

Harnessing the power of partnerships for cassava transformation

Realising the crucial role of effective partnerships in achieving shared goals, the African Cassava Agronomy Initiative (ACAI) is investing significant efforts in cultivating and fostering the right partnerships in its cardinal aim of reducing the cassava yield gap in Africa. The ACAI project team is sparing no effort in ensuring effective collaboration among partners from the experimental phase to development, and use of the tools that will support appropriate management of cassava to realise the crop's fullest potential on farmers' fields.

The initial engagement of key stakeholders has been realized through the implementation of activities related to the project's output 4.5: Cassava clusters established with engagement of all major stakeholders operating within cassava value chains in the target countries, led by the Africa Soil Health Consortium in collaboration with CABI.

The ACAI Project Coordinator, Dr Abdulai Jalloh noted that even though the entry point of ACAI is the yield gap, it was imperative for strategic consideration of the cassava value chain and inclusiveness of all stakeholders. According to him, ACAI is conscious of the mistakes of past interventions where bottlenecks were considered in isolation. He emphasised that ACAI would direct efforts towards reducing the yield gap which would eventually increase cassava production while ensuring impacts along the value chain with a view to having sustainable improvement in cassava production, processing and utilization; and impact on the economic development of individuals, communities, and countries.

Mr James Watiti of CABI who is leading the establishment of cassava value chain clusters emphasised that it was



Dr Jalloh (ACAI coordinator), Mr Amos Projest and Mr Anup Modha (Minjingu), and Mr James Watiti (CABI)

very crucial to bring all stakeholders together and hold meaningful conversation in an open manner. He stressed that as long as there is candid conversation among partners, issues and challenges can be addressed and synergies capitalized on.

In a bid to map key value chain actors with regards to ACAI interventions in Nigeria and Tanzania, key actors

ranging from farmers, researchers, extension services, development workers, processors as well as input dealers notably fertilizers are being engaged by both IITA and CABI. The main aim is to establish contacts among relevant actors for learning and information sharing that will benefit the participating partners associated with ACAI.



L-R: Dr Abdulai Jalloh (ACAI Coordinator) with the Vice Chancellor of Federal University of Agriculture Abeokuta, Prof O. B. Oyewole during a courtesy visit to the Vice Chancellor

NOTORE awaits ACAI results to commence blending cassava specific fertilizers

In Nigeria, the IITA-ACAI/CABI team met with the management of the fertilizer company, NOTORE, together with a representative of SG2000 in Abuja in June. During the discussions in Abuja, Dr Innocent Okuku, a manager with NOTORE, said that the company had been striving to come up with fertilizer products that would meet the need of cassava growers particularly with regards to dry root yield and starch quality. He noted that it had been a challenge to cater for cassava against the relatively higher demand for fertilizers for other crops like maize, rice and vegetables. He, however, expressed confidence that an exclusive blend for cassava would go a long way in encouraging farmers to use fertilizers on the crop. Dr Okuku said he was eagerly looking forward to results of ACAI field trials that could inform blending and production of fertilizer blends that could meet the need of farmers in the shortest possible time.



L-R: Dr Jalloh (ACAI Coordinator), J. Watiti (CABI), Dr Okuku (NOTORE) Dr Aloit (CABI), NOTORE staff, and Mr Garko (SG2000)

On his part, Mr Idris S. Garko informed the team that SG 2000 had been recording substantial increases in cassava yields from farmers applying fertilizers. He mentioned that most farmers were increasingly using fertilizers due to its proven benefits. He, however, noted that a more research based exclusive fertilizer blend for cassava would be most

welcomed by the farming community. Mr Garko added that SG2000 had confidence in the ACAI project, and that was why it was partnering with the project by providing field staff that were identifying farmers and establishing research plots on farmers' fields. He said the farmers were part and parcel of the trials and would more likely adopt the results.

CAVA II reiterates commitment to work with ACAI



ACAI team with CAVA II in FUNAAB

In Oyo and Ogun States, ACAI has engaged the Cassava Adding Value for Africa – phase II (CAVA II), and Psaltry. CAVA II is mainly engaged in flour production while Psaltry processes cassava into starch. Before the discussions with the CAVA II team that was hosted by the Federal University of Agriculture in Abeokuta (FUNAAB), the ACAI team met with the Vice Chancellor of the University, Professor O.B. Oyewole. The VC welcomed the ACAI team and encouraged both IITA and FUNAAB members to work in harmony for the successful implementation of the project. He thanked the team for the fruitful

collaboration and support to research particularly the award of scholarships to staff members of the university.

