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Food Security and Smart Agriculture: The Role of Technology and Services

By

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The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.
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Challenges for Caribbean Agriculture

COVID Impact
Caribbean Agriculture, local food systems and rural communities were hard hit by COVID-19, experiencing food supply chain disruptions, higher freight costs, job layoffs and price inflation in inputs and supplies.
Key Innovations and Technology for Caribbean Agriculture

The Smart Agriculture market is expected to reach $18.45 Billion in 2022, at a CAGR of 13.8% - Business Intelligence

- **Drones**
  - Health assessment, irrigation, crop monitoring, crop spraying, planting, and soil and field analysis

- **Soil Management**
  - Analyze soil status, temperature and humidity

- **Water Management with Automated Irrigation**

- **Livestock Management**
  - Monitor livestock productivity and health

- **Precision Farming**
  - With IoT, all data from different sensors is accessible to the agriculturist on their mobile phones

Relevant IoT Applications for Productivity & Climate Smart Agriculture

BioTechnology & The BioEconomy
IICA’s Response

• **Interpretation Center of Tomorrow for Agriculture (CIMAG) at IICA HQ** - an ambitious educational project at the service of its member countries.

• **CIMAG** / seeks to highlight the fundamental role of new technologies in the agricultural sector and its impact on the well-being of families living in rural and urban areas, through a virtual educational space.
Applying science and innovation in traditional crop production to improve productivity, manage disease and enhance nutrient density (fortification).
Strengthened livestock production through Anti-Microbial Resistance, Livestock Genetics and capacities to address emerging crises.
Developing apps to facilitate marketing and trade, farmers’ record keeping and traceability, extension and government e-services.
These and other appropriate innovations and technologies can become a reality with the appropriate institutional frameworks for robust planning and policy which prioritize and support for:

- Research and Development needs;
- Extension Services Reformation; and
- Protection of private sector investments in the Caribbean agricultural sector.

This will create the enabling environment to capture the opportunities for building production and productivity of agricultural supply chains in the Caribbean, reducing vulnerability, building resilience, and strengthening Food and Nutrition Security.