

A global baseline for changing farming practices

CCAFS baselines compare patterns and trends in 25 sites around the world.

Tracking change is how you stay on the path to a goal. That's why the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) wants to measure how agricultural practices are evolving in response to climate change and other pressures. In 2010-2011 CCAFS worked with local partners to organize a series of surveys and consultations at 15 sites in East Africa, West Africa and South Asia — every region where CCAFS was working at the time. In 2014, new CCAFS sites in Southeast Asia and Latin America were included.

The studies establish a baseline: a profile of farmers' practices at each site. This initial round of research uncovered some very interesting

trends: for example, across East Africa 55% of farming households had introduced a drought-tolerant crop variety in the previous 10 years, but only 10% were trying to store or manage water. Whereas changing practices in Africa were largely climate-driven, South Asian farmers were more likely to report making adjustments linked to markets and economic forces. The baselines show that women play a central role in adaptation, receiving more weather information than men in Kenya, for instance, and raising most small livestock in Bangladesh.

CCAFS will revisit the same sites 5 and 10 years later to look for changes in livelihoods and farming practices. By exploring these evolving patterns, collaborative research-for-development programs can learn how to best support farmers and their communities. Understanding why certain practices are spreading, and the influence of key challenges such as climate change, can lead to more effective rural development pathways.

Fast facts

- ▶ Baseline data are being collected at 25 CCAFS research sites in East and West Africa, South and Southeast Asia, and Latin America.
- ▶ The baselines look at households, communities and the local organizational landscape, capturing the big picture of how farmers are changing their practices in light of climate change and other pressures.
- ▶ Comparing the results over time and space will show how farmers, communities and organizations are changing. With open access to all data and materials — and almost 6000 downloads from the project archive to date — other researchers, practitioners and local planners are already benefitting from this exhaustive resource base.

Crucial partnerships

The success of the baselines relies on local partner organizations and institutions implementing the studies at every site. The work has given CCAFS an opportunity to reach out to important local players, and the relationships established here have become long-term partnerships moving well beyond the baseline work.

Baselines for what?

Normally, baseline data are collected at the beginning of a project so that the future impacts can be measured against the situation beforehand. In other words, it serves as a benchmark for project success. In the case of the new CCAFS baselines, however, the goal is not to attribute changes to a particular intervention. Instead, the studies simply observe the changes and gauge whether farmers' resilience is rising or falling. This will help to prioritize future research, and will also support partner relationships. Partners and colleagues from other organizations are working alongside CCAFS at all the survey sites, and all are part of the big picture of research for development. Thinking in terms of contribution, rather than attribution, is key.

Three-level baselines

In each region, our partners roll out a triple set of studies for households, communities and organizations. The household survey asks families how they have changed their farming practices and why. It notes contextual factors such as their household assets, information sources and social support, and looks for food insecurity and other signs of stress as well as differences between female- and male-headed households.

At the village level, researchers elicit a community's view of the local resource base, organizational and information networks, and collective hopes and concerns for the future. "Farmers share resources like soil, water, forests, markets and infrastructure, so we don't want to just talk to them individually," explains Carlos Barahona, a statistician at the University of Reading, where experts developed the baselines in collaboration with CCAFS. A third study of organizations working in the area — local government agencies and development NGOs, for example — measures the supply of information and services related to climate adaptation and also social inequality. The organizational survey assesses whether climate change work is prioritized and budgeted for in local agendas, and whether women and vulnerable groups are specifically targeted.

Once the three studies are combined and then repeated 5 and 10 years down the road, says Barahona, "it will offer a before-and-after photo of the conditions and capacity of farmers, communities and institutions to face the challenges of climate change." All together, the first 15 baselines in Africa and South Asia included 2,095 households and 150 organizations; 10 more baselines are being added in Latin America and Southeast Asia.

To enable comparisons across regions, the baseline studies are broadly framed but designed for rigor and quality. Teams on the ground select survey areas that can also be assessed via satellite photos, and the current wave of surveys is collecting data digitally with smartphones. Replicating this degree of thoroughness over 25 sites in 19 countries is time-consuming and expensive, but worthwhile. Over time, the studies will paint a much more complete picture of development trends at these sites — and identify trouble spots to target.

"A treasure trove of information"

The baselines are also a major windfall for researchers and practitioners outside of CCAFS, according to Barahona. The entire project is open access — the raw data, the questionnaires, the training manuals, and the computer scripts used for data processing. CCAFS has encouraged partners to "steal with glee" these very useful materials, and the data archive is starting to be mined in academia, where such large-scale data sets are rare.

A joint study out of Columbia University and CCAFS, for example, reported that farmers who receive weather forecasts are more likely to have taken adaptive measures. For developing countries that are starting to prioritize climate information and services, this result helps to confirm they are making a good investment.

"It is a treasure trove of information," says Barahona. "It's rigorous, it's multi-site, it's coherent in terms of methodology across sites. And if the same sites are visited again in the future, it has the potential to be a very interesting longitudinal study."

To access the baseline data online please visit:

www.ccafs.cgiar.org/baselines

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.ccafs.cgiar.org

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