During discussions with the CAVA II team, the coordinator of CAVA II expressed satisfaction for collaborating with ACAI in implementing the various trials linked to the use cases, and noted that CAVA II was in a strategic position to contribute towards the value chain analysis to ensure sustainable gains for all actors along the value chain. He informed the team that CAVA II emphasis is on ethanol, chips and starch with the overall aim of increasing farmers' access to market.

Staggered Planting technique excites Psaltry

During the team's visit to the Psaltry processing plant, the Head of Farm Mechanization, Mr John Vandy said that the factory could only operate at about 60 percent of full capacity due to inadequate raw materials. He welcomed the ACAI project, and expressed optimism that it would help farmers to increase their yields so that the factory could operate at full capacity. Mr Vandy also mentioned that they were having challenges with the low level of starch content of local varieties as well as the seasonal variation of cassava

supply. He informed the team that they have installed equipment that determines the starch content of each batch of cassava supplied and that they pay suppliers according to the total starch content of cassava roots. He welcomed the ACAI Staggered Planting experimentation that is investigating the variation of starch content with variety as well as season and management practice particularly fertilization. Mr Vandy is looking forward to the results that will enable farmers to have higher root yields as well as higher starch content.

Estimating starch content of cassava at Psaltry processing site



CAVA-TFNC wants cassava production expanded in Tanzania

In Tanzania the IITA-ACAI/CABI (Centre for Agriculture and Bioscience International) team met with four key actors along the cassava value chain. These include CAVA-TFNC (Tanzania Food and Nutrition Center), Farm Concern International (FCI), Minjingu; and MEDA.

The Country Manager of TFNC, Ms Grace Mahende noted that in Tanzania cassava has not grown out of the original production areas in the country, and that there is need to expand the production of the crop to other parts of the country. She said that the thrust of FNTC was increased diversity of cassava products while improving the quality and safety of such products. Ms Mahende pledged continued support to the efforts of



TFNC Country Manager, Ms Grace N. Mahende (second left), ACAI Project Coordinator, Dr Jalloh (left); and other officials from CABI and TFNC



Senior Programme Manager for Private Sector Partnerships, Mr Winston Mwombeki (Second from left); and officials from CABI, ACAI, and FCI

ACAI since their organization stands to benefit from the ACAI interventions.

At the FCI headquarters, the Senior Programme Manager for Private Sector Partnerships, Mr Winston Mwombeki expressed willingness to collaborate

with ACAI in identification of farmers and establishment of trials. According to him, the team at FCI already has a framework in the form of Commercial Villages to capitalize on demand driven technologies that will transform the fortune of cassava farmers in Tanzania.

Minjingu Mines and Fertilizer Company advises ACAI team

At the Minjingu Mines and Fertilizer Company, the General Manager, Mr Anup Modha recounted his long experience in blending various fertilizers for key crops particularly cereals and vegetables. Mr Modha gave a brief history of the company noting that it initially started with phosphate supply, and then gradually moved on to blending with other key nutrients. He advised the ACAI/CABI team to be very inclusive in implementing ACAI and that ACAI should not waste efforts in reinventing the wheel. He said that ACAI should consider the various products in the market that were already known and accepted by the farmers, and then build on them. In his remarks, the ACAI Project Coordinator, Dr Abdulai Jalloh assured Mr Modha that ACAI is certainly cognisant of the failures of earlier interventions and ACAI would rather build on ongoing initiatives than duplicating efforts. He said that an ongoing literature review is expected to capture all ongoing and past initiatives together with their successes and failures. These will inform further ACAI interventions. Dr Jalloh promised to work with Minjingu and other fertilizer companies, and noted that he is anxiously looking forward to a time when the company will blend fertilizers that would be informed by ACAI results. After the meeting, the team visited the mining and blending site.



Phosphate layers at Minjingu site.

Nigeria's premier root crops research institute pledges support to ACAI

The Executive Director of the National Root Crops Research Institute (NRCRI) Umudike, Dr Julius C. Okonkwo has hailed the efforts of ACAI and promised to provide support to his staff that are participating in the project. During one of the routine field monitoring visits in the Eastern part of Nigeria, the ACAI project team paid a courtesy call on the Executive Director of NRCRI to brief him on the progress made in establishing trials and sensitizing farmers on the potential benefits of the project's interventions.

