

Cassava Matters

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Nigerian farmers get advisory services on cassava production via the mobile phone for free



Farmers with Airtel SIM Cards can now listen to advisory services on cassava by dialing 3-2-1

Nigerian farmers can now access extension and advisory services related to weed control, best planting practices and other aspects of cassava production on their cell phone free of charge, thanks to the African Cassava Agronomy Initiative (ACAI).

The mobile telephony service is powered by Airtel using the 3-2-1 Service of Viamo. Farmers with Airtel sim cards who want to access the service and get good advice on cassava production can simply dial 3-2-1 and listen to all the information they need to make the most out of cassava production.

Dr Alfred Dixon, IITA Director for Development & Delivery, said the use of mobile phones would give farmers especially women access to the knowledge they need to improve their livelihoods.

"The mobile approach will also enable the

An integrated, economically-sustainable cassava seed system is emerging in Nigeria

The project "Building an Economically Sustainable Integrated Seed System for Cassava (BASICS)" came together with its stakeholders to review progress and plan the way forward between 11th and 13th of March 2019 at the IITA Headquarters in Ibadan, Nigeria.

The meeting, reflected on the activities of the project in the past three years to foster a sustainable seed system to assess the improvements catalysed across the seed value chain and to discuss ways to take the successes forward in an economically sustainable way beyond the project support.

recommendations contained on the "Six Steps to Cassava Weed Management and Best Planting Practices to reach the hard-to-reach terrains in Nigeria," he added.

The cassava information on weed control and best planting practices on the 3-2-1 service are the combined recommendations from the now merged IITA Cassava Weed Management Project (CWMP), and the IITA African Cassava Agronomy Initiative (ACAI).

The recommendations from these projects were validated during a stakeholders' meeting involving the National Root Crops Research Institute (Umudike), and the two premier universities of agriculture in Abeokuta and Makurdi. State extension agencies from Abia, Benue, Ogun and Oyo were also part of the initial message development. There were also development

Dr Graham Thiele, CGIAR Research Program on Roots, Tubers and Bananas (RTB) Program Director and the Principal investigator for BASICS project stated that the project falls under the RTB Flagship Project 2 "Productive varieties & quality seed". RTB benefits the project by incorporating its global outlook to foster a new breeding mindset - gender responsive, targeting product profiles with a stronger focus on varietal replacement and bringing in learnings from seed systems work in vegetatively-propagated crops from across the world. RTB acts as an honest broker for players in seed systems and

partners such as GIZ, Catholic Relief Services, and the Market Development in the Niger Delta project (MADE) who gave useful insights into the message development process.

Dr Pieter Pypers, ACAI Coordinator said the release of evidence-based messages on the 3-2-1 service provides farmers the tools they need to improve cassava yield and make more profits.

Harriet Blest, Country Manager of Viamo said they were excited to work with IITA in the framework of ACAI to transform cassava in Nigeria using the 3-2-1 service of Airtel.

With a subscriber base of 43.1 million, Airtel is one of the top three telecommunication companies in Nigeria, according to data reported by Nigeria's leading newspaper, the Punch.

Godwin Atser, Digital Extension & Advisory Services Specialist with IITA who coordinated the messages with Viamo, said the development was a new dawn for cassava farmers.

"This move will complement the extension work we are doing in Nigeria by offering farmers the information they need in real time", he added.

In the days ahead, IITA-ACAI and Viamo plan massive awareness so farmers can take advantage of the information on the 3-2-1 space to improve their livelihoods.

currently co-ordinates all the component partner activities under the project.

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Dr Thiele

Kudos, as stakeholders reflect on the 5-year activities of the IITA-CWMP



Dr Dixon (far right) giving a progress report of the IITA-CWMP

When the IITA Cassava Weed Management Project was conceived in 2014, one of the concerns on the minds of many was whether the team would be able to provide solutions that would address weeds in cassava farming systems, and to what extent the innovation could be disseminated to create impact at farm level. The bottom-line was whether the project would be able to raise the productivity frontier of cassava over and above the national average.

