



Agriculture

Enhancing food security is a daunting challenge, specifically for regions with rapidly increasing populations, like sub-Saharan Africa. DG harnesses data to better understand agricultural, economic, and market systems, which helps decision-makers know when, how, and where interventions can support farmers.

Development Gateway: An IREX Venture

Development Gateway: An IREX Venture (DG) is an international non-profit organization with staff and consultants based in more than 10 countries worldwide. For more than 20 years, DG has researched data ecosystems, built technical tools, and advised on data strategy to strengthen data-driven decision-making. In addition to data and digital tools, we have expertise in [agriculture](#), [health](#), [aid management](#), [data strategy](#), [extractives](#), [information management systems](#), [open contracting & procurement](#), and beyond.

Visualizing Insights on Fertilizer for African Agriculture

Sub-Saharan Africa (SSA) has the lowest fertilizer usage in the world—insufficient to replace soil nutrients lost every year to crop production. To maintain agricultural productivity and sustain farmers, both the government and the private sector in Africa need to better collect, analyze, and use relevant data to encourage fertilizer use. Since 2017, the Visualizing Insights on Fertilizer for African Agriculture (VIFAA) program has been addressing key data gaps at both country and regional levels in partnership with AfricaFertilizer and Wallace & Associates, with support from the Bill & Melinda Gates Foundation. DG initially developed dashboards for Kenya, Nigeria, and Ghana's fertilizer markets and has since expanded to Senegal, Zambia, Malawi, Mozambique, and Ethiopia. [AfricaFertilizer.org](#) supplies trade, production, consumption, and price data for 13 fertilizer products across nine countries, along with cross-country comparison features, downloadable data sets, and [an early warning system](#) to ensure sufficient fertilizers reach farmers in time for planting.

We work with communities and policymakers to identify gaps, encourage greater data use, and support agricultural stakeholders and decision-makers. Through visual tools, data landscaping, and guidance on data use, DG helps stakeholders see how and where investments in data, technologies, or interventions can support agriculture.

DG has made investments in AI and has formed a partnership with QED to map the croplands in Nigeria and Ghana. The generated data and maps are utilized to ascertain the overall cropland being used for production in these countries.

Visualizing Information on Seeds Using Technology in Africa (TASAI-VISTA)

Seed systems are the network of actors and institutions that facilitate a farmer's access to seeds. The formal seed sector focuses on breeding and evaluating improved varieties as well as producing, processing, and marketing certified seed. In the formal system, these activities and responsible institutions are all defined in the seed law and regulations.

From 2019 to January 2023, in partnership with The African Seed Access Index (TASAI), DG—through the VISTA program—worked to help decision-makers, public sector actors, development partners, and private sector businesses visualize and use data to support a fully functional formal seed system. The program has: digitized data collection tools as well as a validation and analysis platform, provided a dashboard that displays respective country and cross-country data, and revamped the existing website from which the respective dashboards are accessed. Explore the dashboard:

- [TASAI-VISTA Dashboard](#)

Cashew-IN Platform

Comprehensive and reliable data is required in order for cashew farmers, producers, processors, and others in the West African cashew sector to increase profits, reduce loss, and improve global competitiveness. DG has partnered with Cultivating New Frontiers in Agriculture (CNFA) under the USDA West Africa PRO-Cashew project to develop the Cashew-IN data collection and analysis platform. The project first identified gaps in the data collection, storage, usage and dissemination and is addressing these gaps through a multi-country cashew data management system (Cashew-IN) that will facilitate access to and use of data to improve decision-making for policymakers, farmers, and



the private sector. The ultimate goal is to generate better market outcomes for cashew nuts in the five implementing countries: Côte d'Ivoire, Benin, Burkina Faso, Ghana, and Nigeria. Learn more:

- [Press Release](#)
- [Cashew-IN Platform Demo](#)
- [The Cashew-IN Platform: A Deep Dive on Designing to Meet Stakeholder Needs](#)
- [The Cashew-IN Platform: An Assessment of the Cashew Sectors in Five Countries \(Part 2\)](#)