Dr Okonkwo expressed satisfaction on the ever flourishing collaboration between NRCRI and IITA—a relationship that has existed since IITA was established. He noted that ACAI is a remarkable project in that it is tackling one of the long standing challenges to cassava production. Dr Okonkwo was particularly impressed by the degree of collaboration among the key stakeholders along the cassava value chain. He expressed confidence that such cooperation and dedication of the partners is bound to make a major impact on cassava production in the country. He commended the ACAI Project Coordinator, Dr Abdulai Jalloh and his team for working so excellently with his staff, and encouraged the team to continue the good job.



Dr Guillaume Ezui (ACAI post Doc), Dr Jalloh (ACAI Coordinator), Dr Julius C. Okonkwo (ED, NRCRI), Dr Christine Kreye (ACAI Agronomist), and Dr Adeyemi Olojede (ACAI Coordinator at NRCRI)

Dr Okonkwo requested Dr Jalloh to convey his special thanks to the Director General of IITA, Dr Nteranya Sanginga, and his staff, as well as the Bill & Melinda Gates Foundation for supporting two of his staff— one with a full scholarship and another support for thesis research associated with the ACAI project. He said such assistance was invaluable to the institute and would go a long way in strengthening the research capacity of the NRCRI.

Earlier, after introducing his colleagues to the ED, Dr Jalloh gave an overview of the project and thanked the Executive Director for making his staff available to the project and, more importantly, for pre-financing crucial project activities. The ACAI project Leader observed that had the Executive Director not intervened with such support, the project would not have established the impressive number of trials that were time bound.

ACAI trials update: 90 percent of trials established in diverse agroecologies

Over 90 percent of the targeted 667 trials under the ACAI project have been established across diverse agroecologies and socioeconomic environments in the two project countries – Nigeria and Tanzania. Further establishment has been halted to ensure that those already planted have a good chance to establish properly and withstand the ensuing drought period. Meanwhile considerations are being made for planting during the second planting season in September and October in Nigeria, and Tanzania, respectively. Incidentally the two countries cover all the range of agroecologies and socioeconomic environments that exist in sub-Saharan Africa. This diversified coverage is crucial in ensuring extrapolation of the results of the project to other countries with respect to the agroecologies they share with the project countries.

With the large number of trials now established across the diverse agroecologies and the indepth data collection at farm level in Nigeria and

Tanzania, ACAI is set to unlock the potential of cassava on farmers' fields thereby providing an opportunity for improved yields and incomes for farmers.

The Coordinator of the ACAI project, Dr Abdulai Jalloh noted that the misconception that "cassava does not need fertilization" has undermined the potential of the root crop, and limited its benefits to farmers. He cautioned that growing cassava without appropriate fertilization does

not only undermine the potential of the crop but also leads to nutrient mining in the already impoverished soils. "This situation can only lock the farmers into perpetual poverty," he said. He expressed optimism that the results of the fertilizer trials would not only enable the farming community to appropriately manage soil fertility but also minimise costs through the targeting of appropriate nutrient dosage that would reduce costs and maximise yields.



ACAI team inspecting a farmer's field in Sengerema



Setting the trial

Cassava Seeds System project makes progress

The Cassava Seeds System's project known as, Building An Economically Sustainable, Integrated Seed System for Cassava in Nigeria (BASICS), is making progress towards attaining the milestones set for this year. Following its launch in April 2016, the four-year project is gathering pace in areas of science and business issues across the cassava value chain. IITA and Context are working towards significantly increasing the seed multiplication ratio through a novel technology imported from Argentina. Working in close collaboration with the Flour Mills of Nigeria, this component met in IITA, Ibadan in the last week of June to draw out plans to set up three facilities where this fast multiplication technology will be piloted. Fera of UK, on the other hand, organized a workshop in Umudike earlier in June to develop a plan in partnership with National Agricultural Seed Council (NASC), and National Root Crops Research Institute (NRCRI) in improving the entire cassava seed certification system in Nigeria. Julian Smith of Fera said "We need a light touch certification that farmers and others can afford."

