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Where are the gaps in climate information services and how could the new climate agreement help to bridge that gap?

- ◆ Information and communication technologies (ICT) have transformed global economies - but this progress is yet to be seen in Africa.
- ◆ Recent advances in weather and climate services have come about not necessarily from the discovery of new science but from advances in affordable information and communication technologies that allow us to test complex scientific theories at a higher and deeper level than before; these technologies enable the production of robust climate information and services at affordable cost.
- ◆ In my view, one of the major barriers to advancing climate information services in Africa is a digital divide which boils down to the simple problem of ICT.
- ◆ This divide, as I see it, is due to a lack of three key elements: IT infrastructure which is critical for generating robust climate information, efficient communication platforms which are essential for dissemination and finally, knowledge of how to package up the information ready for use.
- ◆ Of these three elements, IT infrastructure is arguably the most critical. The delivery of climate information and services depends heavily on e-infrastructure consisting of High Performance Computing, data, data analytic tools, observing networks and networks of institutions.

- ◆ This infrastructure is now extremely cost-effective and much more widely available; these systems are low-hanging fruit ready for Africa to take advantage of.
- ◆ At COP 21, Africa must seek to leverage the various climate finance mechanisms in place to enhance access to these systems. This would dramatically strengthen climate information services delivery and help to keep the continent on track for further economic growth and development.

About ClimDev-Africa

The ClimDev-Africa Programme is an initiative of the African Union Commission (AUC), the United Nations Economic Commission for Africa (ECA) and the African Development Bank (AfDB). It is mandated at the highest level by African leaders (AU Summit of Heads of State and Government). The Programme was established to create a solid foundation for Africa's response to climate change and works closely with other African and non-African institutions and partners specialised in climate and development.

Africa Climate Policy center
 United Nations Economic Commission for Africa
 Menelik II Road, PO Box 3001 - Addis Ababa, Ethiopia
 info@climdev-africa.org
www.climdev-africa.org

Supported by:



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Q&A

Climate information services: supporting Africa's development



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Climate information services – the packaging and dissemination of climate information to specific users – are vital in supporting Africa's response to climate change. With robust climate information, Africa can safeguard the economic gains and advances in social development seen across the continent over the last decade.

Joseph Instiful, Senior Climate Science Expert at the African Climate Policy Centre (ACPC) discusses the links between climate information and Africa's development, identifies the barriers in generating high quality climate information and explains why means to strengthen ICT infrastructure must be high on the agenda at COP21 in Paris.

1 How do climate information services support Africa's development agenda?

- ◆ Africa's core economic sectors are highly vulnerable to the impacts of climate variability and change. Taking agriculture as an example, the sector contributes to around 30 per cent of GDP and employs up to 80 per cent of the population.
- ◆ Climate observing systems show that rainfall in Africa is becoming increasingly erratic and since more than 90 per cent of our agriculture is rainfed, this sector stands to be one of the hardest hit by climate variability and change.
- ◆ Unless we have a strong, scientific understanding of the impacts of these changing weather and climate patterns on our vital sectors – and how this will change in the future – Africa's sustainable development agenda is at risk. On the flipside, with effective climate information services, our climate-sensitive sectors will be able to cope better with increased variability, bringing greater agricultural and other productivity while building resilience and improving livelihoods across the continent.
- ◆ The provision of climate information services involves collating, analysing, packaging-up and distributing climate data on variables such

as temperature, rainfall, wind, soil moisture, ocean conditions and extreme weather indicators. With high-quality data tailored to their needs, farmers can plan what to plant and when; armed with accurate data and analyses, policymakers have the information they need to make properly informed decisions. Meanwhile, governments are much more likely to integrate climate policies incorporating demand-led, evidence-based information into economic and development planning.

- ◆ So, across the board, from local to government level, access to robust climate information services is critical if Africa is to maintain growth and continue along its development pathway.

2 How are climate information services building resilience in Africa's key economic sectors?

- ◆ One of the impacts of climate change is variability of rainfall patterns - the onset of rains is shifting while their duration becomes increasingly unpredictable.
- ◆ Accurate and accessible rainfall information helps farmers decide not only when to plant and harvest, but when to dry the crops and look out for the outbreak of pests and diseases that can ruin yields. Working with information in this way, farmers increase their chances of boosting productivity and avoiding post-harvest losses.
- ◆ In the changing climate, extreme weather events such as storms, droughts and flooding are also increasing in frequency and intensity. In the case of heavy rainfall, climate information can predict the intensity of the rainfall and which areas will be hardest hit. It can also indicate whether vital infrastructure – such as roads and communications systems, essential for market access – are likely to be impacted.
- ◆ Climate variability also presents challenges for Africa's energy sector. Ghana's Volta Lake, which is part of the trans-boundary Volta basin of West Africa, for example, generates hydroelectricity to meet the region's food and energy needs as well as powering agricultural production. Increasingly, low water levels in the basin's dams threatens food, water and energy security, while irrigation demands cannot be met. A severe drought in 1984 had particularly

devastating effects on the region, leading to huge losses in revenue and employment.

- ◆ Climate information services can help governments prepare for these kind of events in the immediate term, such as putting measures in place to tackle the strain on vital resources. Over the longer term, reliable climate information can guide governments in how to invest in infrastructure that is located, designed and built in light of the current and changing climate.

3 How are climate information services tailored to meet the needs of the end user?

- ◆ Over the last 30 years, significant efforts have gone into establishing Regional Climate Outlook Forums (RCOFs) which are focussed on delivering user-relevant climate information.
- ◆ The RCOFs, active in several parts of the world, provide a platform for users and producers of climate information to discuss the types of climate information needed to produce specific information products, or data needed to serve a particular region or sector. Working together, they co-produce information that meets the needs of the end user. These include practitioners and decision makers from a range of sectors including agriculture, water, energy, health, disaster risk reduction and communications.
- ◆ Information products developed at the regional level are customised for users at the national level. The information is then fed back to National Meteorological and Hydrological Services (NMHS) to be refined further through the National Climate Outlook Forums (NCOFs).
- ◆ This collaborative approach was pioneered in East Africa at The IGAD Climate Prediction and Application Centre (ICPAC) and has been scaled-up for use worldwide. This was a major contribution from Africa in the development of climate information services.