

IITA and other CGIAR centers participate in PfRR learning event in South Sudan

A delegation of several [CGIAR](#) scientists led by [IITA](#) Deputy Director General, Partnerships for Delivery (DDG-P4D) [Kenton Dashiell](#) took part in the Partnership for Recovery and Resilience's (PfRR) Accountability and Learning Event, 13-15 November, in Juba, South Sudan. Participants included development partners, NGOs, local stakeholders, community leaders, United Nations entities, and representatives of regional and global centers of excellence.

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Team of CGIAR scientists with IITA DDG-P4D, Kenton Dashiell (front row, 3rd from right). Photo by Paul Demo/CIP.

IITA signs MoU with media company

In a bid to disseminate IITA's best-bet proven innovations, and improve the institute's visibility, [IITA](#) and the Metropolitan Broadcasting Services (MBS) have signed a memorandum of understanding (MoU) to move the agenda forward.

The signing took place on 21 November as a delegation led by Owolabi Oladejo, the President and Founder of MBS, and Alhaji Abiola Alli, MBS General Manager, was received by [Alfred Dixon](#), Director

of the Development and Delivery Office and [Katherine Lopez](#), IITA Head of Communication. Dixon welcomed the delegation and emphasized the Institute's vision of transforming African agriculture through research for development and partnerships for delivery and solve the challenges of malnutrition and poverty in sub-Saharan Africa. He said, "The only way we can effectively achieve all these, is by partnering with organizations like MBS that would help deliver and disseminate our research impact to farmers and other end users, while increasing visibility."

Reacting to Dixon's statement, Oladejo said, "It is indeed a privilege to partner with a reputable and world class leading



Alfred Dixon, Director, P4D Office (left), and Owolabi Oladejo, the President and Founder of MBS (right), shaking hands after the MoU signing.

research institute like IITA. To achieve one of our core missions, which is to close the gap between science and delivery, there has to be open communication between the two parties. I believe that if we adhere to the terms and reference of this MoU, not only Nigerians, but also the entire world will hear and benefit from the impact of your research, because I believe that is the major reason for your innovation.”

The two organizations held discussions and highlighted areas of common interest, such as capacity development to expose youth to

the benefits of agriculture and dissemination of IITA's research findings. The two organizations signed the MoU to formalize the collaboration to effectively work together to bridge the research-to-delivery divide.

Echoing the importance of partnerships for delivery, Dixon said, “I belong to a directorate that believes that for research to be considered successful, it must get into the hands of the resource-poor farmers and other beneficiaries. I believe this collaboration would help us achieve our aim and build our presence across

Nigeria.” Concurring, Oladejo said, “We are determined to see how we can work with IITA to impact the world. Having an institution like IITA as a partner is an achievement we are proud of. If you have anything to tell the world, just say it and I assure you that the world will hear of it!”

While giving the closing remarks, Lopez reiterated IITA's commitment to work with partners in helping solve the challenges of food and nutrition security and urged MBS to help spread the gospel about IITA's innovations.

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The team representing IITA included the Director of the Development and Delivery Office [Alfred Dixon](#), Head of TAAT Clearing House Mpoko Bokanga, Postharvest Specialist [Abass Adebayo](#), Agricultural Impact Economist [Shiferaw Feleke](#), Food Safety Scientist [Alejandro Ortega-Beltran](#), and Youth Agripreneur Specialist, Noel Mulinganya.

South Sudan has been ravaged by wars during the past two decades. Although a peace agreement was signed in September 2018, the prolonged years of conflict have resulted in food insecurity affecting over 80% of the population. Malnutrition is prevalent and severe across the country. Annually, South Sudan receives almost US\$2 billion in humanitarian assistance, however, there is a need to accompany humanitarian efforts with development efforts.

The three-day PfRR event focused on multiple objectives including unravelling the evidence and status of vulnerability and resilience in South Sudan, learning the effective and ineffective methods for reducing vulnerability and enhancing coping capacity, as well as establishing a set of shared commitments for 2019 that partners and local communities can rally around to stop the growing trend of vulnerability and

increase the coping capacity of individuals, households, and communities.

