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Cassava farmers in Tanzania to benefit from new industry partnership with ACAI project

At a recent meeting in Tanzania, IITA, through the African Cassava Agronomy Initiative (ACAI) and the Tanzania Agricultural Research Institute (TARI-Naliendele) agreed to explore areas of collaboration with the Cassava Starch Tanzania Corporation (CSTC).

Demand for cassava is increasing as more companies are seeking to process the roots into high-value, starch-rich flour. New processing capacity is starting to come online for many companies, such as CSTC. However, one of the main concerns of these ventures is getting a stable supply of cassava.

This new agreement could see CSTC helping to deploy ACAI's latest tools to secure the cassava supply of smallholder farmers across Tanzania.

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Cassava stakeholders with members of CSTC.

TAAT cassava compact launched in Burundi

With support from the African Development Bank (AfDB), the Technologies for African Agricultural Transformation (TAAT) Cassava Compact was launched on 2 April in Bujumbura, Burundi.

The Director General of the National Office for Seed Inspection and Certification (Office National de Contrôle et de Certification des Semences [ONCCS]), Fidèle Gahungu, opened the ceremony on behalf of the Minister of Environment, Agriculture and Livestock, Dr Déo-Guide Rurema. Over 20 stakeholders and representatives of research institutions, private sector players, policy makers, seed producers, farmer associations, and NGOs participated in the event.

Field demonstration of spraying techniques.

IITA Burundi Country Representative, Emmanuel Njukwe, gave a presentation on TAAT goals and perspectives for the Cassava Compact in Burundi. These include capacity development for actors along the cassava value chain and the dissemination of high-yielding, pest and disease-resistant varieties that are tolerant to climate variability and rich in micronutrients.

In another presentation, the representative of the Burundi Institute of Agronomic Sciences (ISABU), Mr Simon Bigirimana, gave an overview of the status of cassava research in Burundi. The Department of Seed and Plant Promotion (DPSP) and ONCCS presented on policies governing the seed sector (regulation, homologation, and registration) in Burundi while Mr Methode Ntibandye of Floresta Burundi spoke on the challenges associated with cassava processing and marketing in the country.

A follow-up workshop was organized on cassava seed systems in Gitega on 4 and 5 April. The objective was to initiate a platform for cassava seed producers that will guarantee the production and dissemination of quality planting materials in a timely manner and in the required quantity.

The workshop had participants from public institutions and private enterprises involved in cassava seed regulation and production. At the close of the workshop, the proposed platform for cassava seed producers was established at the national and the provincial levels, pending adoption and validation by government authorities.

Training of trainers on Good Agricultural Practices was organized from 9 to 10 April in Bujumbura. IITA Principal Investigator, Sustainable Weed Management Technologies for Cassava Systems in Nigeria, Prof Friday Ekeleme, facilitated the training, which focused on the improvement of agricultural practices by integrating weed management through efficient and effective use of herbicides and planting of improved varieties for maximum production. A field demonstration was conducted to highlight spraying techniques and calibration, including efficient and effective use of herbicides. After the practical session, participants agreed to establish demonstration plots in each province.

Stakeholders at the TAAT Cassava Compact launch in Burundi. Photo by Christophe Gahungu.

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ACAI Project coordinator in Tanzania and East Africa, Veronica N.E. Uzokwe explains: "The ACAI project has essentially distilled years of agronomic research on cassava farming into simple-to-use and practical decision support tools that can help farmers achieve significant crop yield and quality improvements."

Working with thousands of famers across Tanzania, the ACAI project has been applying advanced agronomic analyses to answer farmers' questions such as, "When is the best time to plant? When should I harvest? What fertilizer do I use; how much and when?"

Among the various decision support tools created by ACAI, their fertilizer recommendation tool is designed to maximize productivity based on a given fertilizer input. Their scheduled planting guidance offers support to farmers to ensure that harvested roots supplied to starch companies have a high starch content. The economic calculations driving the tools are also of great use to fledgling companies in the cassava food processing industry, looking to maximize profitability.

ACAI is currently validating the tools with the help of many smallholder farmers, who supported their initial development. To date, development and delivery of the support tools have been carried out by an extensive network of ACAI partner organizations, including Minjingu Fertilizer, FJS starch company, Mennonite Economic Development Associates (MEDA), Cassava: Adding Value for Africa (C:AVA), and Farm Concern International.