Five years down the lane, key stakeholders converged on IITA Ibadan on 14-15 March 2019 to reflect, examine, and give a verdict with regards to what extent the IITA-CWMP had kept to the task.

Participants from both the private and public sector concluded that the research results derived from the project's work was a masterpiece that is set to change the narrative in cassava farming across Nigeria.

The positive commendation was against the backdrop of the excellent performance of the project across earlier set

milestones: for instance, the project screened and identified safe- and environment-friendly herbicides. Through the integrated weed management approach of the project which combines best-bet agronomic practices and the use of herbicides, farmers are getting cassava yields of more than 20 tons per ha (more than double the national average of 9 tons per ha).

Speaking on behalf of the Oyo state government, Mr Victor Atilola, Permanent Secretary of the Ministry of Agriculture, stated that the extension toolkit on cassava developed by the project was helping to improve cassava production in Oyo state.

Being one of the states benefiting from the IITA-CWMP, Mr Atilola said he hoped to have a better ranking for the state in cassava production. Nigeria ranks states in terms of agricultural production of key crops such as cassava, maize and rice, animals and aquaculture.

For Mr Ado Adeniyi of the Federal Ministry of Agriculture and Rural Development (FMARD), the Six Steps to Cassava Weed Management extension toolkit is an all-in-one package that will help farmers combat weeds in their cassava farms. He noted the ministry's partnership with the project has been of immense help in addressing the issues of cassava weed control.

Another stakeholder, Mr Temitope Banjo, representing Bayer Nigeria Ltd, stated that working with the project to address the menace of weeds in cassava farms had proven to be a feat as the toolkit developed has recorded significant impact in so many communities. "we are also carrying the gospel of the Six Steps to communities we work with as it has proven to yield encouraging results," he added.

Yet another stakeholder, Mr Akeem Abimbola of Syngenta Ltd, commended the IITA-CWMP team for its collaborative approach in implementing the project. He noted that the extension toolkit (Six Steps to Cassava Weed Management) was a valuable tool for assisting farmers to attain higher yields in cassava.

Nath Manoj of UPL gave a thumbs-up to the project and promised that UPL would continue to partner IITA to disseminate plant protection solutions to farmers.

Funded by the Bill & Melinda Gates Foundation, the IITA-CWMP screened environmental-friendly and safe herbicides and explored agronomic factors including motorized mechanical options for weed control in cassava, and through extensive research developed the Six Steps to Cassava Weed Management toolkit and the ABC of Weed Management in Cassava Production in Nigeria. When followed and applied, farmers are able to increase the productivity of cassava and reduce the drudgery of hand weeding.

ACAI team reflects on progress made in first quarter

Members of the African Cassava Agronomy Initiative (ACAI) met in Nigeria to brainstorm and reflect on the progress made in the first quarter of the year, 2019, across the different components of the project otherwise known as Work Streams.

The meetings, which were convened by the Project Coordinator of ACAI, Dr Pieter Pypers, 2-6 April; were aimed at creating internal synergy within the ACAI team while at the same time providing insights on the progress made by the Nigerian team.

Specifically, members of the ACAI team took a retrospective assessment of the best planting tool, monitoring and evaluation tools, and intercropping tools. There were also meetings with staff to assess the digital extension plan of the project and the scaling

strategy being adopted.

Dr Pypers also took time to discuss and

appreciate the contributions of the project administration team, just as he held

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ACAI team in Ibadan after a brainstorm session

Researchers make weed management in cassava easy task



Stakeholders at the 2019 annual planning and review meeting of the IITA-CWMP

Scientists working under the International Institute of Tropical Agriculture-led Cassava Weed Management Project have found a solution that simplifies weed control in cassava farming systems, raising the appeal of the crop among growers, and helping farmers to gain more incomes.

The discovery of a weed control kit that addresses weed menace in cassava is significant owing to the fact that cassava is a long duration crop that demands multiple hand weeding—a practice that is commonly done by women in most of African communities.