Dashiell gave a presentation on restoring productive capacities in which he focused on “The role and options of science and technology for crop and livestock production, incomes and nutrition.” He laid out key approaches that CGIAR centers have implemented for building productive capacity and economic opportunities including the use of improved sorghum, maize, and rice hybrids, improved livestock enterprises, use of cassava innovations, linking smallholder farmers to markets, use of aflatoxin management strategies centered on Atlasafe, seed systems development, appropriate selection of intervention locations, better water management technologies, empowering youth and women, use of evidence-based decision-making processes, and use of digital tools in agriculture. He noted that all these approaches can aid farmers in South Sudan to gradually shift from subsistence to commercial agriculture.

The event allowed CGIAR scientists to better understand the realities on the ground in South Sudan. Potential partners and opportunities were identified for collaborations, which will focus on maximizing synergies between activities,

agencies, operations, and mandates from different institutions.

The PfRR event concluded with Dashiell leading team discussions with the [United States Agency for International Development](#) (USAID), the [Food and Agriculture Organization](#) (FAO), and the Ministry of Agriculture of South Sudan. It was agreed to jointly advocate and mobilize additional resources for activities to be conducted in the short term for the benefit of populations in South Sudan. It is expected that the participating CGIAR centers will start activities in South Sudan in 2019 by merging with existing projects of other organizations.

The PfRR was attended by representatives from the [United Nations](#), FAO, [African Development Bank](#) (AfDB), [World Bank](#), [European Union](#), Governments of Canada, Germany, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and USA, as well as local participants from South Sudan. The CGIAR centers represented included IITA, ILRI, IWMI, [International Food Policy Research Institute](#) (IFPRI), [International Crops Research Institute for the Semi-Arid Tropics](#) (ICRISAT), the [International Potato Center](#) (CIP), and the [International Center for Tropical Agriculture](#) (CIAT).



Participants at the Partnership for Recovery and Resilience event. Photo from UNICEF South Sudan (@unicefssudan).

Scientists develop a photo database of cooking banana and plantain to aid variety differentiation

Currently, the database has over 2,600 photos of over 180 varieties from East, Central, and West African banana and plantain collections.

It is estimated that over 30 million people in sub-Saharan Africa depend on [East Africa highland cooking bananas \(EAHB\)](#) and plantain as their principal source of dietary carbohydrates. These include Matooke in East and Central Africa (ECA) and plantains in Western and Central Africa (WCA).

The ECA region has over 50% of its permanent cropped area under banana cultivation, which represents around half of the total area under banana cultivation across Africa. The ECA countries (Burundi, DR Congo, Kenya, Rwanda, Tanzania, and Uganda) annually produce 21 million tons of banana with a value of US\$4.3 billion.

Despite the importance of banana, their yield levels are extremely low—way below their potential. The current production figures for Matooke, at 5–30 t/ha/year, are less than half of the yield potential estimated at 70 t/ha/year, while the current yield for plantain,

at 4–12 t/ha/year, is around a third of the yield potential of 35.5 t/ha/year; for Mchare, current production at 11 t/ha/year is less than a fifth of the yield potential of 60 t/ha/year.

Factors contributing to the low yields include a plethora of pests and diseases that attack the crops. IITA initiated its [banana and plantain breeding program](#) nearly 40 years ago, working in partnership with national programs, to develop improved, high-yielding varieties that are resistant to the major pests and diseases. This collaboration has seen the release of several improved high-yielding hybrids of plantains, dubbed PITA, and of cooking bananas, developed with Uganda's [National Agricultural Research Organization](#) (NARO) and hence named [NARITA](#) (NARO-IITA).

However, [breeding banana](#) is a long and arduous task due to the sterile nature of banana and its limited genetic diversity. Furthermore, local banana and plantain varieties often have many synonyms and different varieties have been found to have the same name. This leads to considerable confusion among researchers and can hamper the impact of their research on society. Researchers at IITA are therefore developing an image database to aid

in identifying the different varieties of banana to support and enhance breeding efforts of Matooke, Mchare, and plantain in sub-Saharan Africa.

The images show different plant parts and growth stages of 185 different varieties grown under field conditions in the IITA banana and plantain collections in [Arusha, Tanzania](#), [Sendusu, Uganda](#), and Ibadan, Nigeria. It has 2,690 images available on MusaBase (<http://musabase.org>), the global banana breeding database developed as an integral part of the [Breeding Better Bananas](#) project.

The images can be utilized as a reference for checking the identity of plants in the field, identify differences due to environmental influences, relate desirable traits to the morphology of the plants and fruits for breeding, and provide this information to the wider community as an important resource for big data and image analysis.

