

Session 23:
Smart food production and digitization: How Caribbean agrifood entrepreneurs can use data and technology

Tuesday 17 November 2026 – 14:00-16:00 UTC / 10:00-12:00 AST

Online (Zoom)

Live interpretation in English and French

1. Context

The Caribbean remains one of the most food-import-dependent regions in the world. More than 60 percent of the food consumed in CARICOM is imported, and some Member States import over 80 percent. Between 2018 and 2020, the regional food import bill reached approximately US$13.7 billion, equivalent to about 15 percent of regional GDP. CARICOM Heads of Government responded with Vision 25 by 2025, and the region has made real progress. Regional food production grew by approximately 24 percent between 2022 and 2024, and the initiative has been extended to 2030 as Vision 25 by 2025+5, with a stronger focus on technology, investment and resilience[1].

Production gains alone have not yet closed the gap. CARICOM's own statistics show nominal food imports rising from US$3.49 billion in 2020 to US$5.12 billion in 2024, reflecting both price inflation and continued demand[2]. Regional producers must therefore become more productive and competitive, not simply produce more. They must also contend with high operating costs. Caribbean electricity prices average around US$0.25 per kWh, more than double those in the United States and exceeding US$0.40 in some countries[3]. Climate change compounds these pressures, as rising temperatures, erratic rainfall and extreme weather disrupt established production systems.

Against this backdrop, smart food production presents an opportunity to transform food systems across the region. Smart food production refers to the use of data, technology and innovative growing methods to make production more efficient, productive and resilient. Examples include precision agriculture, controlled environment agriculture, automated irrigation, and the use of weather and soil data to guide decisions. Digitization complements these approaches by using digital tools to manage farm and enterprise operations, track costs and yields, ensure traceability, connect with buyers and access finance. These tools range from mobile applications and digital records to sensors, satellite imagery, drones and artificial intelligence[4].

The regional policy environment is now aligned behind this agenda. In October 2025, CARICOM agriculture ministers endorsed a regional E-Agriculture Strategy. It supports Vision 25 by 2025+5 through six pillars: rural connectivity, precision agriculture, digital financial services, digital skills, e-commerce, and policy and governance. It places

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[1] CARICOM. 2026. "Food Security Initiative Delivering Tangible Results – CARICOM Assistant Secretary-General."
[2] Caribbean Issues. 2026. "CARICOM 25×25: The Caribbean Food-Import Reckoning."
[3] World Bank. 2022. "AskWBCaribbean: Talking Energy, Finding Solutions."
[4] World Bank. 2021. *What's Cooking: Digital Transformation of the Agrifood System*

particular emphasis on youth, women and agripreneurs[5]. For Caribbean agrifood businesses, the question is no longer whether to digitize, but which investments will deliver returns in a small-island operating environment.

2. Opportunities across the agrifood value chain

Smart food production and digitization offer a range of potential benefits for regional producers and other agrifood businesses.

Productivity and resource efficiency. Soil testing, moisture sensors, weather data and precision irrigation help producers determine when to irrigate and how much fertiliser and other inputs to apply, reducing input costs and production losses. Digital advisory services can provide timely information on crop selection, pest and disease management, and climate risks (World Bank, 2021).

Climate-adapted production. Greenhouses, hydroponics and other controlled environment systems give producers greater control over growing conditions, reduce water use and support a year-round supply of selected high-value crops to hotels, restaurants and supermarkets. Plentiful Harvest Farms in Jamaica illustrates this model. It opened a hydroponic greenhouse in 2024 to supply lettuce consistently to hotel and distribution buyers[6]. These systems are commercially viable only when their design accounts for local heat, hurricane exposure and energy costs.

Post-harvest quality, traceability and market compliance. For processors, aggregators and exporters, digital traceability, temperature monitoring in cold chains and electronic food safety records are increasingly required by supermarket, hotel and export buyers. Strengthening quality control and traceability is one of the main ways digital technologies add value beyond the farm gate[7]. These tools also support the regional sanitary and phytosanitary frameworks being implemented under Vision 25 by 2025+5.

