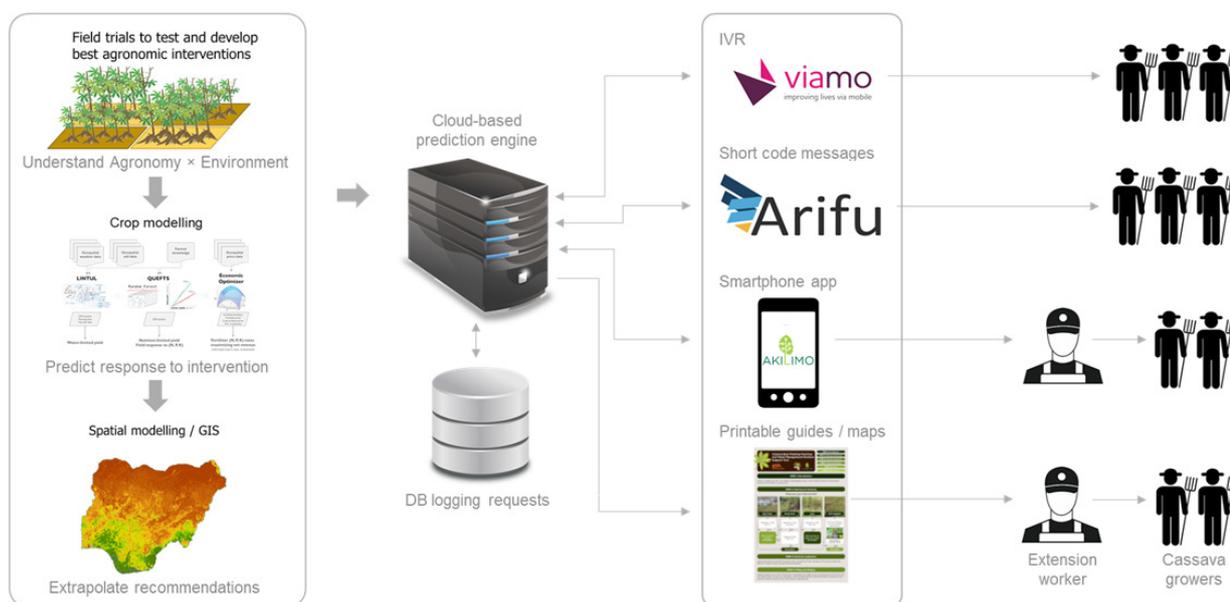


AKILIMO prediction expands to 5 regions in Tanzania and 9 states in Nigeria

 **AKILIMO**: a digital service to deliver tailored agronomic advice



Akilimo paper and mobile application

Scientists are making progress to expand the prediction coverage of AKILIMO to 5 regions in Tanzania and 9 states in Nigeria. Once completed, farmers in the regions will have access to site-specific recommendations on agronomic practices in cassava farming systems.

Developed by the African Cassava Agronomy Initiative (ACAI) of IITA and partners from the national research systems, development partners and private sector partners; AKILIMO is an all-in-one agronomic advisory tool that supports cassava growers with knowledge and recommendations to intensify their cassava-based cropping systems.

In an update on progress made so far, Dr Meklit Chernet, ACAI Data Scientist said her team had been processing data and recalibrating models to provide the necessary input for the prediction engine to generate recommendations.

“Data processing is done for an additional 5 regions in Tanzania and 9 states in Nigeria expanding the areas AKILIMO has been

serving so far. The team has been working on both front and back ends of the AKILIMO app, remodeling and adding new features to the frontend to improve users’ interaction with the app,” she added.

She explained that huge efforts have been invested to create functional backend features and ensure users’ input are captured and passed correctly to the prediction server and response from the R server is then passed on correctly to the app and presented to the user.

Currently, the AKILIMO app is able to provide recommendations in three different ways, within app and by sending SMS and/or email both for Nigeria and Tanzania users. When the user is offline, requests are queued and then sent to the server as soon as the user comes online.

The app calculates all recommendations automatically and is user-friendly and more precise as it utilizes more features and information, such as GPS location.

“The task to translate recommendations into local languages is also underway, and the cassava sweet potato recommendations are already being delivered in Swahili,” Dr Chernet added.

Furthermore, a printable version of AKILIMO is available and covers the same aspects of cassava production including customized advice on fertilizer application, tillage regime and best planting practices, cost-effective weed control measures, intercropping practices, and tailored planting and harvest schedules. The printable versions are simplified and allow users to study the process and gain insights into how recommendations are calculated. Together, the suite of AKILIMO tools offers cassava growers with insights and knowledge to make informed decisions on their cassava farms.