This database will be linked to the Musa Germplasm Information System (MGIS): <https://www.crop-diversity.org/mgis/>. For more information, contact [Trushar Shah](#), Integrated Breeding Platform (IBP) Hub Manager, tm.Shah@cgiar.org



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Photos showing the unique morphological traits of various banana and plantain varieties that help in their identification.

IITA participates in 42nd NIFST conference

The 42nd Conference of the Nigerian Institute of Food Science and Technology took place 15-18 October at the Olusegun Obasanjo Presidential Library, in Abeokuta, Ogun State, Nigeria. It brought together professionals from academia, industry, government, and research institutions to deliberate and share experiences. The theme of the 2018 Conference was “Innovations in food science and technology for economic growth.”

As one of the key sponsors of the event, [IITA](#) hosted a mini symposium on Food Systems for Healthier Diet (FSHD), an ongoing flagship project under the [CGIAR Research Program on Agriculture for Nutrition and Health](#) (A4NH), during which researchers shared key findings as well as current milestones of the research program in Nigeria. The Session was convened by IITA Senior Food and Nutrition Scientist and A4NH Nigeria Country Team Leader, [Dr Bussie Maziya-Dixon](#) and chaired by the Vice Chancellor of [Bells University of Technology](#), Ota Abeokuta, Professor Isaac A. Adeyemi. There were three presentations during the Session with the speakers drawn from the Nigeria Country Office of the [Food and Agriculture Organization](#) (FAO), the [Federal University of Agriculture Abeokuta](#) (FUNAAB), and IITA.

In his opening remarks, Prof Adeyemi noted that the FSHD approach is a required project, especially at a time when the country is confronting serious nutrition challenges. He stated that the session closely fits into the theme of the Conference.

Dr Olutayo Adeyemi, presenting on behalf of the FAO Nigeria Country Representative, Mr Suffyan Koroma, pointed out that significant reduction in malnutrition among children and women of reproductive age is among the key agenda in the Sustainable Development Goals (SDGs). She also noted that malnutrition has significant financial and economic costs, which invariably hamper the economic growth of a country. Given the daunting statistics on malnutrition, she cautioned that Nigeria may leave more people behind by 2030 if a drastic approach to stem the tide is not given serious consideration.

Speaking on “Food systems for healthier diet in Nigeria: A research agenda,” IITA Food and Nutrition Research Associate



L-R: Dr Busie Maziya-Dixon, Prof I.A. Adeyemi, and Dr Olutayo Adeyemi.

Yusuf Adekunle stated, “the study is a collaborative as well as multidisciplinary project under CGIAR A4NH geared to responding to concerns about global diet trends, and demand from countries for systemic solutions to address the problems of food insecurity and malnutrition.” He went on to identify several gaps in Food Systems in the country including the need for in-depth empirical work linking market access for farmers to dietary quality, the agricultural production-nutrition linkages, nutritional outcomes of agricultural value chains, and impact evaluation of agricultural policies or program on nutritional outcomes of smallholder farmers with focus on women and children, among others.

An Agricultural Economist from the [Federal University of Agriculture, Abeokuta](#) (FUNAAB), Dr Dare Akerere, gave a presentation titled “Dietary gap analysis in Nigeria” on behalf

of the [Wageningen University and Research](#) (WUR), a leading IITA partner on the FSHD flagship project. He highlighted approaches in assessing dietary gaps in Nigeria with the findings that a significant proportion of households have below recommended calorie consumption and essential nutrient levels. There was evidence of low consumption of fruits and dairy products with northern states consuming fewer food groups and having a lower Household Dietary Diversity Score (HDDS) than southern states, and a higher HDDS in urban areas than rural areas.

Maziya-Dixon in her closing remarks pointed out that getting effective solutions to food systems requires collaborative effort from all parties and emphasized that partnerships remain key towards delivering sustainable and resilient food systems that promote healthier diets for all.



L-R: Dr Dare Akerere, Yusuf Adekunle, with the audience during the Session.

Got a story to share?

Please email it with photos and captions every Wednesday to iita-news@cgiar.org or Katherine Lopez (k.lopez@cgiar.org) and Uzoma Agha (u.gha@cgiar.org) for headquarters and Western and Southern Africa, Catherine Njuguna (c.njuguna@cgiar.org) for Eastern Africa, and David Ngome (d.ngome@cgiar.org) for Central Africa.