

## IITA and WFP strengthen ties to achieve a hunger-free world

A delegation from the United Nations [World Food Programme](#) (WFP) in Nigeria visited [IITA](#) on 8 February, to strengthen existing collaboration and synergize ways to improve and sustain the livelihoods of people in the priority states benefiting from the Nigeria Zero Hunger Forum (NZHF). The NZHF is chaired by His Excellency, Former President of Nigeria, Chief Olusegun Obasanjo.

The three-member team led by Myrta Kaulard, WFP Country Director, accompanied by Akeem Ajibola, Safety Nets and Livelihoods Officer; and Tundji Sonoiki, Vulnerability Assessment and Mapping Officer, was received by the Deputy Director General, Partnerships for Delivery, [Kenton Dashiell](#); and the Director of the Development and Delivery Office, [Alfred Dixon](#). **Continued on page 2**



IITA Deputy Director General, Partnerships for Delivery, Kenton Dashiell, giving a presentation.

## IITA scientists develop decision support tools to improve cassava agronomy in Africa

Scientists under the [African Cassava Agronomy Initiative](#) (ACAI) have developed [decision support tools](#) (DSTs) which can help farmers with the best recommendations for planting cassava in their fields. The new DSTs were developed to replace the older “blanket” recommendations, which did not consider site-specific conditions and thus often produced poor results.

ACAI is a five-year project focusing on six use-cases, which reflect the different issues identified by cassava value chain actors as the most pressing problems. Each use-case has a lead scientist, supported by others to research, model, and develop the decision support tools. [Fertilizer blending](#), the first use-case, was brought forward by the fertilizer industry because of the lack of knowledge on how to blend a fertilizer that

really serves the requirements of cassava. Although there are standard formulations, they are ineffective for cassava and need to be reformulated to produce the kind of fertilizer that would demonstrate clear yield and income advantages.

The second use-case centers on site-specific [fertilizer recommendations](#) with respect to knowing the type, quantity,

method, and timing of fertilizer application. There is feedback between fertilizer recommendation and the fertilizer blending use cases because soils across Nigeria and Tanzania are different and different soils require different formulations. The fertilizer recommendation DST considers soil properties, climate, planting and harvesting time, target yield, and resource endowment of the farmer. Thus, the fertilizer recommendation will be specific to every field and to every farmer's capacity to invest in fertilizer. With this DST on fertilizer application, it is possible to optimize the amount of money farmers invest on fertilizers and maximize the revenue from cassava.

The [intercropping](#) use-case focuses on planting different crops together and particularly investigates what planting density of maize is best to attain high yields without compromising the cassava yield and the best possible use of fertilizer to increase yields and profitability. However, the [best planting practices](#) use-case does not exclusively look into methods of increasing

yields but has a strong component on reducing the cost of production. This use-case was brought forward by the farmers' association because one major constraint is the need to invest in tillage at the start of the season when neither yield nor prices are known. By reducing the initial investment to a minimum without compromising cassava root yields, the probability of attaining higher income from cassava will increase.

The [scheduled planting](#) use-case was developed by the cassava processing industry to stabilize the supply of raw roots to factories and processing facilities. Currently, cassava supply peaks in the main harvest season and is too low before and after. The factories, however, need a certain amount of roots every day to use their capacity and to work profitably. Along with high and low supply phases come price fluctuations that can hurt both the processors and the farmers. With methods that would lead to a more uniform distribution of the cassava production across the year, prices would stabilize and factories would process at a lower cost leading to

higher income for farmers and potentially lower product costs for consumers.

The scheduled planting use-case is linked with the [high-starch](#) use-case which focuses on attaining the highest possible starch content of cassava. Many processing factories price cassava according to the starch content. This means that cassava with a higher starch content will fetch a higher price per ton. The industry is interested in high starch cassava because the extraction costs decline with higher starch content. Farmers should thus be interested in knowing how to grow cassava to achieve high starch content.

This is the fourth year of the ACAI project. The first three years concentrated on research and development of the DSTs to help farmers with the best site-specific recommendations. Currently the project is engaging many extension agents to get training on the use of the different DSTs. Together with farmers, extension agents test the DSTs in validation plots to assess if and by which margin the yields and revenue increase when farmers follow the recommendations of the DSTs. After the validation phase, extension agents and farmers who want to use these tools can download the DSTs as apps on smartphones and apply the technology in their fields. The [Global Positioning System](#) (GPS) in the phones will read the coordinates of the field and report back to a server, which will make use of all available data to understand the situation of the field.

In addition, the farmer needs to answer a few questions before the app will make recommendations. Farmers can then follow the recommendation and compare if the recommendation is better than their usual practice and report back if the recommendation produced higher yields and how much. These data are used to reduce the risk of incorrect recommendations and to further fine-tune the DSTs to improve cassava productivity and achieve higher incomes for farmers.



Field staff inspecting a cassava field.