Extension workers in Enugu trained on improved agronomic practices, gender and weed control



Participants at the training including Dr. Matthias Onu (middle) flanked on the right by training facilitators Godwin Atser and on the left by Prof. John Oladeji

Following the meeting with commissioners of agriculture last year, the Enugu state government has demonstrated its commitment to investing in weed control by organizing the first ever training for extension workers on weed management in cassava and maize farming systems in the state. The International Institute of Tropical Agriculture (IITA) through the African Cassava Agronomy Initiative (ACAI) was invited to facilitate the training.

At least 40 extension workers drawn from different local governments in the state took part in the two-day theory and practical training sessions held at the Enugu State Cooperative College, Enugu.

The aim of the training was to empower extension workers with the tools to educate farmers on how to grow and double cassava/maize yield in their communities.

Speaking at the opening ceremony of the training on Friday, March 13, the Program Manager of the state Agricultural Development Program, Dr. Matthias Onu, who represented the Commissioner for Agriculture and Natural Resources in the State, expressed gratitude to IITA for facilitating the training.

While welcoming the IITA team which was led by Godwin Atser, Digital Extension and Advisory Services Specialist; Dr. Onu said the training was important because the state had relatively few extension workers, a number not sufficient enough to serve the state's farming population.

He then expressed hope that the training and digital extension tools participants would be exposed to would greatly increase the productivity of cassava and maize.

His words: "I am glad that this training is coming now because it will assist these few extension workers to reach more farmers more effectively using the digital tools you are going to unveil here. To my fellow

extension workers, this is one of the best gifts you have received in recent times. The training has been packaged having in mind that you are very few in number. With your number you can't do much, but after what they'll expose to you today, you stand a chance of helping to double yield and productivity in cassava, maize and even rice which Enugu is also known for."

IITA's Cassava Weed Management Project and ACAI, was to "eliminate the pain and drudgery associated with farming, encourage young people to embrace agriculture, help farmers make more money and live well and be able to do other things with the time and resources they are able to save."



Participants going through a practical demonstration on the application of herbicides

Onu, as well as some of the participants who spoke, expressed hope that some of the digital tools could be adapted for weed control in other crops like rice.

Responding, Atser hailed the state government for its commitment to agricultural development and organizing a training that will help improve cassava and maize productivity in the state.

According to him, "Agriculture is one of the ways to engender development because it creates jobs, it creates peace and it reduces crimes. It is a major solution to the challenges we have as a country."

He said the aim of the training, which is the product of a five-year research by

The two-day training covered land preparation, best agronomic practices, types of weeds, types of herbicides, herbicides application, calibration and safety; cassava maize intercropping tool and fertilizer intercropping tool. Other areas covered in the training include gender considerations, barriers and communication in farming systems, Akilimo and digital tools for knowledge dissemination to farmers.

Atser and Prof. John Oladeji, a gender expert with the Department of Agricultural Extension & Rural Development, University of Ibadan facilitated the training. Apart from Onu, officials of the state Ministry of Agriculture and Natural Resources, including the ministry's Director of Agricultural services, Asogwa Clement, were in attendance.

IITA-ACAI conducts Training of Trainers for OYSCGA, CAVA-II and FUNAAB



Dada Adeboye conducting the BPP validation harvest training

As the 2020 planting season approaches, researchers working in the IITA-managed African Cassava Agronomy Initiative (ACAI) have conducted Training of Trainers (ToT) for the Oyo State Cassava Growers Association (OYSCGA), Cassava Adding Value for Africa Phase II (CAVA II) project and the Federal University of Agriculture Abeokuta (FUNAAB).

The aim of the training was to build the capacity of OYSCGA, CAVA-II and FUNAAB staff to conduct 'step-down' training for extension agents and local farmers in their domains.

The 3-day training was conducted by Stefan Hauser, IITA-ACAI's Systems Agronomist; and other IITA staff including Dada Adeboye,

Augustina Amaechi and Adebowale Adetunyi.

The first day of the training was used to discuss proper procedures for growing cassava. Different decision-making points were also identified and treated. In the afternoon session, participants were taken through a step-by-step discussion on the Best Planting Practices (BPP) and Weed Management (WM) paper tool and its recommendations. This included lucid explanations on the mode of action of different herbicides and when and under what conditions the different herbicides should be applied.

On the second day, the training continued with the BPP/WM worksheet, its decision-making points and step-by-step calculations. The participants were later assigned into seven groups and each was given a set of field sizes, operation prices and cassava root prices to calculate the profitability of ploughing and ridging. Remarkable results produced from the group tasks further accentuated the functionality and efficacy of the BPP/WM worksheet.

The third day was dedicated to field activities where participants got hands-on training on the use of the tools.

OYSCGA chairman, Mr Adesiyun Bashir later had discussions with farmers on their fields where they talked about the steps they applied, the successes they recorded and the areas that require improvement.

The ToT with OYSCGA held 4-6 March 2020 while that of CAVA-II and FUNAAB took place 19-20 March.



