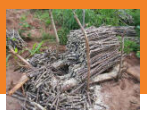
IITA Digital Agriculture Technologies

IITA has built tools that strengthen seed system governance, farm decision-making, and market linkages. They include seed certification platforms, monitoring systems, herbicide calculators, and digital business connectors.

4 TECHNOLOGIES | CREATED ON OCT 14, 2025 BY TAAT PROFILING TEAM | LAST UPDATED DEC 10, 2025



TECHNOLOGIES IN THIS TOOLKIT

- **CBC**: Cassava Business Connector
- **Herbicides Calculator**
- **Seed Tracker**: Digital Tool for Strengthening Seed Governance an...
- **ME-CASS**: Cassava Seed Monitoring System

https://taat.africa/qzc

CBC: Cassava Business Connector

Revolutionize the cassava value chain with CBC, ensuring seamless communication and robust market linkages for enhanced income opportunities.

The Cassava Business Connector (CBC) is a digital platform that links cassava producers, processors, and end-users to streamline communication and coordination within the cassava value chain.It enables real-time tracking, communication.

International Institute of Tropical Agriculture (IITA)
Adebayo Abass

This technology is **not yet validated**.

8·8 Scaling readiness: idea maturity 8/9; level of use8/9

Project adoption 2

Technology integrated in the 2PAU, and ENSURE projects.

Inclusion assessment 4

Climate impact 7

Problem

- Communication gap between actors in the cassava value chain, leading to weak market linkage.
- Lack of awareness among producers about potential buyers and vice versa.
- Inefficient integration of value chain actors, hindering communication and coordination.
- Lack of visibility among value chain actors, including producers, input suppliers, processors, and end-users.

Solution

- CBC helps the coordination of material flow from fields to end-users,
- Allows decentralized monitoring of production,
- Real-time information exchange between the users, and offers secure accounts to each user, protected by login and password, for information safety.

Key points to design your project

To integrate the CBC into your project, consider the following steps:

- Raise awareness among cassava stakeholders about the benefits and availability of the Cassava Business Connector.
- Establish training programs for stakeholders to ensure effective utilization of the CBC platform.
- Foster collective action programs to encourage collaboration among producers, processors, and end-users.
- Facilitate access to financial support and markets for cassava stakeholders through the CBC platform.

IP

Open source / open access

Technology from

ProPAS

Commodities

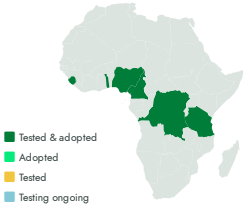
Cassava

Sustainable Development Goals

Categories

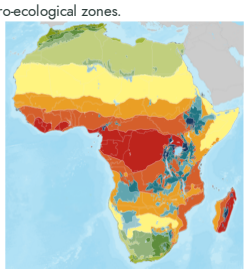
Marketing, Digital applications, Market linkage

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



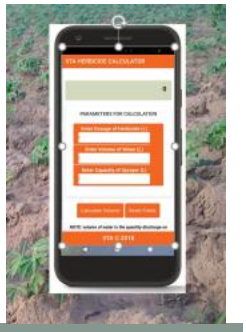
Target groups

Farmers, Sellers

Herbicides Calculator

Reduce pesticide and herbicide losses with IITA's herbicide calculator

The IITA Herbicide Calculator is a digital tool that helps farmers figure out the right amount for backpack sprayers. This tool was developed using Java language, the Ionic framework, and Android Studio, ensuring its robustness and usability.



International Institute of Tropical Agriculture (IITA)
Godwin Atser

This technology is TAAT1 validated.

7·7 Scaling readiness: idea maturity 7/9; level of use7/9

Inclusion assessment 4

Climate impact 6

Problem

- The widespread misuse of pesticides (including herbicides) due to poor calibration of spray tanks.
- Loss of inputs (pesticides or herbicides) during applications.
- Residue of chemical products in crops due to overdosing of pesticides or herbicides.

Solution

- The"IITA Herbicides Calculator" technology ensures the precise application of pesticides, mitigating issues related to over or under-dosing.
- Its promotes the effectiveness of herbicides, facilitating their optimal application.

