A brighter forecast for food security

The Strengthening Climate and Information Partnerships – East Africa (SCIPEA) project has helped harness climate forecasts to identify food security hotspots across the Greater Horn of Africa. The forecast is helping food security analysts, as well as saving lives.

Food security means having access to enough food to lead an active and healthy life. Being able to anticipate food security accurately is vital for governments and authorities, as it enables them to predict shortfalls in food supply and put measures in place to prepare. In areas where drought and economic instability are a regular threat, this can literally mean the difference between life and death.

Supporting authorities and decision makers
The Food Security and Nutrition Working Group (FSNWG) is a regional platform providing up-to-date food security and nutrition situation analysis and early warning. FSNWG serves regional government, donor, and non-governmental organisations (NGOs). Current membership includes about 80 organisations including UN agencies, NGOs and donors, and each month FSNWG members meet to receive briefings on current food security conditions.

From markets and trade to livelihoods and tradition, the network relies on a wide range of data to make predictions and advise on food security. Climate forecasts are crucial, and as part of SCIPEA, FSNWG and the IGAD Climate Prediction and Applications Centre (ICPAC) have worked together closely to tailor seasonal climate forecasts that are better designed to inform food security.

"Our main challenge in forecasting food security has been interpreting and making the best use of climate information," explains Jasper Batureine Mwesigwa, a PhD

student at the University of Nairobi, who is involved in food security early warning with FSNWG and the Famine Early Warning Systems Network (FEWS NET).

Joined up thinking

Forecast information is most effective when it is tailored to the specific needs of the user. User-tailored information products are not widely available and so, working with users, SCIPEA developed prototype customised forecast services which were then trialled. Bringing together meteorologists and end users operating in the region as a whole as well as at the national level in Uganda, Kenya, Ethiopia and Tanzania, the project was designed to join up the National Meteorological and Hydrological Services (NMHSs) with the regional centre, ICPAC. This would enable more frequent forecast updates and the co-production of forecasts with users to make sure everyone had access to the best possible, most relevant information.

The Met Office, the UK's national weather service, led the SCIPEA project from the start. "It's in our mandate to enable this kind of collaboration," says Tracy Small, Business Manager at the Met Office. "Strengthening services in countries like these benefits us all, as it correlates directly with prosperity, improved life chances and mortality rates."

Listening to users

To make sure SCIPEA delivered to end users' needs, the project set up Service Development Teams to assess what organisations like FSNWG wanted from climate data and forecasting, and determine how ICPAC and the NMHSs could go about meeting those needs. They could then start to provide customised services, providing end users with data and predictions of particular relevance to them.

Jasper was involved in one of the Service Development Teams, working with agencies including the Food and Agriculture Organization (FAO), CARE International and UNICEF to assess FSNWG's needs and report back to SCIPEA. "Tailored climate services are essential for forecasting and projecting food security both in monthly and seasonal timescales," he explains.

The work highlighted the need for regular updates to the seasonal forecast, produced on a monthly basis, and for the forecasts to contain information directly related to food security. As a result, SCIPEA developed and trialled new ways of looking at

climate forecasts, including judging the impact of poor rain performance across two consecutive seasons.

The new trialled forecasts have already contributed to life-changing actions in the region. As they are updated every month, the repeated nature of the message meant that NGOs and agencies reacted more quickly to any perceived challenges. As Jasper says: "FSNWG's October/November 2016 drought alert used information from working sessions with SCIPEA. It helped make our messaging more credible and contributed to governments, humanitarian and other partners responding in a timely manner and preventing the worsening food security conditions from reaching famine levels as during the 2010/11 drought in this region. The lives and livelihoods of vulnerable communities were saved."

Taking the short and long view
Both long-term and short-term forecasts are essential for making decisions around food security. Long-term forecasts can help to answer strategic questions, such as what type of seeds or varieties should be planted and how much land should be reserved for crop production. Meanwhile, short-term, regular forecasts are useful for making tactical decisions, such those concerning the timing of planting, irrigation and weed control.

During the SCIPEA project, Jasper led a community-based climate services programme that packaged and disseminated tailored climate information to vulnerable communities across Kenya, supplying them with long-term information. "The communities that embrace these kinds of initiative see a substantial improvement in crop yields," says Jasper, highlighting the fundamental difference that reliable information can make.

The systems, partnerships and technology now in place will make a fundamental difference to predicting and averting catastrophe in the future. "With climate forecasts becoming increasingly more reliable, food security forecasting is going to be easier," says Jasper, "and analysts will produce more reliable and regular outlook reports."

Preparing the ground for the future
SCIPEA has left a legacy that will shape food security and resilience for years to come. Jasper believes that the groundwork has been put in place for more sector-focused climate services, such as tailored forecasts for agriculture that cover seasonal characteristics, for example the length of growing period and severe weather warnings. It will enhance food security in communities across the region, which is something that Jasper is very keen to see. As he says, "It would give me a lot of pleasure to witness at least one currently vulnerable community transforming itself into a resilient, self-sustaining and developed community before I retire."

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