OYSCGA chair Bashir Adesiyun and Dr Hauser discussing with farmers having weed problems

ACAI trains 108 farmers and extension agents on cassava weed management in Tanzania



Practical demonstration on the use of machines

The African Cassava Agronomy Initiative (ACAI) conducted six training of trainers (TOTs) events at various locations in Eastern and Lake Zones in Tanzania on the effective methods of managing weeds that affect cassava productivity. The training included directions on the proper use of machines for weeding, combining mechanical weeding and other weed control methods, as well as the use and maintenance of mechanical weeding machines.

Prof. Friday Ekeleme, Principal Investigator, IITA Cassava Weed Management Project/ACAI supplement led the training for 108 participants comprising lead farmers, extension agents, technicians and officials from the Tanzania Agricultural Research Institute (TARI).

The training sessions included hands-on practical demonstrations in cassava fields owned by some of the participants. Anuoluwapo Adeleke, a mechanical weeding technician with IITA Ibadan, Nigeria, gave a practical lesson on how to assemble the machine, its operation and maintenance.

The extension agents and lead farmers that received the training are expected to carry

out step-down trainings for cassava farmers within their areas of operation. The training events were held in Sengerema, Serengeti, Biharamulo and Butiama districts in the Lake Zone as well as Mkuranga and Kisarawe districts at the Coastal Zone.

Among those in attendance were TARI Principal Researcher, Dr Deuseddit Mlay, Engineer Oranasco Daudi, Laurent Aswile, Robert Ngomuo, Zakayo Machunde and Ally Ng'adoa of IITA.

Speaking after the program, Dr Mlay appreciated ACAI's efforts in developing the capacities of extension agents and local technicians to sustainably apply ACAI technologies after the project's lifespan.

More training programs have been lined up for 2020 to cover all the ACAI project areas of operation in Tanzania mainland and Zanzibar.



Practical demonstration on the use of machines

Producers and processors association in Tanzania to leverage on AKILIMO to drive cassava transformation

The debut of AKILIMO has presented an opportunity for cassava transformation in Tanzania as the East African country inaugurates cassava value chain association and embarks on reforms to transform agriculture.

“The AKILIMO tool would help growers of cassava to effectively tackle the poor yield currently harvested by farmers,” Dr Freddy Baijukya, ACAI project coordinator for Tanzania, said at the inauguration of the Tanzania Cassava Producers and Processors Association (TACAPPA).

The TACAPPA aims to unite actors in cassava value chain in Tanzania and will act as an umbrella body to address issues facing cassava producers and processors in the country.

AKILIMO, which exists in printable format, mobile application and in electronic format, offers decision support to farmers on cassava farming systems.

“This tool which was developed by IITA-ACAI is an important contribution of IITA to Tanzania,” Dr Baijukya added, stressing that farmers in the country should adopt the use of the tool to enhance their livelihoods.

The two-day event which was held at Mwalimu Nyerere Trade Fair Ground in Dar es Salaam, Tanzania on the 8th and 9th of February, drew the participation of top government functionaries including the Deputy Minister for Agriculture, Omari Tebweta Mgumba.

Dr. Baijukya assured TACAPPA of IITA’s support in the provision of new and appropriate technologies to improve cassava



Dr. Fredrick Baijukya (far right), IITA-ACAI project Coordinator for Tanzania; and Abela Minis (second from right) of Youth Agripreneur group, explaining the AKILIMO Decision Support Tools and cassava transformation technologies to Deputy Minister for Agriculture, Hon. Omari Tebweta Mgumba (second from left), at the launch of TACAPPA

productivity, post-harvest management, and cassava transformation.

Mgumba, while inaugurating TACAPPA, pledged government support to the new body. He highlighted a number of government initiatives predating TACAPPA including cassava breeding programs through Tanzania Agricultural Research Institute (TARI), a national cassava production campaign, signing cassava market protocol with China among many others.

The government envisions to see TACAPPA as a uniting entity for the cassava sector, promoting cassava production, establishing market linkages, creating awareness about

the use of quality cassava seed and building the capacity of members.

Other officials who graced the occasion included the Deputy Minister for Trade and Industry, Stella Manyanya, and Zakaria Muyengi, the acting director for the Agricultural Sector Development Program (ASDP-II) in the Office of the Prime Minister.

The IITA team hosted a booth to showcase and demonstrate the use of AKILIMO tools in providing cassava agronomy advice, showcased the NURU Application, the Seed Tracker and cassava transformation technologies by IITA Dar- Youth Agripreneur group.



Mr Abubakri Mzanda, IITA-ACAI staff, explaining the functionality of AKILIMO App to the Deputy Minister for Agriculture Hon. Omari Tebweta Mgumba

This newsletter is produced by African Cassava Agronomy Initiative (ACAI) in collaboration with the BASICS projects.

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