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Data: the next revolution for agriculture in ACP countries

Introductory remarks, Michael Hailu, Director of CTA

Excellencies, Ladies and Gentlemen,

I am very pleased to be here to discuss such an interesting and looking forward issue for the future of agriculture which brings together knowledge, policy, technology.

Despite the key role of agriculture as economic sector, serious weaknesses persist in the measurement of agricultural outcomes and in our understanding of the factors hampering agricultural growth among smallholders. While governments and donors target agriculture for large-scale investments with ambitious goals of raising agricultural productivity, little is done to ensure that accurate statistics are produced to monitor agricultural growth.

Agricultural statistics continue to suffer from poor quality, lack of relevance, insufficient funding and little use in national policy dialogues and the poorest countries – for which agriculture is a critical source of livelihood – often have the poorest data in quality and scope, being least able to direct their limited resources into improving the quality of their statistics to be able to inform policies.

Today, however, the increased volume, velocity and variety of data used across the economy, and more importantly their greater social and economic value, signal a shift towards a data-driven socioeconomic model. In this model, data are a core asset that can create a significant competitive advantage and drive innovation, sustainable growth and development.

Data has become a key asset for the economy, as important as human and financial resources. Whether it is geographical information, statistics, weather data, research data, transport data, energy consumption data, or health data, the need to make sense of "Big data" is leading to innovations in technology, development of new tools and new skills. These data hold the potential—as yet largely untapped—to allow

decision makers to track development progress, improve social protection, and understand where existing policies and programmes require adjustment. Whereas in previous generations, a relatively small volume of analog data was produced and made available through a limited number of channels, today a massive amount of data is regularly being generated and flowing from various sources, through different channels, every minute.

The “traditional data” (official statistics and survey data) will continue to generate relevant information, but the phenomenon of big data - where information comes from different sources ranging from connected devices to sensors and GPS - offers enormous potential to develop innovative products and services. Turning Big Data into actionable information is key. Even if the potential of data revolution might increase the digital divide between developed and developing countries, we should also think about the spread of mobile phone technology to the hands of billions of individuals which is the most significant innovation that has affected developing countries in the past decade. Across the developing world, mobile phones are used daily to transfer money, buy and sell goods, and communicate information including test results, stock levels and prices of commodities. The numbers of real-time information streams and people using social media are growing rapidly in developing countries as well.

Precision agriculture has been devised for industrialised farms but could also increase the yields of smallholder farmers and is already present in some African countries. GPS-equipped sensors on tractors, for example, enable farmers to measure and respond to soil variability across vast tracts of land, and dispense the right amounts of fertiliser and water exactly where it's needed. For example, new devices can be used to measure the health and nitrogen status of plants, enabling farmers to make more precise assessments of fertiliser requirements or irrigation needs to reduce waste. With evidence that precision agriculture techniques can work, the challenge is creating appropriate enabling environments to encourage take-up.

Implications for policy-decision making

The lack of up-to-date research on survey methodologies has led to serious gaps in the existing knowledge base, limiting the identification and promotion of effective policies. Statistical systems for agriculture also lack integration, limiting the utility of the data for examining linkages between agriculture and key issues such as poverty

or nutrition, as well as linkages between socioeconomic variables and environmental conditions. In order to better inform agricultural policies, multisectoral and integrated approaches are needed.

With accurate information, investor confidence grows. With confident investors, money flows and that's when real, sustainable development happens. Information is power, but ask any trade minister trying to promote his or her country without adequate data, and you will understand lack of information is powerlessness.

With new technologies becoming increasingly available at relatively low costs, more rigorous research is needed to create and promote improved, cost-effective standards in agricultural statistics. The digital revolution can assist in offering more efficient and cost-effective ways to capture the complexity of agriculture.

We strongly believe that governments, private sector, donors and farmer organizations should work together to harness the opportunities that data revolution offer for African agriculture and in support of small-scale farmers.

CTA focus on data revolution

ICTs, Knowledge management and data are at the core of CTA's works and interventions. Data cuts across everything CTA works.

Collecting and processing data and turning them into information, using data and making them open for others to use and re-use is an indispensable investment to get information for actionable data by policy-makers and it is something CAT has been doing in the last 30 years. Therefore, we believe that we should seize the new opportunities offered by the data revolution and contribute with our work towards increased benefits for farmers in the ACP regions.

You will see a range of publications and materials. We are also actively participating to the Open Data Week:

- Monday we have finalised our agreement to support the participation of ACP countries in the Global Open Data for Agriculture and Nutrition initiative. This G8 originated group has over 100 members working to benefit agriculture through opening government data and using global open datasets for the benefit of smallholder farmers

- Tuesday we launched the ICT UPDATE on Data revolution (you have in your folders) with stories ranging from nutritionists arguing for better data to fisheries organisations explaining how they see mobile apps improving fish catch data.
- Today the Briefing brings together a diversity of perspectives covering the massive opportunities and challenges that a rapid growth in data brings to agriculture. Our discussions here are webstreamed across the ACP and we are making a special effort to reach ACP media and the youth through social media with the help of our team of interns.
- Thursday the results of research commissioned by CTA on the impact of open data for agriculture will be published.
- Friday we publish and promote the findings of a Caribbean study on open data awareness, availability and use.
- Saturday is open data day and we are trying to finish an open data hack to link CTA document collection to FAOs Agrovoc and Geocodes to provide map navigation through our close to 50000 documents.

I look forward productive exchanges on concrete actions to move forward.

I wish you fruitful discussions today.