Key points to design your project

To integrate this technology,

- Establish training programs and connect producers to financial support and markets.
- Estimate costs for the subscription to the IITA Herbicide calculator, android phones, data, training, and communication support.
- Collaborate with agricultural development institutes and seed multiplication companies.

IP

Open source / open access

Technology from

ProPAS

Commodities

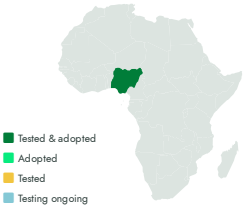
Maize, Rice, Sorghum/Millet, Cowpea, Soybean, Cassava, + 1 more

Sustainable Development Goals

Categories

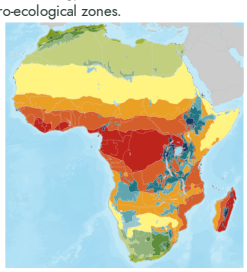
Production, Digital applications, Pest control

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers

Seed Tracker: Digital Tool for Strengthening Seed Governance and Certification Systems

Build an efficient seed system!

Seed Tracker is a web- and mobile-based application designed for national and decentralized seed system management. It enables registration of seed producers and fields, records inspection activities, provides real-time access to certification status, and generates georeferenced data for decision-making. It works offline and in multiple languages, making it suitable for rural deployment. Regulatory agencies can use it to oversee field activities remotely, support decentralized certification, and build national seed databases.

International Institute of Tropical Agriculture (IITA)
Lava Kumar

This technology is pre-validated.

9·7 Scaling readiness: idea maturity 9/9; level of use7/9

Project adoption 1

Technology integrated in the PADCV-PTA project.

Inclusion assessment 3

Climate impact 3

Problem

- Fragmented certification systems: Decentralized processes make seed quality oversight difficult.
- Limited rural oversight: Remote seed activities are difficult for national agencies to monitor.
- Weak seed data systems: Poor data limits seed planning and decision-making.
- Limited coordination: Separate systems reduce coordination between seed-system actors.

Solution

- Centralized certification system: Digitizes seed registration, inspection, and certification.
- Remote monitoring: Enables national authorities to monitor decentralized seed activities.
- Georeferenced seed data: Supports better planning and resource allocation.
- Real-time coordination: Improves access to seed information across institutions.

Key points to design your project

The **SeedTracker** technology ensures traceability and quality assurance for cassava planting materials, enhancing smallholder farmers' access to high-quality, climate-resilient varieties.

- It supports national priorities on climate resilience, gender inclusion, and SDGs, empowering governments to make data-driven decisions.
- Key activities include stakeholder mobilization, capacity building, digital certification integration, real-time monitoring, and impact tracking. A toolkit with training materials and dashboards is available to support implementation.

IP

No formal IP rights

Commodities

All Crops

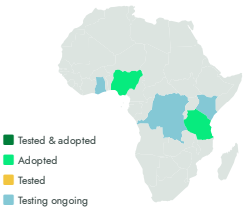
Sustainable Development Goals

2 ZERO HUNGER · 5 GENDER EQUALITY · 13 CLIMATE ACTION · 17 PARTNERSHIPS FOR THE GOALS

Categories

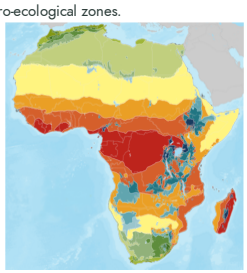
Pre-production, Digital applications, Supply chain management, Advisory and information service, + 0 more

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Seed companies,
Advisory and Extension Services

ME-CASS: Cassava Seed Monitoring System

Making Cassava Seed Systems Work Better

ME-CASS helps governments track the release, certification, and distribution of cassava varieties to ensure farmers get quality seeds. It also supports policy planning with real-time data on seed flows and adoption, improving regulation, accountability, and investment targeting.

International Institute of Tropical Agriculture (IITA)
Richardson Okechukwu

This technology is **not yet validated**.