Addressing stakeholders at the 5th annual meeting of the IITA-CWMP held 14-15 March 2019, Dr Kenton Dashiell, IITA Deputy Director General (Partnerships for Delivery) praised the team of researchers from IITA that worked on the innovative weed control package in close collaboration with national partners in Nigeria.

Dr Dashiell who was represented by IITA Deputy Director for West Africa, Dr Michael Abberton commended the team, stressing that the body of researchers were glad over the innovation as farmers can now control weeds without having to experience drudgery.

According to him, “The importance of weed control cannot be ruled out in agriculture especially in cassava that is a staple crop in Africa.”

In smallholder farmers where weeds are not

controlled, farmers lose as much as 40-70 percent of cassava root yields to the menace of weeds.

The IITA-CWMP which marked its fifth year of operation developed an integrated weed control method packed in a toolkit known as the Six Steps to Cassava Weed Management. When applied, farmers can achieve more than double the national yield average of 9 tons per hectare of cassava without drudgery.

Lawrence Kent of the Bill & Melinda Gates Foundation commended the sterling feat achieved by the project but added that the task ahead was for the team to formulate strategies for dissemination as this would ensure that the results reach the farmers.

“All of this research will make sense if more farmers apply it and get good yields,” he said.



Prof. Steve Weller described IITA-CWMP as a ‘great project.’

Dr Alfred Dixon, Project Leader of the IITA-CWMP stated that the project had achieved a breakthrough that would lift cassava farmers out of poverty in Africa. He added that the greatest disservice would be to fail to disseminate the breakthroughs to farmers.

“There is need to scale out research results so as to reach millions in a sustainable way,” he said

While emphasizing the need for market, Dr Dixon pointed out that the research findings will not reach the target groups without the market. “there is need to ensure there are linkages to markets, using a well-defined competitive value proposition,” he said.

The 5th annual review and planning meeting of the IITA-CWMP marked the end of the five-year phase of the project but also opened a new phase for researchers to progress their work in the framework of the African Cassava Agronomy Initiative (ACAI). It drew participants from various stakeholder organizations including the University of Agriculture Makurdi (UAM), National Root Crops Research Institute, Umudike (NRCRI), Federal University of Agriculture Abeokuta (FUNAAB), Federal Ministry of Agriculture and Rural Development (FMARD), Bayer, Syngenta, BASF, UPL, and Agricultural Development Programs from Ogun, Oyo, Benue, and Abia states.



Dr Charlie Riches said the IITA-CWMP team did a wonderful job.

ACAI team reflects on progress made in first quarter

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discussions with the Ph.D. trainees of the project.

At the end of the meetings, Dr Pypers said he was satisfied with the progress made in Nigeria especially towards the finalization of the Decision Support Tools and the outreach plan.

ACAI staff who participated in the meetings included, Christine Kreye, Stefan Hauser, Friday Ekeleme, Godwin Atser, Ezinne Ibe, and several other staff.

Commenced in 2015, ACAI is Africa’s

flagship cassava agronomy project aimed at delivering cassava agronomy at scale. In 2018, ACAI and the Cassava Weed Management Project merged into one under the framework of ACAI, a move that enlarged the portfolio of ACAI.

ACAI Weed Scientist, Prof Friday Ekeleme commended the convener of the meeting, Dr Pypers; and pledged the commitment of the team to redouble efforts to reach the milestones set in the project.

Beginning in 2019, ACAI aims to provide

farmers with better agronomic advice, and provide tools that allow farmers to access that information either directly (radio, SMS, USSD, IVR) or indirectly through services by Extension Agents who are equipped with the DSTs (paper-based, app). This would help them in delivering recommendations at scale and will in turn boost the yield of cassava and put Africa on the path of agricultural growth, and raise the standard of living of cassava farmers, while making available more food to feed Africans.