Business management, finance and market access. Digital recordkeeping and enterprise management software allow businesses to monitor expenditure, yields, sales and profit margins. Reliable records also help businesses demonstrate their performance to lenders and investors. Online marketplaces, digital market information services and electronic payments can connect producers with buyers, improve price transparency and reduce transaction costs. These are areas explicitly targeted by the CARICOM E-Agriculture Strategy.

3. Constraints to adoption

Cost and energy. High upfront investment costs and expensive electricity limit adoption. Energy-intensive systems, such as indoor vertical farms, are particularly difficult to operate profitably without energy-efficient designs and renewable energy solutions.

Market size and after-sales support. The small size and remoteness of many Caribbean Small Island Developing States (SIDS) make it difficult to sustain viable business models for digital services and technologies[8]. Entrepreneurs face limited local technical support, delays in obtaining spare parts, and the risk of dependence on a single foreign vendor or subscription platform.

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[5] IICA. n.d. "CARICOM E-Agriculture Strategy." Observatory of Public Policies for Agrifood Systems (OPSAA).
[6] JAMPRO. n.d. "Plentiful Harvest Farms: A Hydroponic Farm Investment in Jamaica."
[7] World Bank. 2021. *What's Cooking: Digital Transformation of the Agrifood System*
[8] Commonwealth Secretariat. 2022. *The State of Digital Agriculture in the Commonwealth.*

Data. National agricultural statistics are largely absent in Caribbean SIDS. This limits the availability of weather, soil, price and production information on which digital tools depend. Questions of data ownership and competition among digital platforms also need attention.

Informality and finance. Many farmers, traders and MSMEs along Caribbean value chains operate informally, and less financing flows to agriculture in Caribbean SIDS than in other regions. Few financial products are specifically designed to support technology investments.

Connectivity and digital skills. An estimated 72 million rural people in Latin America and the Caribbean lack connectivity that meets minimum quality standards (IICA, 2024). IICA's research shows that young people and rural women are playing an important role in introducing digital technologies into family farming. Targeted support for these groups can therefore help accelerate wider adoption[9].

Technology adoption must be driven by a clear business case. More advanced technology does not automatically produce better results, and the right solution depends on the enterprise's scale, market and stage in the value chain.

4. The way forward

Unlocking the potential of smart food production and digitisation requires a coordinated approach that improves entrepreneurs' access to appropriate technologies, finance, technical support and skills development, while strengthening collaboration between public and private sector stakeholders.

This webinar will bring together Caribbean agrifood entrepreneurs who have adopted smart production and digital technologies, alongside experts working to strengthen the enabling environment for their uptake.

The objectives of the webinar include:

1. Sharing practical experiences, business benefits and lessons learned from technology adoption.
2. Exploring affordable and commercially viable technological solutions for agrifood MSMEs.
3. Identifying the support, partnerships and enabling conditions needed to accelerate adoption across the Caribbean.

[9] IICA. 2024. *The Key Role of Women and Youth in Digital Technology Adoption in Rural Areas of Latin America and the Caribbean.*

IICA-COLEAD
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Moderation: *Allister Reynold Glean, Representative in Barbados, IICA*

14:00-14:10 Introduction remarks
- *Ines Bastos, Head of Networks and Alliances, COLEAD*

14:10-15:10 Panel 1: Experiences from entrepreneurs
- *Krystal Crumbie, Founder, Farm FWD Logics Jamaica*
- *Terata Ames, Founder & Lead Developer, One Agri Co. LTD, Barbados*
- *Garnett Harris, CEO, SkyCrop Solutions, Jamaica*
- *Wesley Mofford, Founder & CEO, WindBlow Inc, St. Vincent and the Grenadine*

Moderation: *Nina Desanlis-Perrin, External Consultant, COLEAD*

15:10-15:30 Panel 2: Insights from experts
- *Tashi Browne, Program Coordinator, Caribbean Climate Smart Accelerator*
- *Dr Ruel Ellis, Senior Lecturer, University of the West Indies*

15:30-15:50 Q&A session

15:50-16:00 Conclusion and way forward