In the coming months, teams from NASC and NRCRI will travel to the United Kingdom, and East Africa to learn the best practices in seed certification and adapt them to suit the local context in Nigeria. NASC is also planning to set up a world class 'Center of Excellence' for seed certification in Sheda near Abuja. Due to the bulky nature and high quantities



Participants in a training session

of stems required for planting, only a localized seed production and supply system will work. Towards this, the Catholic Relief Services (CRS) is building a network of Village Seed Entrepreneurs (VSEs) in the Benue region and NRCRI is doing the same in the environs of Umudike. The VSEs will be trained to produce certified seeds of improved cassava varieties close to the areas of need and make available these stems for sale to the farmers located in their vicinity. In an effort to fulfil this vision, the project recently conducted a Training of Trainers for private and public extension agents who will provide technical and business support to the VSEs in Benue state. The training was conducted from June 1 – 3, 2016 in Otukpo, Benue state, and was attended by two female and 12 male trainees from the Benue State

Agricultural and Rural Development Authority (BNARDA), and the Justice Development and Peace Commission (JDPC) of Gboko, Makurdi and Otukpo. CRS, IITA and NASC facilitated the capacity building workshop, which included both theory and practical field sessions covering the best practices of high quality stem production, stem certification, and business practices of selling stems to farmers. Funded by the Bill & Melinda Gates Foundation, BASICS is a new project that is working on both the science and the business aspects of the cassava seed system to address the constraints of cassava seed production through empowerment of local entrepreneurs and champions of cassava industry. The project is principally implemented by the CGIAR Research Program on Roots, Tubers and Bananas (RTB) which is led by International Potato Center (CIP).

ACAI prioritizes capacity building of NARS for cassava transformation in Africa

The African Cassava Agronomic Initiative (ACAI) project has given high priority to enhancing the capacities of researchers from the National Agricultural Research System (NARS). This need has been highly prioritized by the project in view of the relatively less attention given to cassava agronomy research as compared to other related disciplines. The determination to adequately equip the NARS partners to effectively collaborate in data collection was demonstrated in the training of a critical mass of NARS scientists and technicians in both Nigeria and Tanzania. In Tanzania, a total of 11 NARS personnel (consisting of 8 males and 3 females) were trained while a total of 20 NARS personnel

(consisting of 13 males and 7 Females) were trained in Nigeria.

The training covered *non-destructive sampling, data management and modelling*. An evaluation after the training revealed that participants had enhanced capacity in collecting key morphological traits of cassava as well as associated intercrops (sweet potato and maize). Participants were also taught how to electronically record data using the Open Data Kit (ODK), which ensures safe storage of data as well as processing for analysis. In addition, the participants had an insight into modelling with a view to adapting the cassava growth model to African conditions.



Field work in Tanzania

AfDB to scale-out research outputs from IITA-CWMP and ACAI

The African Development Bank (AfDB) through the Technologies for Africa Agricultural Transformation (TAAT) program plans to scale-out some of the technologies coming from the IITA Cassava Weed Management Project, and the African Cassava Agronomy Initiative (ACAI).

Of interest to the TAAT program is also the cassava seeds system where innovations from the Building an Economically Sustainable, Integrated Seed System for Cassava in Nigeria (BASICS) will play a role.

The selection of research outputs/ technologies from these three Bill & Melinda Gates funded projects (IITA-CWMP, ACAI and BASICS) is a significant milestone.

The TAAT Program is a pan African initiative funded by the AfDB, and to be implemented by CGIAR and other national and international agricultural institutions. The aim of the program is to scale-out proven agricultural technologies with the view of cutting down Africa's food import bill while at the same time creating wealth and jobs.

The TAAT is harnessing a basket of proven technologies, some of which have remained on the shelves or have been piloted across the continent and elsewhere.

Under the IITA-CWMP, the TAAT program is considering the mechanical weeding and herbicides options for its cassava intensification component. The



A woman using a motorized mechanical weeder to weed in a cassava farm

staggered planting technology being promoted by the ACAI is also a key component of the program.

Dr Jonas Chianu, Principal Agricultural Economist, and Task Team Leader with the AfDB, said the innovations being chosen under the TAAT program were carefully selected from hundreds of submissions received across the world. Addressing researchers and partners during the pre-appraisal meeting on

18 July, Dr Chianu said the selected technologies would help Africa to transform its agricultural space.

The pre-appraisal meeting held 18- 31 July 2016 was declared open by the Director General of IITA, Dr Nteranya Sanginga, who was represented by the Deputy Director General (Partnerships for Development), Dr Kenton Dashiell.