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In his welcome remarks, Dashiell expressed his delight on how the partnership would support and elevate the standard of living of people in the targeted states: Benue, Borno, Ebonyi, Kebbi, Ogun, and Sokoto. He said, "The partnership between IITA and WFP is essential to improve food security through the promotion of sustainable agriculture. It also brings us closer to a zero-hunger world, rapid economic growth, and increased agricultural productivity."

Stating the purpose of their visit, Kaulard applauded IITA for its innovative research and delivery that has lifted millions of farmers out of poverty and emphasized the need to put in more effort as a team to achieve a common goal. She said, "Specifically, we came to

discuss and draw a road map on how WFP could support IITA in its fight for zero hunger in Nigeria and beyond. This is also vital as the WFP in Nigeria is faced with the incredible challenge of reducing food importation and ensuring special access to nutrition, especially for children and pregnant women."

The goals of the NZHF not only include the elimination of hunger among Nigerians but improvement in their standard of living through an implementable agenda and network of agricultural programs and activities. "Working substantially together with an institution like IITA to succeed in our target of ending hunger and poverty across the entire country is fundamental and key to ensuring a better livelihood and creating an enabling environment for all," Kaulard stated.

The visit of the WFP team and collaboration with IITA would further consolidate the gains achieved by the NZHF in Nigeria since it started in 2017.

Dashiell further commended the work of WFP in Nigeria and the collaboration between the two institutions. "As the NZHF pledges to end hidden hunger, achieve food security, improve nutrition, and sustainable agriculture, I am optimistic that the mutual partnership between IITA and WFP would contribute to a greater attainment of our mission, which is to help the most vulnerable people to get out of poverty and malnutrition and move into prosperity and good health," he said.



# Defying odds to pursue a science career in war-torn South Sudan: **Beatrice Langwa, PhD**

Although female representation in science careers is no longer a novelty, it is still a rarity to find women scientists from conflict zones such as war-torn South Sudan. Beatrice Langwa, a PhD student at the University of Juba in South Sudan, is challenging that narrative. She is undertaking her PhD with a scholarship from the [Norwegian Programme for Capacity Development in Higher Education and Research for Development](#) (NORHED) project.

Langwa is studying sweetpotato viruses in three states in South Sudan, under the supervision of [James Legg](#), IITA Plant Health Specialist based in Tanzania. Recently, she was at [IITA Tanzania](#) to conduct her experiments and analyses as the long years of conflict has left her country without research facilities.

Sweetpotato is the second most important crop after cassava in South Sudan and therefore, according to Langwa, the study is significant because the findings will contribute towards finding a solution to control and limit the spread of the diseases.

"It is important to identify the viruses that are spreading diseases and causing a lot of damage and destruction to sweetpotato and understanding how they are spread to find ways to control them. This is the first such study in my country," she said.

She also pointed out that she has experienced great difficulties during her studies due to the



*Beatrice Langwa in the lab at IITA-Tanzania.*

prolonged war in South Sudan. "The war has really affected my research, especially in the first year when I used to go to the field to collect information from farmers and samples for testing in the laboratory. Due to the conflict, we now have no laboratories; therefore, I had to transport my samples from Juba to Norway, which was challenging."

Langwa is also very appreciative of the support received from the Institute and especially from her co-supervisor, Legg. "IITA has been very supportive. The staff here are very good, cooperative, and ready to help. I have been learning a lot from them," she said.

She said she was grateful to IITA for the opportunity to conduct the experiments at the laboratories in Tanzania as she cannot conduct the studies in her country. "I cannot do anything there at the moment," she noted.

She says she has now managed to collect most of the data needed to write her thesis, but she also needs to collect whiteflies, the vectors of the viruses, to study their diversity in South Sudan. "This is my worry as it will be difficult to access the farmers' fields easily because of the war."

Despite these challenges, Langwa continues to push for a better tomorrow for her country and a different narrative for women in the science field.

## ATASP-1 honored for enhancing livelihoods in Kambuwa community, Kebbi State

The [Nigeria Agricultural Transformation Agenda Support Program – Phase 1](#) (ATASP-1 Outreach Program) of the Kebbi-Sokoto Zone and the sorghum value chain implementation partner, the [International Crops Research Institute for the Semi-Arid Tropics](#) (ICRISAT), were honored by the people of Kambuwa community in Yauri Emirate of Kebbi State for developing the sorghum value chain, which has transformed its productivity and marketing in the community.

26 January was a remarkable day for the ATASP-1 program as the Program Zonal Coordinator, Dr Aliyu Abubakar, and the ICRISAT Country Representative and Commodity Specialist, [Dr Hakeem Ajeigbe](#) were recognized, appreciated, and honored with the Community Traditional Medals of honor during an elaborate agricultural show that showcased the impact of technologies adopted by the local farmers from both ATASP and ICRISAT.

The recipients were also honored with a display of the rich cultural heritage of the Kambuwa people under the leadership of Alhaji Adamu Abubakar Jibrin (Sardauna Yauri and Uban Kar Kambuwa).

The occasion was witnessed by the Secretary of the State Government (SSG) Alhaji Babale Umar who represented the Executive Governor of Kebbi State, Abubakar Bagudu and other dignitaries that include the Chairman Ngaski LGA, the Galadiman Yauri, and the Director, Research and Innovation of Aliero University of Science and Technology, Dr Sa'adu Birnin Yauri, and the District Head of Kalgo Alh. Ahruna Jada.

