Data is much more than simply information: in expert hands, it is intelligence.

The rapid growth in processing power and global connectivity means we can now quickly collect, share and analyze enormous amounts of data and turn it into recommendations that can be of use to farmers and policymakers.

Applying these “big data” approaches to agriculture promises to find new ways to reduce hunger and poverty, and develop robust responses to challenges such as climate change, pest and disease outbreaks, and land degradation. It could help reduce some of the daily risks farmers in developing countries face, enabling them to thrive.

The CGIAR Platform for Big Data in Agriculture is a global leader in this effort. It aims to positively disrupt agricultural research, helping to generate impactful big data innovations that can revolutionize farming in developing countries.

It provides global leadership in organizing open data, convening partners to develop innovative ideas, and demonstrating the power of big data analytics through inspiring projects. It helps ensure that the data revolution is deep, diffuse and democratic, reaching the most vulnerable farmers.

As the largest network of agricultural research organizations in the world, CGIAR is uniquely positioned to be a thought leader and global convener on the use of big data and information technology in agriculture.

The CGIAR Platform for Big Data in Agriculture is where information becomes power: power to predict, prescribe, and produce more food, more sustainably. It democratizes decades of agricultural data empowering analysts, statisticians, programmers and more to mine information for trends and quirks, and develop rapid, accurate and compelling recommendations for farmers, researchers and policymakers.
Impacts by 2022

The Platform aims to increase the impact of agricultural development by embracing big data approaches to solve development problems faster, better and at greater scale than before.

The Platform focuses on opening up and sharing agricultural data, demonstrating that CGIAR is able to hold in trust and deliver data-related global public goods. In this way CGIAR will become a broker of big data information, actively promoting data-driven agricultural development.

The Platform will also work to develop novel methodologies and innovative pilot projects to increase the impact of its community or researchers and analysts. It will establish non-traditional partnerships to bring together institutions with complementary big data expertise, connecting CGIAR scientists to a global network of big data practitioners and developers, expanding the delivery capability and horizons of CGIAR research.

The expected outcomes of the Platform include:

- Greater data and knowledge sharing across the CGIAR - by reducing barriers to information access and reuse, the Platform will democratize information availability and use, to help farmers and policymakers make reliable, informed decisions.
- Foster a culture of open access publishing and data sharing across CGIAR centers and partner organizations
- Recognition of CGIAR as a global thought leader on big data in agriculture and development.

Rice in Colombia

By analyzing crop and climate data from the country’s Environmental Studies, and from the rice growers’ association, Fedearroz, CIAT scientists predicted the likelihood of failed rains in the northern department of Cordoba.

They shared the insights with Fedearroz, who advised 170 rice farmers not to plant.

The analysis was correct; the rains didn’t come. Had farmers sown at the usual time, they would have faced potentially catastrophic financial losses on seeds, fertilizer, labor and other inputs. Instead, they skipped a season, producing a good harvest a few months later.

Central to the success of this work was free, open access to large amounts of crop and weather data combined with data mining approaches. It enabled researchers to spot the main limiting factors of crop productivity at a site-specific scale, combine it with weather predictions, and get the information to farmers in good time.

Photo credit: Neil Palmer/CIAT
Where We Work

The CGIAR Platform for Big Data in Agriculture is global. It connects experts all over the world to tackle stubborn agricultural challenges across the developing world, from Africa and Asia to Latin America and the Caribbean.

Research

The CGIAR Platform for Big Data in Agriculture focuses on providing support to member centers of CGIAR – the world’s largest network of agricultural research organizations - and its key partners, to improve the way data is generated, stored, shared, analyzed and turned into precise and reliable recommendations for farmers and policymakers.

Organize

Support and improve data generation, access, and management in CGIAR

The Platform embraces the power of big data analytics, supporting CGIAR as it becomes a leader in generating actionable data-driven insights for stakeholders. It builds capacity throughout CGIAR to generate and manage big data, assisting CGIAR and its partners’ efforts to comply with open access and open data principles to unlock important research and datasets. It empowers researchers to strengthen data analytical capacity, developing practical big data tools and services in a coordinated way. And it addresses critical gaps, both organizational and technical, expanding the horizon of CGIAR research.

Convene

Collaborate and convene around big data and agricultural development

The Platform empowers CGIAR and its community to deliver on the potential of big data to deliver results for smallholder agriculture. It develops ambitious external partnerships, bringing together big data practitioners with global private sector brands, local start-ups, universities, and others to facilitate collaboration and ideation. It convenes an annual big data in agriculture conference, bringing key actors to CGIAR to generate innovations and democratize big data opportunities. And it builds capacity internally and externally on big data approaches in agriculture, developing communities of practice that will encourage interaction and further engage a range of actors to produce new ideas to solve development problems.

Inspire

Lead by example and inspire how big data can deliver development outcomes

The Platform demonstrates the power of CGIAR big data analytics through “Inspire” projects that solve development challenges at the core of our mission. It challenges partners, universities and others to use our data to create pilot opportunities that scale. It shows the power of big data analytics and ICTs to provide unprecedented multi-disciplinary data to researchers, delivering actionable information to farmers and inspiring others to use big data to create impact. And it provides venture capital that funds novel approaches, democratizing big data to include smallholder farmers and monitoring the state of agriculture and food security in real time to inform critical national, regional and global policies and decisions.
The CGIAR Platform for Big Data in Agriculture aims to harness the capabilities of big data to accelerate and enhance the impact of international agricultural research. The six-year initiative provides global leadership in organizing open data, convening partners to develop innovative solutions, and demonstrating the power of big data analytics through inspiring projects that focus on improving agriculture in developing countries, and informing policymakers. www.bigdata.cgiar.org

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