Uzokwe said, "We welcome more partners from all levels of the cassava value chain. We believe that CSTC will be able to help us reach more farmers through extension agents. Training these stakeholders will promote food security, generate incomes, and support people's livelihoods. This aligns with the goals of IITA."

Mathew de Klerk, CSTC General Manager, said that his company is willing to work with a dynamic organization that has a good track record in agriculture. He also thanked and praised the Tanzanian Government for providing an enabling environment to drive cassava industrialization in Tanzania and East Africa as a whole.

CSTC operational demonstration.

BASICS ARPM 2019: Communicating and outscaling successes beyond project life

The Building an Economically Sustainable Integrated Seed System for Cassava (BASICS) project hosted its stakeholders for the 2019 Annual Review and Planning Meeting (ARPM) on 11–13 March at IITA-Ibadan, Nigeria. Director of Pipal Limited, Kenya, Sue Davison, facilitated the meeting with the theme "Communicate," which reflected on the activities of the project in the past three years and discussed ways to extend the successes in an economically sustainable way beyond the project support.

Dr Nikkutar Hemant, BASICS Project Director, addressing participants.

Graham Thiele, CGIAR Research Program on Roots, Tubers and Bananas (RTB) Program Director and the PI for BASICS project said that the project falls under the RTB Flagship Project 2 "Productive varieties & quality seed." RTB benefits the project by bringing in its global outlook to foster a new breeding mindset—gender responsive, targeting product profiles with a stronger focus on varietal replacement, and bringing in learning from seed systems work in vegetatively propagated crops from across the world.

In his address, BASICS Project Director Hemant Nitturkar gave a run-down of the achievements and challenges of the four-year project. "We had set out to develop an economically sustainable system to produce and sell cassava breeder seed, foundation seed, and commercial seed of improved varieties so farmers can access and use quality seed of improved varieties that increase their net productivity and income," he said.

As a part of the project, IITA established IITA GoSeed and the National Root Crops Research Institute (NRCRI) established Umudike Seeds as dedicated private businesses to produce and market breeder and foundation seed. This is a globally unique instance of a public–private sector partnership initiative to strengthen the early generation seed (EGS) system for vegetatively propagated crops like cassava.

The innovative rapid multiplication technology, SAH™, has been successfully adapted, tested, and deployed and over 125 village seed entrepreneurs are producing and selling certified, commercial seed to the farmers. The National Agricultural Seed Council (NASC) has increased its capacity to offer market responsive seed quality regulatory services through the establishment of a seed diagnostic lab and adoption of an award winning online tool, Cassava Seed Tracker that connects all the seed value chain players.

Nitturkar recounted the project's achievement: "In the ECOWAS report of 2015, there was no certified breeder seed, no foundation seed, and limited numbers of certified, commercial cassava seed. In 2018, BASICS facilitated production and sale of 4,556 bundles of breeder seed, 13,325 bundles of foundation seed, and 25,375 bundles of certified commercial seed."

Olusegun Ojo, Director General of NASC enumerated the importance of BASICS on NASC operations: "The BASICS project has enhanced all external projects of the council in terms of innovation, impact, and sustainability." He further explained, "The impact of the BASICS project has been overwhelming. The reports we receive daily from the field have been so encouraging. The production of certified cassava seed has increased tremendously and the need to use the certified seed is gradually becoming institutionalized."

In addition, Ojo commented, "The Cassava Seed Tracker has revolutionized Nigerian seed certification systems. Presently, we are dovetailing it to become the Nigerian Seed Tracker, which will encompass all crops."

Okechukwu Eke-Okoro, NRCRI Director of External Projects, representing Executive Director Joseph Ukpabi, in his remarks, said, "NRCRI has collaborated with IITA in many projects, and this collaboration has enhanced the accomplishments of NRCRI as a federal institution with the mandate of genetic improvement, production, storage, processing, and socioeconomics of root and tuber crops. The BASICS project is changing the future of rural farmers from growing food for consumption to earning higher commercial returns with its technology of providing multiple pest and disease-free planting materials of cassava through Semi-Autotrophic Hydroponics (SAH™)."