Purdue University don joins IITA-CWMP in on-farm set up

Stephen Weller, a professor of weed science at Purdue University was in Nigeria to assist the IITA Cassava Weed Management Project in setting up the 2016 on-farm trials.

Prof Weller, who was in Nigeria 5-14 June 2016 visited farmers' fields in Oyo and Ogun state and interacted

with farmers, and captured their perceptions on weed control and their willingness to participate in the project.

In his note, Prof Weller remarked: "I was impressed by farmers' commitment and excitement about the weed management project. The

farmers have high expectations for the project as they know the severity of weed interference in their cropping systems and the difficulty in managing weeds effectively and economically." He commended the efforts by the IITA-CWMP research team in successfully setting up the on-farm trials, and encouraged robust communication between IITA and project partners to ensure efficient and timely collection of data.

According to him, "I feel that the IITA team has been doing an extraordinary job of managing the field sites and coordinating activities at the large number of sites where research has been conducted."

He noted that the project is on-target and accomplishing its stated goals over the course of the first 2 plus years. Dr Alfred Dixon, Project Leader of IITA-CWMP, commended Prof Weller for his commitment to the IITA-CWMP.



Prof Weller (second from right) with a contact farmer during on-farm set up

IITA – CWMP conducts Train of Trainers for 60 extension service providers and Spray Service Providers



Participants during a practical session

The IITA-Cassava Weed Management Project has conducted a Training of Trainers program for 60 persons including extension service providers, spray service providers, and other partners.

The ToT covered areas such as the Safe Use of Herbicides, Herbicides Safety and Application, Gender, Effective Meeting, Group Formation, Participation, Cassava Agronomy, Basics of Computer, Adult Education, and Report writing.

The training held 18-23 April was in response to the gaps earlier identified during the Training Needs Assessment of extension staff in Nigeria.

Resource persons for the training were drawn from the University of Agriculture Makurdi, University of Ibadan, Federal University of Agriculture Abeokuta, National Root Crops

Research Institute Umudike, IITA and Esto Perpetua Development Initiative (EPDI).

The sessions on Safe Use of Herbicides, and Herbicides Safety and Application received support from Bayer CropScience.

Dr Mohamed Elsherif of Bayer CropScience, and Prof Friday Ekeleme, Principal Investigator for IITA-CWMP, took participant through practical demonstrations of spraying with knapsack sprayers and boom sprayers. Participants were also taught the principles of calibration as a prerequisite for effective spraying.

Godwin Atser, Communication & Knowledge Exchange Expert, gave participants nuggets on participation and effective meeting, and its application at the community level.

Earlier, the Project Leader of the IITA-CWMP, Dr Alfred Dixon called on participants to make the best use of the training. He said the training was designed to enable them carry out their responsibilities more effectively.

Represented by Prof Ekeleme, Dr Dixon reiterated that the resource persons for the ToT were carefully selected.

At the end of the training, participants commended the IITA-CWMP for building their capacities.

Olatoye Abiodun, an extension agent and one of the participants, said, "This training is timely and useful not just for training others but for practical application on my farm."

Yet another participant, Betty Vembe noted, "This training makes our job easier. I appreciate the IITA-CWMP."



Caliberating a boom sprayer



Dr Elsherif

ACAI, IITA-CWMP and BASICS commend IITA-BoT decision to allow Dr Sanginga another 5 years

Researchers and staff working under the African Cassava Agronomy Initiative, IITA-Cassava Weed Management Project, and the Building An Economically Sustainable, Integrated Seed System for Cassava in Nigeria (BASICS) project have lauded the decision by IITA Board of Trustees (BoT) allowing Dr Nteranya Sanginga to lead IITA for another five years as the Director General.

On Thursday, Dr Bruce Coulman, Chair of IITA BoT in a mail circulated on his behalf by Jenny Cramer announced, "Dr Nteranya Sanginga has accepted our offer of an additional five year term as Director-General, beginning 01 November, 2016."

This resolution, researchers say, brings stability and continuity to cassava research in particular, and the IITA in general.

