

Climate information is power

Improved planning for greater food security

Climate variability affects food security directly, as a result of failed or bumper harvests, and indirectly, for example when flash flooding damages a road vital for access to markets. To what extent does climate variability figure in the decision-making that underpins plans to cope with threats to food security? Research commissioned by CCAFS, and coordinated by the International Research Institute for Climate and Society at Columbia University in New York, is seeking both to understand how decisions are made and how incorporating information about climate variability might result in more useful plans.

Watching the decisionmakers

In Ethiopia, researchers partnered with the National Meteorological Agency to help clean the historical data from a sparse network of weather stations and merge the clean data with 30 years of satellite data for all of Ethiopia. The result is a new dataset and maproom interface that allows non-experts to point and click for a detailed analysis of past, present and seasonal predictions for a small local area. In order to tailor the tools to address Ethiopia's key challenges, researchers followed 300 decision makers at all levels of the administration for about six months tracking the information they received and what they did with it. A similar study in partnership with the United Nations Development Programme (UNDP) is under way in Cambodia.

The task now is to use the knowledge gained in order to ensure that decision makers receive information in a form that they can and will use. A stronger evidence base can empower decision makers to use their current tools more effectively, and strengthen their planning processes.

Unlocking data for more useful models

Many countries that would benefit from better planning have patchy data collection and underdeveloped modelling skills as a result of inadequate investments in equipment and human resources. That in turn jeopardizes tailored forecasting. But efforts by external experts to 'improve' data and models require

careful handling and may set in motion a spiral of decline: already under-resourced organizations don't share data because they fear criticism, while the failure to share undermines their case for more resources, and hurts planning.

CCAFS partners are tackling the problem in two ways. Under the aegis of the International Rice Research Institute, workshops are bringing together people from a broad range of organizations to create networks of positive relationships and break free of the prevalent 'bunker mentality'. Sharing best practices is also empowering. The Philippines, for example, leads the way. Analysts from the government's Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) work with the National Nutrition Council, UN agencies and other stakeholders to evaluate the risks of cyclones, droughts and other weather-related events in their planning. Sharing data and bringing in additional sources of information in this way has enabled the Philippines to develop contingency plans that ensure food stocks will be available to the right people in the right places and at the right price. Other countries may adopt similar open approaches as they become aware of the benefits.

Going global

Planners can benefit from models to help identify which people might need help, when and where. At the moment there are crop models of agricultural productivity, which make use of climate data, including forecasts. There

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are also economic models, which use agricultural production and other data to simulate impacts on markets and prices and how the changes in food prices might affect people's ability to buy enough food. Neither type of model fully integrates information on climate variability yet.

CCAFS is bringing together organizations that create these different models to see how they can be integrated end to end, from the weather that affects growing conditions to the impact of food prices on individual families. Investigating the linkages between these models highlights information gaps and motivates organizations to close them with new research or additional data collection. It also helps to make the data useful at a larger scale. For example, CCAFS has been invited by the Food and Agriculture Organization (FAO) to join a group that provides technical advice to the Integrated Food Security Phase Classification (IPC, see box).

Different kinds of problems require different kinds of solutions, and good, integrated models can help to ensure the most efficient allocation of scarce resources. Without such models and the will to use them, plans to cope with shortfalls in food security are liable to fall short themselves.

The Integrated Food Security Phase Classification

Decisions, especially where they involve several partners, need to be based on a shared understanding, which requires a shared language. The Integrated Food Security Phase Classification (IPC) uses common terms and a standardized scale to describe food insecurity and to highlight places and populations in need of an emergency response. The IPC integrates food security, nutrition and livelihood information into five phases of increasing severity:

- ▶ Phase 1: No acute food insecurity
- ▶ Phase 2: Stressed
- ▶ Phase 3: Crisis
- ▶ Phase 4: Emergency
- ▶ Phase 5: Catastrophe

The IPC relies upon a combination of food security and nutrition indicators. Seasonal climate forecasts, based upon historical weather patterns and climate model outputs can provide early warning of possible changes in food supply, helping international relief agencies to plan and respond effectively.

Countries use the IPC at smaller scales, to help them plan local and regional responses. When local resources are scarce, the call goes out to a regional, national or, eventually, international level. Integrating climate information into the IPC process could help to ensure that disaster risk reduction plans and investments are based on a more accurate assessment of threats to food security.

To find out more about empowering decision makers with climate information, please visit <http://ccaafs.cgiar.org/climate-informed-decision-making> or email us through ccaafs@cgiar.org



Photo: N. Palmer (CIAT)

About CCAFS

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and earth system science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security. www.ccaafs.cgiar.org

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