...cassava seed system is emerging in Nigeria



Stakeholders at the 2019 annual planning and review meeting of the BASICS project

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Achievements of BASICS

Dr. Hemant Nitturkar, BASICS Project Director, in his address, gave an overview of the achievements and challenges of the four-year project so far. "This year's meeting is a time for reviewing, reflecting, and renewing what we set out to do. We have achieved some credible outcomes in the last three years, and we have also hit some roadblocks that we are trying to overcome. We had set out to develop an economically sustainable system to produce and sell cassava breeders seed, foundation seed, commercial seed of improved varieties so farmers can access and use quality seed of improved varieties that help improve their net productivity and income." Some of the highlighted achievements were:

- Dedicated private seed businesses were established at IITA (IITA Go Seed) and NRCRI (Umudike Seeds). These new entities produce and market breeder and foundation seeds. 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.

- An innovative rapid multiplication technology called SAH™ adapted from SAHTechno has been successfully tested and deployed, allowing quick bulking of planting material for breeder seed of different varieties.

- Over 125 village seed entrepreneurs, signed on and trained by the project, are producing and selling certified commercial seeds to cassava farmers.

- The National Agricultural Seed Council (NASC) has increased its capacity to offer market responsive seed quality regulatory services through 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.

Dr. Nitturkar recounted the project's achievement, "In the ECOWAS report of

2015, there was no certified breeders seed, no foundation seed, and a limited number of certified commercial cassava seed. In 2018, BASICS facilitated production and sale of 4,556 bundles of breeders seed, 13,325 bundles of foundation seed, and 25,375 bundles of certified commercial seed."

Views from national partners

Dr. Olusegun Ojo, Director General of National Agricultural Seed Council (NASC) enumerated the importance BASICS on NASC operations. He said, "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." Dr. Ojo also commented positively on the Cassava Seed Tracker, and how NASC is looking to adopt it as the Nigerian Seed Tracker to apply to all crops being certified for seed.

Dr. Okechukwu Eke-Okoro, National Root Crops Research Institute (NRCRI) Director of External Projects, representing the Executive Director, Professor Joseph Ukpabi, stated "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 social economics of root and tuber crops. The BASICS project is changing the future of the 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™)."

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Dr Nitturkar



ACAI Agronomist, Dr Veronica Uzokwe; and Lawrence Kent of the Gates Foundation had a focus group discussion with women farmers to better understand cassava agronomy and weed management in Oyo State, Nigeria

...cassava seed system is emerging in Nigeria

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Perspectives from IITA and others

Dr. 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." Dr. Saethre further praised the SAH™ technology, and the success of its deployment and increasing popularity as the technology for cassava rapid multiplication. I

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. I am very proud of this project and want to thank all partners. Together we can make sure that disease resistant improved varieties will benefit farmers in a sustainable way."

The meeting was attended by national

and international partners, policymakers, and development experts from Catholic Relief Services (CRS), National Root Crops and Research Institute (NRCRI), National Agricultural Seed Council (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, village seed entrepreneurs, the Processor-led Model (PLM), Quality Seed and market responsive certification and 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 and the deliberations on what needs to be done going forward to

make sustainable changes in the seed value chain, the project team agreed on a way forward to develop a concept note to be submitted to the donor to seek funding for a potential second phase of the project.

The Building an Economically Sustainable Integrated Seed System for Cassava (BASICS) in Nigeria is a 4-year project, led by the CGIAR Research Program on Roots, Tubers and Bananas (RTB) and funded by the Bill and Melinda Gates Foundation that seeks to create a commercially viable private sector cassava seed system in Nigeria that is compliant with improved seed certification standards implemented by the National Agricultural Seeds Council (NASC). More information on the project can be obtained from the project website - <http://www.rtb.cgiar.org/basics>



R-L: IITA DDG (Research), Dr May-Guri Saethre; IITA DG, Dr Nteranya Sanginga, and other stakeholders

From the field: Empowering youth for more incomes and better livelihoods

After spending more than a decade in acquiring formal education, young farmer Shittu Suleiman was full of hopes of getting a white-collar job. Unfortunately, his dream never came to pass. He was frustrated, dejected, and was fast losing hope on the opportunities in Nigeria. He contemplated going into agriculture on a large scale but was discouraged by the weed infestation and poor yields he had witnessed in the past on several farms in Lanlate—an agrarian community, located about 2 hours away from the ancient city of Ibadan in Oyo state, south west Nigeria. While pondering on what to do to earn an income, farmer Suleiman came in contact with a team of researchers working under the IITA Cassava Weed Management Project who were on mission to work with farmers to establish demos across the State.

