

Session n°28

Digitalisation & AI in Agrifood: Tools for Efficiency and Market Access

Tuesday 20 October 2026

HIGHLIGHTS

About the PAFO-COLEAD Innovations Series

Launched in November 2020 by the Pan-African Farmers' Organization (PAFO) and COLEAD, the Innovations Series highlights successful African agrifood SMEs and promotes knowledge exchange among entrepreneurs, researchers, policymakers, financiers, and farmer organisations.

Session n°28, held on 20 October 2026, brought together farmer organisations, researchers, agritech entrepreneurs and development partners to explore where digitalisation and artificial intelligence (AI) already create practical value for African agrifood businesses, by improving their efficiency and strengthening their access to markets and buyers, and what it takes for farmers and smaller businesses to access, use and benefit from these tools at scale. The session attracted strong interest, with 343 registrants seeking resources and opportunities to engage with key actors in the sector.

All information about the session is available on Agrinnovators.
Recording of the session: Link

Key points discussed

Digitalisation and AI already create practical value: from satellite crop mapping and production forecasts to voice-based marketplaces, plot mapping and drone services, digital tools help producers and businesses anticipate harvests, plan collection, storage and transport, reduce post-harvest losses and connect with buyers earlier. Their main value is giving actors more time, better information and greater capacity to act before risks become losses.

Inclusion is the real test: the question is not whether Africa can adopt AI, but whether it will work for millions of smallholder farmers, many of them women and older farmers with limited literacy. Tools must be affordable, available in local languages with simple formats such as voice, and able to work offline in rural areas where internet use remains far lower than in cities.

The usage gap matters as much as coverage: in sub-Saharan Africa, 66% of people live within mobile internet coverage but do not use it, and only around 5% use digital agriculture services, because of cost, limited skills, lack of trust or content that does not meet their needs. Solutions should start from a concrete business decision that users want to improve, and measure tangible benefits such as lower costs, fewer losses, faster payments and higher income after costs.

Farmer organisations are key to adoption and scale: cooperatives and farmer organisations aggregate supply, coordinate services, register members and plots, and negotiate with buyers. They should co-design and govern digital solutions, including how data is collected and shared and how its value returns to farmers. Reliable digital records can also help farmers build a credit history and meet market requirements such as the EU Deforestation Regulation (EUDR).

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Africa's youth can drive the digital transformation of agriculture: with farmers ageing while 70% of Africans are under 30, digital and AI tools can make agriculture more attractive to young people. African start-ups are already building these solutions locally, but they need political will, investment and support to reach scale.

Sustainable solutions need a stronger ecosystem: many digital services struggle to last or scale because of fragmented ecosystems, weak business models, paper-based cooperative systems and limited data infrastructure. Digital tools must also be backed by physical investments such as aggregation hubs and cold storage, and by closer partnerships between farmer organisations, agritech start-ups, governments, research institutions, financial institutions and development partners.

Key questions from the audience

Cost and business model: participants asked who pays for digital services, how the costs are covered and who is responsible for recurring expenses, including data verification and platform maintenance. BayKart explained that its platform is currently free for farmers and operates through cooperatives and farmer groups. In JooL's case, an annual licence is paid either by the cooperative or by a value-chain partner, such as a buyer seeking traceability.

Access, registration and equipment: the audience asked how farmers can register, where the services are available and whether tools such as drone spraying are accessible to smallholders. BayKart clarified that its app can be downloaded anywhere, although fresh-produce aggregation is currently operational in The Gambia, Senegal and India. JooL explained that drone-spraying services can reach smallholders through cooperatives, with farmers grouped by geographical area.

Trust and human oversight: participants asked whether AI-generated recommendations, including those relating to water stress and crop anomalies, rely entirely on automated analysis or involve human expertise. JooL explained that its recommendations are AI-generated but can be reviewed and corrected by agronomists or users, with this feedback helping to improve the models over time.

Data protection and capacity building: questions also addressed the confidentiality of farmers' data and the availability of training to help farmers use digital and AI tools. JooL indicated that individual producers' names are not displayed on the platform for confidentiality reasons. On capacity building, FAO highlighted training delivered through project-based initiatives, including the Fostering Digital Villages initiative in Malawi, Rwanda and Zimbabwe, where more than 2,000 people had received training on AI and digitalisation. FAO also mentioned a draft training manual on generative AI in agriculture, which it was working to finalise, as well as the possibility of making AI-related training available through its eLearning Academy.

Key insights from businesses



Muhammad Marong
CEO & Co-Founder
BayKart Ltd
Gambia



Jacques Gnongui
Director of Innovation and CTO
JooL International
Côte d'Ivoire

Muhammad Marong, CEO & Co-Founder, BayKart Ltd, Gambia

Muhammad presented how BayKart uses AI to connect smallholder farmers in The Gambia, particularly women, to markets. Having observed that produce was often lost not because of farming practices but

because nearby buyers did not know it was available, BayKart developed Sisi, an AI voice tool that turns a voice note in Wolof, Mandinka or Fula into a listing that verified buyers can order, without farmers needing to read or type. More than 2,300 smallholder farmers now list their produce free of charge, with around 45 voice listings and more than 600 kg delivered each week, and post-harvest losses on aggregated produce have fallen from 40% to 15%. A second tool, currently in development, will use a photo of the crop to predict the harvest date so that buyers can commit before the produce is picked. He shared three lessons: voice works better than apps, AI needs people such as field officers and cooperative leaders to build trust, and digital tools only pay off when combined with aggregation and cold chain. He called for investment in open African-language voice data, for digital sales records to be recognised as credit history, and for funding of digital tools alongside shared cold storage and aggregation hubs.