Since assumption in office in 2011, Dr Sanginga championed the rejuvenation

of IITA and the resuscitation of key programs to help change Africa's agriculture narrative. For instance, the investment in the Weed Science Program facilitated the funding of the Cassava Weed Management Project, the investment in IITA Youth Agripreneurs has attracted the interest of several African countries, development partners, and the AfDB. The cassava bread program revived the interest of African governments in cassava production with Nigeria reintroducing the 10 percent cassava inclusion in wheat bread policy. Dr Sanginga has more than doubled the Institute's budget and during his tenure, staff morale has remained high. He initiated and completed in record time the Science Buildings/Hubs in Tanzania, Democratic Republic of Congo, and Zambia. His concept of delivery has led to the building and establishment of the Business Incubation Platform in Ibadan



Dr Sanginga

while IITA Cotonou has been transformed to a Center of Excellence for research on biotic stresses linked to climate change. Dr Coulman said IITA had undergone a period of unprecedented growth in its science capacity under Sanginga's first five years of leadership.

Dr Sanginga remained committed to his vision that Africa can feed itself and that science and technology are the key enablers that would make the vision come true.

Cassava Matters on Whatsapp gives farmers real time solutions

The African Cassava Agronomy Initiative (ACAI) and the IITA Cassava Weed Management Project (IITA-CWMP) have launched Cassava Matters on Whatsapp as a strategy to link cassava actors on a mobile platform. The launch of the mobile platform is part of the recommendation of the Training Needs Assessments (TNA) which was conducted by the IITA-CWMP in 2015 that revealed that the mobile phone is the most used and preferred channel of communication between extension agents and farmers. The Whatsapp platform has been commended by cassava actors as it provides timely solutions to farmers and other users.

Actors on the platform include policymakers, development partners, cassava farmers, processors, researchers, spray service providers, agrodealers, industrial users of cassava, cassava stem producers, and journalists among others.

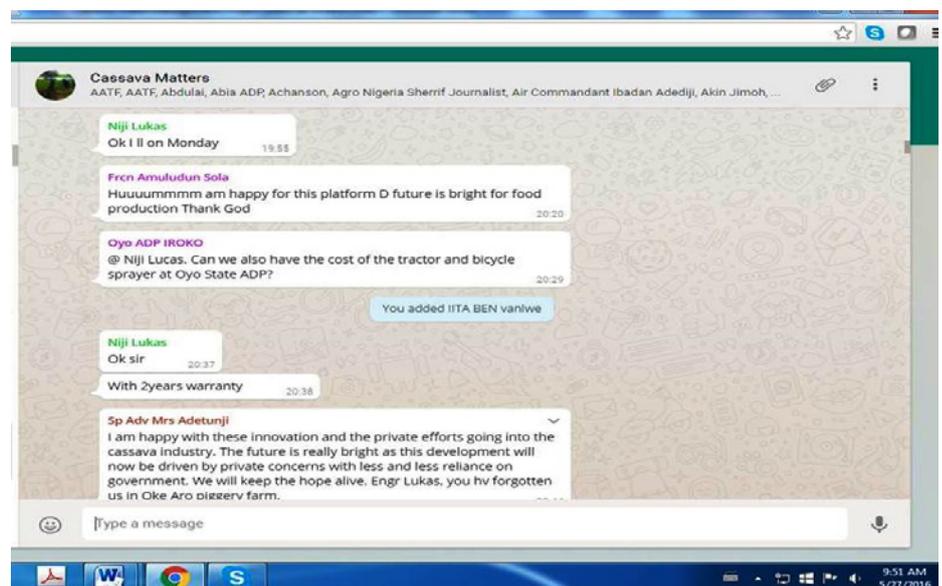
Godwin Atser, IITA Communication & Knowledge Exchange Expert, said the Cassava Matters platform demonstrated the power of information & communication technologies (ICTs) to agricultural transformation.

"On the Cassava Matters platform,

we see farmers being connected to markets, knowledge on weed control being shared, and queries being answered in real time," he said. Several farmers and other stakeholders are testifying to the benefits of the Cassava Matters whatsapp platform. Mr Kolawole Awoyinka, of the Justice Development and Peace Movement wrote: I have testimony on this platform, as a result of information

exchange on Vitamin A cassava gari, my office has sold half a tonne of this product within a week. Thanks to Godwin Atser for including JDPM OYO on this platform."

There are also testimonies of farmers being linked to buyers of cassava stems and even farm machinery. Dr Rodgers Obubo commented that the platform is a powerful tool to transform cassava in Nigeria.



Cassava Matters whatsapp page