“When I met them and got to understand that it was possible to grow cassava without using manual weeding, I never believed them. However, today I can boldly testify that it is possible,” he said while ushering members of the Steering Committee of the IITA-CWMP to different plots on his farm on 16 March 2019.

“With this technology, one can cultivate cassava/maize on large scale without the fear of weed infestation and truly make a living from agriculture,” he remarked.

Farmer Suleiman is just one among several young people in Nigeria that have benefitted from the IITA-CWMP’s technology toolkit, popularly known as the ‘Six Steps to Cassava Weed Management toolkit’.

The toolkit is a product of 5-year research work on integrated weed management that combines best-bet agronomy in cassava farming systems with the use of safe and environment-friendly herbicides.

Farmers who are adopting the recommendations of the ‘Six Steps to



On a field trip, researchers interacted with farmers to have a better understanding about weed infestation

Cassava Weed Management toolkit’ are not just controlling weeds but have also seen their yields more than double the national average of about 9 tons per ha.

Farmer Suleiman said the use of herbicides as recommended in the toolkit lowers his cost of production remarkably.

“When you use herbicides, you spend less about N6000 per acre but if you hire someone to do manual weeding, you pay as much as N15000 per acre,” he explained.

“This to me is what is needed for agricultural transformation,” he added.

In several communities, weeds have forced farmers to either abandon their farms or limit farm sizes. However, not much has been made to put the devastating impact of weeds on the front burner in national discourse.

Prof. Friday Ekeleme, Principal Investigator on weed control under the African Cassava

Agronomy Initiative (ACAI), sees the trend as worrisome.

“When diseases attack animals, it gains national prominence. The situation is not the same for weeds. Farmers are left to bear the consequences and in some cases, they lose everything,” he said.

In 2017, the IITA-CWMP brought together on a roundtable, Commissioners of Agriculture, who declared weeds as a major productivity drawback and made a commitment to put resources to weed control in their states.

For Farmer Suleiman, such attention and support are needed to conquer weeds and attract youths to agriculture. More importantly, he wants more youths to become aware of the ‘Six Steps to Cassava Weed Management toolkit’ so they can make a living from agriculture and become creators of jobs rather than job seekers.

ACAI extension agents trained on dissemination of the Decision Support Tools

The African Cassava Agronomy ACAI conducted a training of trainers for extension agents working with Oyo State Cassava Growers Association (OYSCGA). The training is the first of a series planned to kick off the dissemination of the ACAI decision support tools in Nigeria and later in Tanzania.

Extension agents drawn from 11 local governments across Oyo State in Nigeria were trained on the modalities of conducting dissemination activities and to capture feedback from beneficiaries. The trained EAs were also tasked to conduct step down training in the local governments for their colleagues.

The training was led by IITA-ACAI’s Senior Agronomist, Dr. Stefan Hauser accompanied

by IITA colleagues Mr. Saburi Adekunbi, Mr. Thompson Ogunsanmi, Mr. Dada Adebayo, and Ms. Augustina Amaechi.

The trainees were shown practical demonstrations on how to use tables and



Dr Hauser taking a training session on weed assessment

maps as paper-based format of the Best Cassava Planting Practice (BPP) decision support tools. The training also included a guide on applying the recommendations from the tools and how to use the monitoring and evaluation tools to collect information after dissemination events.

ACAI and OYSCGA agreed on the validation and dissemination activities action plan for 2019 that will be implemented at the grassroots level by the EAs affiliated to the association. The EAs will be expected to run demonstrations of the ACAI tools for farmers and provide recommendations within their operation domains while collecting data on the adoption, use, and feedback from beneficiaries.