilities. However, translating scientific climate information in a way that is locally relevant, packaged up in a user-friendly way and delivered in the right language is an ongoing challenge; a mismatch remains between what producers of climate information view as useful information and what is needed to support on-the-ground, day-to-day decision making.

Since climate information is often not in the format that communities are able to understand, uptake and use of climate information services at the local level is low. This marks a missed opportunity for coping with climate risk, or capitalising on emerging opportunities for climate sensitive activities to become more efficient and productive.

Harnessing a sea change in technology to drive innovative solutions

But the climate information landscape is changing. New, low-cost information and communication technologies are advancing solutions, enabling Africa to embrace innovations that are making weather and climate services more easily available to and useable by climate vulnerable individuals and communities.

ACPC African Climate Policy Centre
United Nations Economic Commission for Africa


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The upward spiral in mobile phone usage and social media channels such as WhatsApp, Viber, Twitter and Facebook are transforming the way climate information is shared. New weather systems can be integrated with these platforms that can disseminate information, alerts and warnings.

The Internet of Things (IoT) is a further example of how technology is reshaping climate information services across the continent. In simple terms, IoT refers to the growing number of devices – computers, mobile phones and sensors – that are connected to the internet and can gather, send and receive data with extraordinary reach and precision. Using IoT, crops can be planted with a high level of accuracy - at the right time and in the right place – to maximise yields. Connected sensors can inform farmers of the exact amount of water, fertiliser and nutrients needed to optimise growth.

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Climate data can be collated and analysed in a much more powerful and cost effective way: mobile phones, for example, can be turned into weather stations through use of hundreds of tiny sensors, costing just a few dollars each.

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Convening an "ideas factory"

The African Climate Policy Centre (ACPC) of the United Nations Economic Commission for Africa (UNECA) is tapping into the opportunities presented by this emerging landscape. Under the Weather and Climate Information Services for Africa (WISER) programme, ACPC is promoting technological creativity, entrepreneurship and innovations in the production, packaging, dissemination and uptake of climate information services at different levels of decision making and utility.

One strand of this initiative is in the shape of an "ideas factors" – a forum bringing together African entrepreneurs and innovators to develop proposals on how climate information can be used to support vulnerable individuals, households and communities to tackle climate uncertainty and risks.

The innovators are encouraged to develop ideas that would enhance the processes of production and uptake of climate information services in Africa around themes such as tackling 'last mile' challenges that explore how data moves from

source to reach end users. Or gender-sensitive solutions that recognise that men and women use and receive climate information differently: new Information Communication Technologies (ICTs) can only be effective tools for sharing climate information if they work for women as well as men.

The proposals were assessed in line with criteria including whether the innovation is easily actionable and applicable to the field, or whether the project can be easily scaled up.

Targeting Africa's vibrant youth

In particular, the initiative seeks to engage Africa's youth. With entrepreneurial spirit, brains and technical know-how, they have all the skills needed to devise novel ways of applying knowledge of climate information services. Part of this is shaking off perceptions that climate information is the domain of scientists and meteorologists who grapple with mountains of complex climatic data for mapping and spatial modelling. The initiative highlights that Africa's educated, entrepreneurial youth are using new technologies to make an active contribution to addressing the climate change problem – and encourages other to do the same.

From a pool of almost sixty proposals, the best-ranked from a shortlisted six explored the 'Role of mobile applications in collecting, documenting and disseminating integrated weather and climate forecasts for farmers: The case study of Ada East District in Ghana'.

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In his case study, Gbangou Talardia asserts how changing weather and climatic conditions are impeding farmers in West Africa from making optimum planning decisions which is preventing them from meeting food and income security. He proposes generating water information services that combines local forecasting knowledge (LFK) with scientific forecasts to create an integrated forecasting system. In particular, this information would empower small-scale farmers to make better-informed decisions about planting and harvesting. While scientific forecasts are becoming widely available, upscaling LFK remains a challenge. Accurate forecasts can only be developed by drilling down into in-depth knowledge from local communities.

Talardia describes how a user-friendly android mobile application is used to collect and document LFK, and integrate it with other forecasts for dissemination. The process involves in-depth interviews to understand the structure of LFK and assess farmers' forecasts information needs in line

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with their cropping calendar decisions. It also sets out measures for upscaling the approach and ways to track and test uptake by farmers.

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The results show that LFK indicators are diverse, falling mostly within weather timescales of two weeks and must be complemented with scientific forecasts for longer timescales. Leaving out the affordability of android phones, even low-literate farmers could understand and co-produce forecast information using the mobile application, provided that it has basic features, such as voice message in local dialect, and consensual visualisations.

In collaboration with partners, ACPC will channel the selected climate information services innovations towards grants that can be used to further develop the innovations and catalyse their application in tackling climate challenges for communities at risk.

Innovations in climate information services: a community of practice for knowledge sharing and learning

ACPC is in the process of establishing a community of practice for climate information services innovations to serve as a discussion platform for knowledge sharing and learning. The centre's network of partners will inform the development of a strong support network to share experiences, insights and understanding in climate information services generation, uptake and use in Africa. The established community of practice can then be used as a forum to define processes for tackling challenges, identify solutions to common problems, evaluate various approaches, and determine best practices. The innovation proposal authors selected from the first call for climate information services innovation proposals in 2017 will form the starting point for developing the community.

Compendium of good practices

A compendium of good practices in climate information services innovations is also being compiled and will enhance knowledge and learning. This compendium will be hosted on the WISER portal on UNECA website for wider dissemination and continually updated to capture new best practices that are developed.

About WISER

The WISER policy and enabling environment component (PEEC) partnership has DFID as the development partner, while ACPC is the project manager responsible for all the pan-Africa implementation. ACPC however partners with institutions and experts to deliver on some of the outputs. These partners include WMO/AMCOMET, GFCS, ACMAD, UNITAR, IDEP, the CR4D oversight board, scientific advisory committee (SAC) and institutional collaboration platform (ICP) and now IIED.

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