While making the presentation, the District Head of Kambuwa, Alhaji Adamu Abubakar said the meritorious award was in appreciation of the whole community to the ATASP-1 program for bringing several technologies that have transformed



*ATASP-1 Kebbi Sokoto zonal program coordinator receiving his award from Alhaji Haruna Jada.*

sorghum production and marketing, which has enhanced the people's livelihoods.

According to him, ATASP-1 has trained farmers on production, processing, and marketing at the community, local government, and state levels. Abubakar commended the ICRISAT office in Kano, saying the CSR 01 and SK 5912 sorghum varieties introduced have almost doubled the yield of their local varieties.

The presenter of the award, Alhaji Haruna Jada, who is the District head of Kalgo, called on the recipients to see the awards as a challenge for more dedication and innovations to transform the lives of people in the rural areas.

In his acceptance remarks, Ajeigbe who spoke on behalf of ATASP-1 recipients, said the recognition would spur them to be more committed to their work and motivate them

to offer more to the program beneficiaries. [Gbassey Tarawali](#), the Program Coordinator, commended the recipients for the honors, saying "We are proud of you. Let's continue to keep the ATASP-1 flag flying."

Kambuwa is one of 30 communities participating in the ATASP-1 outreach program of the Sorghum Value Chain Development in Kebbi-Sokoto Zone in collaboration with ICRISAT.

## IITA Forest Center trains coordinators of School Conservation Clubs

In an effort to train trainers, who are coordinators of various Schools Conservation Clubs (SCCs) in southwestern Nigeria, the [IITA Forest Center](#) (FC) organized a workshop at the [IITA](#) Headquarters in Ibadan on 8 February. Twenty-three SCC Coordinators from primary and secondary schools in Ekiti, Osun, and Oyo states, attended the workshop. In partnership with the [Nigerian Conservation Foundation](#) (NCF), the FC set up 43 SCCs in southwestern Nigeria with funding from the US Consulate General Lagos and AG. Leventis Foundation.

The event aimed to introduce to coordinators environmental conservation activities, which they will pass on to students, who are future leaders and nature ambassadors. In her opening remarks, [Hilde Koper-Limbourg](#), IITA Deputy Director General, Corporate Services, welcomed participants and highlighted the activities of IITA, including those relating to environmental protection. "Here in IITA, we are keen and devoted to raising awareness about biodiversity conservation as they assist in stabilizing different ecosystems. I am very happy to hear that 23 new schools have joined the FC's conservation clubs. It is a great honor to have you here at IITA and I am pleased to see that you all are interested in environmental education," she said.

Speaking on the Child Protection Policy, [George Piacentini](#), IITA School Head Teacher, highlighted the need to take drastic measures to halt the abuse of children which may be physical, emotional, sexual, or neglect. He said, "IITA recognizes its responsibility to ensure the protection and safety of every child within the campus."

Speaking on the need for protecting biodiversity, FC Manager Adewale Awoyemi explained, "Biodiversity conservation is basically the protection, enhancement, and scientific management of the varieties of life on earth. "In recent years, the rate of loss of biodiversity is worrisome. This is happening as a result of habitat loss, excessive exploitation of resources, climate change, pollution, and poaching. We need to synergize efforts as a team to preserve the full range of Nigeria's biodiversity so that the environment can be habitable and conducive for all." NCF Technical Partner, Anuoluwapo Akinola, also explained the nitty gritty of setting up SCCs and engaging students in conservation-related activities.

The training created awareness and provided an opportunity for participants to gain first-hand experience in upcycling,

nursery tendering operations, gardening, vegetable production, and bird watching. "I am happy we are extending our tentacles. By so doing, younger generations will be reached, thereby guaranteeing a continuous conservation of our ecosystem," Awoyemi added.

Commending IITA for its conservation initiatives, the Representative of US Consulate General in Lagos, Aikulola Idowu, stated that even though the training was not specifically meant for her, it was a revelation. She said, "From the knowledge we gained from this training today, I believe there is hope for a better tomorrow in Nigeria in the area of biodiversity conservation. Indeed, I am really impressed!" She later joined Koper-Limbourg to present certificates of attendance and appreciation to participants.



*Forest Center Plant Specialist demonstrates seed propagation techniques to participants.*

### Got a story to share?

Please send your story with photos and captions every Tuesday to [iita-news@cgiar.org](mailto:iita-news@cgiar.org) or Katherine Lopez ([k.lopez@cgiar.org](mailto:k.lopez@cgiar.org)) and Uzoma Agha ([u.gha@cgiar.org](mailto:u.gha@cgiar.org)) for headquarters and Western Africa, Catherine Njuguna ([c.njuguna@cgiar.org](mailto:c.njuguna@cgiar.org)) for Eastern and Southern Africa, and David Ngome ([d.ngome@cgiar.org](mailto:d.ngome@cgiar.org)) for Central Africa.