7·3 Scaling readiness: idea maturity 7/9; level of use3/9

Inclusion assessment 4

Climate impact

Problem

- Difficult to track which varieties are in circulation due to renaming and poor recordkeeping.
- National certification agencies struggle to document and monitor seed distribution.
- No tools to assess whether improved seeds reach farmers or support system-wide improvements.

Solution

- ME-CASS offers full traceability of seed flows across all system levels.
- It integrates data from certification agencies to improve transparency and compliance.
- Governments can monitor adoption rates, seed quality, and producer performance to inform policy and investments.

Key points to design your project

To adopt ME-CASS, government projects need more than just software—they need coordination, trained teams, and structured data systems. Here are key tips:

- Use or connect ME-CASS to existing national databases.
- Assign a small team with digital and monitoring skills.
- Define clear indicators like variety names, seed volumes, and target zones.
- Involve breeders, seed producers, and regulators from the start.
- Pilot in 1–2 regions before scaling nationally.
- Budget for devices and internet access (with offline options where needed).
- Align ME-CASS with existing government reporting systems.
- Keep the system flexible to add other crops later (e.g., yam, sweetpotato).

IP

Open source / open access

Commodities

Cassava

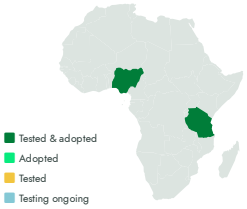
Sustainable Development Goals

1 NO POVERTY · 2 ZERO HUNGER · 3 GOOD HEALTH AND WELL-BEING

Categories

Pre-production, Digital applications, Advisory and information service, Crop management, + 0 more

Tested/adopted in



Target groups

Breeders, Governments, Seed companies, Researcher center, Seed Regulators

AFRICAN DEVELOPMENT BANK GROUP
GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT

Technologies for African Agricultural Transformation

IITA Digital Agriculture Technologies

https://taat.africa/qzc

ABOUT US

TAAT

TAAT, Technologies for African Agricultural Transformation, is an African Development Bank initiative to boost agricultural productivity by rapidly rolling out proven technologies to more than 40 million smallholder farmers.

TAAT aims to double crop, livestock, and fish productivity by 2025 by engaging both public and private sectors to expand access to productivity-increasing technologies across the continent.TAAT advises African government who receive funding from international financial institutions such as the African Development Bank to help them integrate the best agricultural technologies in their development projects. TAAT also offers technical assistance for the integration of these technologies, when needed.

TAAT Technologies

TAAT definition of agricultural technologies is very broad: they include improved varieties, inputs, equipment, agricultural infrastructure, practices and agricultural policies. In short, any solution to an agricultural constraint. TAAT technologies have been developed by a wide variety of organizations: the CGIAR, other international research institutions, national research organizations, or the private sector.

TAAT Clearinghouse

Within TAAT, the Clearinghouse has the remit to select, profile and validate agricultural technologies, and showcase them in online catalogs to support the advisory role that the Clearinghouse offers to governments and the private sector. The Clearinghouse strives to be an 'honest broker' of technologies through its selection, profiling, validation and advice.

TAAT e-catalogs

The e-catalogs are designed to be used by decision-makers within governments, private sector companies or development organizations. They facilitate the search for appropriate solutions that are adapted to local conditions and requirements, and provide all necessary information, presented in jargon-free and easy to analyze technology profiles. Once a decision-maker has selected a technology of interest, the e-catalogs facilitate their direct contact with those who can help them implement the technology, whether they are a research group or a private company.

TAAT Technology Toolkits

Technology toolkits are hand-picked selections of technologies from the TAAT e-catalogs. We offer some curated toolkits for specific cases, and registered users can create their own toolkits, showcasing their selection of technologies. Toolkits can be used online and shared as links, as mini e-catalogs, they can also be downloaded, saved, shared or printed as collections of technology pitches in PDF format (pitches are one-page summaries of technology profiles, available for all technologies on the e-catalogs).

AFRICAN DEVELOPMENT BANK GROUP
GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT

Technologies for African Agricultural Transformation

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