May-Guri Saethre, IITA Deputy Director General, Research for Development, reaffirmed IITA's commitment to improving cassava production and

livelihoods in Africa while highlighting the efforts of BASICS in transforming the cassava value chain in Nigeria. "The BASICS project is critical for creating a sustainable, commercial seed system that will equitably deliver improved varieties to men and women farmers through commercial markets." Saethre further praised the SAH™ technology: "Because of the success of the deployment of the SAH™ propagation system for cassava, SAH™ has become the most sought-after technology for cassava rapid multiplication."

The Bill & Melinda Gates Foundation Program Officer for BASICS, Lawrence Kent, reiterated that "we want to build reusable bridges that deliver breeder seed to foundation seed to commercial seed to the farmers' fields in a profitable manner. This is exciting because many people thought it wasn't possible. Farmers were used to getting free seed. Through BASICS, we have been able to show what is possible. We need more time to consolidate this."

The meeting was attended by national and international partners, policymakers, and development experts from Catholic Relief Services (CRS), NRCRI, NASC, Fera Science Ltd (FERA), Context Global Development, SAHEL Consulting, RTB, the International Potato Center (CIP), and IITA.

All the partners in the BASICS project identified IITA GoSeed Cassava, Umudike Seeds, SAH, Mid-Size seed entrepreneurs, the Processor-led Model (PLM), Quality Seed, market responsive certification, and the Cassava Seed Tracker as key innovation packages to be scaled up to be able to establish an economically sustainable cassava seed system. Building on the good work done so far, the project team agreed to develop a concept note to seek funding for a second phase of the project.

Group photograph of annual meeting participants.

Got a story to share?

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Stakeholders express interest in SAH technology in DR Congo

In February, a meeting was organized at IITA Kalambo to share the progress made in the introduction of the Semi-Autotrophic Hydroponics (SAH) technology at Kalambo station.

Cassava is one of DR Congo's principal crops, with per capita consumption of 453 kg per year; it is also a main pillar for food security for 80% of the Congolese population and a major cash crop. Since the SAH technology is a novel, low-cost method to rapidly multiply cassava seed, IITA has introduced this technology as a rapid response to disease threat and poor-quality planting materials. The SAH method was developed in Argentina and replicated at IITA-DR Congo in 2018 after being tested at IITA-Ibadan from 2016.

In his opening remarks, Christopher Okafor, Officer-in-Charge of the IITA Kalambo station, welcomed all participants to the meeting and highlighted the need for this technology to go to the new tissue culture building and expand very fast to its full potential.

The participants included various stakeholders in the cassava value chain, IITA Kalambo partners as well as IITA Kalambo scientists who gathered to discuss the benefit of the SAH technology in the production of clean planting material.

Two specialists from Ibadan, Head of Cassava Breeding Unit, Peter Kulakow and Cassava Seed Systems Specialist, Mercy Elohor Diebiru-Ojo, were on hand to explain the technology to the participants. In her presentation, Diebiru-Ojo demonstrated the rapid multiplication ratio and the low-cost production of the SAH technology. "With 100 boxes of SAH plantlets we are able to produce 1600 boxes of SAH plantlets within two months and plant about 10 hectares within a year from the plantlets in the SAH laboratory," she said.

In his presentation, Kulakow said that it can be a great business opportunity even for youth agripreneurs and urged the national institutions and private sector players to take advantage of this opportunity for income generation and improving livelihoods of the DRC population, a critical element in the implementation of SAH technology.

Mr Floribert Mbolila (2nd from right) and partners visiting pilot SAH laboratory facility.

Sequel to the meeting, SAH Technology Expert Adetoro Najimu visited the station on an official mission to expand cassava production, and explain about the correct SAH production techniques, among others. He seized the opportunity to interact with IITA Kalambo scientists and FMS staff about properly equipping the new SAH building.

The meeting ended with a visit to the small SAH facility where Angel Kajibwami, the technician in charge of the cassava rapid multiplication, explained the technical aspects of the SAH technology and how SAH is expected to have a significant impact on the ability to quickly bring suitable cassava varieties to produce clean planting materials that are disease-free, and develop a uniform cassava seed system.

IITA Kalambo partners including INERA-Mulungu, IPAPEL, the Food and Agriculture Organization (FAO), SENASEM, and private organizations that attended the meeting expressed their interest in the SAH technology. They were all impressed with and willing to connect with new technology.


Stakeholders and IITA Kalambo scientists in a group photo.