Jacques Gnongui, CTO, JooL International, Côte d'Ivoire

Jacques presented JooL International's agricultural intelligence infrastructure, which combines AI, satellite and field data to make every hectare visible and every risk more measurable at scale. He noted that plantations in Africa perform at around 20% of their potential and that farmers are ageing, while 70% of Africans are under 30, and stressed the need to make agriculture attractive to young people. JooL ID, which already includes more than 5,000 cooperatives in Côte d'Ivoire, helps cooperatives move from paper to mobile, register farmers and map plots even without connectivity, locate plots in relation to classified forests, prepare for EUDR requirements and share records with banks, insurers or buyers. KIRiQ AI analyses satellite, weather and field observation data to detect anomalies such as water stress and provides recommendations that agronomists can review and correct, while JooL Monitor uses drone imagery to map plots and count trees.

Key insights from organisations supporting businesses



Dr Racine Ly
National Country Representative, Senegal
AKADEMIYA2063



Ken Lohento
Digital Agriculture Specialist
FAO Africa

AKADEMIYA2063, **represented by Dr Racine Ly, National Country Representative, Senegal, and Director, Data Intelligence and Governance**

AKADEMIYA2063 is an international non-profit research organisation headquartered in Kigali, Rwanda, with a regional office for West and Central Africa in Dakar, Senegal. It provides data, analysis and digital tools to support evidence-based agrifood policies and decisions across Africa.

In his keynote, Racine showed how AI and satellite data can give producer organisations and businesses more time and better information to act. Through the DERPIn project implemented with PAFO, AKADEMIYA2063 maps cultivated land and crop types, while its AI-based forecasts anticipate harvests up to two months in advance. With this information, cooperatives, processors and financial institutions can plan collection, storage, transport and financing earlier, before risks turn into losses. He stressed, however, that these tools only make a difference when farmers and businesses actually use them, which requires services that are relevant to their needs, accessible, trusted and sustained over time. He therefore proposed three simple questions to assess any digital or AI initiative: which decision does it improve, who can act on the information, and what benefit can be measured for producers?

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FAO, **represented by Ken Lohento, Digital Agriculture Specialist, FAO Africa**

The Food and Agriculture Organization of the United Nations (FAO) leads international efforts to defeat hunger and improve nutrition and food security. In Africa, it supports governments and partners in harnessing digital technologies, including AI, to transform agrifood systems.

Ken set out what it takes to scale digital and AI solutions in agrifood. He explained that the main challenge is no longer only connectivity, but use: even where mobile networks are available, many people do not go online, and only around 5% of farmers in sub-Saharan Africa use digital agriculture services. To close this gap, he called for a stronger ecosystem in which start-ups, researchers, farmer organisations and governments work together rather than in isolation, an approach now supported by growing political commitment, including the African Union Digital Agriculture Strategy. FAO's Fostering Digital Villages project in Malawi, Rwanda and Zimbabwe illustrates this approach, combining AI voice and SMS chatbots for advisory services with training for farmers and extension officers. He concluded that, to reach scale, innovations must rest on sustainable business models and respond to farmers' real needs.

Resources

1. Reports and Studies

African Development Bank, 2025, Africa's AI Productivity Gain: Pathways to Labour Efficiency, Economic Growth and Inclusive Transformation
African Union, 2024, Digital Agriculture Strategy and Implementation Plan 2024–2030
AKADEMIYA2063, Africa Agriculture Watch (AAgWa): AI-based crop production forecasts
FAO, 2024, Digital agriculture in FAO projects in sub-Saharan Africa
FAO, 2023, Pilot Digital Villages Initiative in Africa: Findings of country assessments and recommendations for effective implementation
FAO, ITU, 2022, Status of Digital Agriculture in 47 Sub-Saharan African Countries
FAO, Digital innovation strategy for agrifood systems in Africa
GSMA, 2024, AI for Africa: Use Cases Delivering Impact
GSMA, 2026, The State of Mobile Internet Connectivity 2026
PAFO, DERPIn Project: Precision Tools for Better Decision-Making
World Bank, 2025, From Fields to Markets: The Role of Digital Platforms in West Africa's Agricultural Success

2. Trainings and other opportunities

BayKart, partnership opportunity to pilot photo-to-harvest AI with farmer organisations
FAO, Digital Villages Initiative (DVI) Africa portal
FAO, eLearning Academy
FAO, Fostering Digital Villages through Innovative Advisory and Profitable Market Services in Africa (FDiVi)
JooL International, demo access to JooL ID, KIRiQ AI and JooL Monitor
CEA-FIRST, Consortium Europe-Africa on Research and Innovation for Food Systems Transformation
COLEAD, e-learning platform

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