Digital Advisory Support Services for Accelerated Rural Transformation (DAS) Program

Since March 2022, DG has lead the Digital Advisory Support Program (DAS), funded by a grant from the [International Fund for Agricultural Development](#), to provide advisory support for IFAD-funded projects in Africa, the Middle East, and Central Asia around information and communications technology (ICT4D). DG delivers support in partnership with digital development experts, [Jengalab](#), and training and capacity-building leaders, [TechChange](#). The DAS Program is a demand-driven facility, providing customized support by drawing from a menu of options that include the delivery of ecosystem assessments, development of digital training modules, and production of guides to strengthen institutional ability to build, integrate, and sustain digital technology for agricultural development. The hope is that better use of technology within program design and implementation will have a trickle down effect by expanding food production and making it more efficient, thereby, increasing smallholder farmer income as a result.

- [Digital Agriculture Knowledge Management Portal](#)

DAI Farmer-Centric Data Governance

While much agricultural data is generated by farmers, it is generally gathered by others. Farmers rely on external resources, like weather data and proprietary tools that provide specific advisories (inferred from farmer data). Farmers are increasingly losing control over their data and the benefits of it. Meanwhile, other dangers exist with intermediation, opaque value chains and market mechanisms, and when infrastructures cease to be neutral. For farmers, the increase of data collection, storage, and use by third parties is of great concern in regards to ownership and governance, insufficient regulatory guidance, and literacy and capacity restraints.

Our objective in the DAI Farmer-Centric Data Governance Program was to demonstrate opportunities of emerging

user-centric models and actions required to create an enabling environment of socio-technical factors needed for implementation. Together with USAID, BMGF, and others, we now better understand what it takes to go from concept to actual change. We further aimed to:

- Raise awareness around the current data economy and implications of the status quo,
- Put farmer-centric data governance approaches on the radar of our primary stakeholders,
- Demonstrate purpose, value, and benefits (and challenges) of these emerging practices, and
- Identify if support for implementation is needed and in what form.

Learn more:

- [Farmer-Centric Data Governance: Towards A New Paradigm](#)

A Livestock Information Vision for Ethiopia (aLIVE) Program

In 2017, after recognizing that Ethiopia's agriculture sector faced many challenges that threatened food security, the country's Ministry of Agriculture (MoA) partnered with the Bill & Melinda Gates Foundation to transform the country's livestock data ecosystem. This was the first phase of the aLIVE program. During this phase, the MoA worked closely with the Livestock Investment Corporation (LIC) and International Center for Tropical Agriculture (CIAT) to conduct a landscape analysis which outlined: stakeholder needs, the state of the livestock data ecosystem, and led to the development of a [Livestock Information System Roadmap](#).

For the second phase of the aLIVE program, DG will lead the technology implementation of the Livestock Information System (LIS), a core product of the Roadmap. aLIVE focuses on five priority databases that serve the majority of use cases prioritized by the MoA: Disease Outbreak and Vaccination Report (DOVAR), Animal Disease Notification & Investigation System (ADNIS), Livestock Identification & Traceability System (LITS), Livestock Marketing Information System (LMIS), and the African Dairy Genetic Gain Database (ADGG). In addition to the development of LIS and ensuring interoperability of these databases, aLIVE will work closely with system owners and users to incorporate their needs and preferences to strengthen existing systems. The overall goal of this second phase is to increase the MoA's ability to manage, analyze, and use livestock data in its planning, policymaking, programming, and resource allocation by creating an improved LIS, strengthening data governance, and conducting related capacity building activities. Learn more:

- [Press Release](#)

Interested in learning more about our agriculture work? Reach out to Charlene Migwe-Kagume at cmigwe@developmentgateway.org and Beverley Hatcher-Mbu at bmbu@developmentgateway.org.