

Advancing IITA-UF collaboration: IITA scientists lead discussion with University of Florida

Barely one week after the momentous signing of an MoU between IITA and the University of Florida (UF) in USA, IITA scientists have started exploring ways to build a productive research engagement and partnership between both institutions. By invitation from UF Pre-eminent Professors Pedro Sanchez and Cheryl Palm, and

facilitation by the Director of Central Africa Hub, Bernard Vanlauwe, a team of four scientists—Julius Adewopo, Fred Kanampiu, Generose Nziguheba, and Dries Roobroeck—attended the annual international conference of agronomy, soil science, and crop science which was held in Tampa, Florida. The team

also visited the University's main campus in Gainesville, to initiate discussions on short- and long-term collaborative opportunities with UF faculty members whose expertise and research interests align with the priorities and needs at IITA.

During the two-day visit on 26-27 October, the team had discussions with faculty members from UF's Institute for Sustainable Food Systems, the Soil and Water Science Department, and Agronomy Department, to identify areas of mutual interest and commence plans for the exchange of expertise and co-development of innovative solutions for agricultural development.

Common interests emerged around: (i) Application of advanced tools for assessing knowledge, practices, and impacts at varying levels, (ii) use of modern algorithms and tools to map crop yields and related constraints (both biotic and abiotic), in space

Continued on page 3



IITA staff visiting UF colleagues in Gainesville, Florida to discuss collaboration.

New center of excellence beefs up capacity to address biorisks associated with climate change

The newly established Biorisk Management Facility (BIMAF) recently organized its first ever training — on Modeling under Climate Change Scenarios, 16-20 October, in the IITA station, Republic of Benin.

The training provided an overview of potential insect modeling tools available and offered a data analysis opportunity to participants that included students and scientists working on climate-driven biorisks and invasive alien species (IAS). Among important IAS are the tephritid fruit flies, which cause

major losses in fruits and vegetables, and the devastating Fall Armyworm (*Spodoptera frugiperda*) that is now ravaging maize fields throughout sub-Saharan Africa.

The milestone training covered practical aspects of using suitable insect modeling tools such as Insect Life Cycle Modeling (ILCYM), and Maximum Entropy modeling of Species Distribution (MaxEnt). The ILCYM software facilitates the development of pest insect phenology models and provides analytical tools for studying

pest population ecology. The software consists of two main modules. One, the “model builder”, facilitates the development of insect phenology models based on experimental temperature data of a specific pest. This module also provides tools to analyze an insect life-table and to validate developed models.

The second module implemented the phenology model in a GIS environment and allows for spatial -- global or regional simulation of pest activities or “pest risk mapping”. The ILCYM



BIMAF offers the first ever training for national partners on how to deal with climate change challenges.

software provides an open-source computer-aided tool for researchers and students using advanced modeling techniques.

The 5-day training included hands-on practical sessions where users could

use sample files or their own datasets and discuss their results with the trainers and fellow participants. The training had 23 participants from seven countries across sub-Saharan Africa including Benin, Cameroon, Kenya, Nigeria, South Africa, Sudan, and Togo.

According to participants, "The training is very important to us. We would be very grateful to our trainers and BIMAF if a training manual on stepwise instructions on how to run the models can be prepared and circulated after the program."

IITA and partners establish a biorisk center

The establishment of the Biorisk Management Facility (BIMAF) was initiated by IITA and partners under the auspices of the West and Central African Council for Agricultural Research and Development (CORAF/WECARD). It is the first concrete action in the overall strategy of CIRACC (Centre International de Recherche pour une Agriculture Résiliente aux Changements Climatiques). The Center was established during a workshop on "One-health Approach for Mitigating Climate-Driven Biorisks in West Africa," held in October 2016 at IITA-Cotonou. While CIRACC is implemented through the Ministry of Environment of the Government of Benin, BIMAF has an independent Steering Committee and is under the fiduciary responsibility of the IITA Board of Trustees.

In the near future, BIMAF will facilitate the development of multi-country projects to fit the continental reach of CIRACC, identify new agricultural challenges, and outline future actions needed to meet priority goals. It also emphasizes the need for improved collaboration with key partners and coordination with existing strategies.

Incoming projects will involve not only researchers, but also civil society, including farming communities, nongovernment organizations, and public and private structures to sustainably address challenges posed by biotic stresses and climate change on agricultural production.

During her first official visit to IITA-Benin as IITA Deputy Director General for Research for Development attending the BIMAF International Scientific Advisory Panel (ISAP) Meeting, May-Guri Sæthre had a debriefing with IITA Benin researchers and stated that she was confident in the appointment of Ghislain Tèpa-Yotto, IITA Visiting Scientist, as Coordinator of the newly established BIMAF.

As the technical branch of CIRACC, BIMAF aims to catalyze collaborative linkages between national, regional, and international research and training institutions on climate smart agriculture and to foster synergies in the development and deployment of Center activities in West and Central Africa.



IITA Benin colleagues at the BIMAF training.

BIMAF aims to establish a coordination mechanism and provide a framework to guide decisions on mobilizing resources and focus towards identified priorities. So far, a strategic plan which provides the roadmap for delivering high throughput impact technologies towards mitigating the vulnerability of resource-poor farmers to the adverse effects of climate change has been drafted. It is anchored on experiences and lessons learned in strengthening the building blocks of agricultural innovation systems and increasing farmer and national adaptation capacities through research, training, and outreach.

and time, and (iii) improvement of capacity for predictive agronomy in IITA. Immediate areas for building synergy include exchange of fully funded UF students who will be hosted by IITA researchers to undergo International Agroecological Studies within the scope of ongoing research at IITA, and IITA-UF scientist exchange programs.

Further, with the implementation of IITA's institutional Open Access policy, UF researchers will work with IITA scientists to integrate datasets within and across projects. As this partnership evolves, new funding opportunities and joint projects, will

be explored to tackle an array of system-level agricultural production issues. Priorities will be guided by the challenges facing smallholder farmers, such as low yields of staple crops, emerging pests, weeds and disease threats, non-responsiveness of soils to nutrient amendments, and overall targeting of technologies and tools for sustainable intensification relative to current and future biotic and abiotic changes.

The IITA visit was concluded with a meeting with the UF Senior Vice President for Agriculture and Extension, Jack Payne, who led the signing of the IITA-UF MoU

from the UF side. He reiterated the University's unwavering commitment to strengthen its leadership in global agricultural production and food sustainability. He highlighted the relevance of the IITA-UF partnership, and the University Management's vision to broaden its international impact under the auspices of this budding relationship.

Further, Payne emphasized the undeniable position occupied by Africa as the cornerstone of global food security post-2025. He concluded by pledging support to nurture the relationship.

Projects outline lessons learned for successful scaling of climate-smart agriculture innovations

Lessons focused on policies, gender, and participation of farmers in selection and promotion of CSA practices

While climate-smart agriculture (CSA) practices have proven effective in increasing food security and the resilience of farming systems to climate change, their adoption and uptake in many parts of Africa is still low and usually pegged to the lifecycle of projects promoting them.

Therefore, two recently concluded CSA scaling projects have generated evidence to inform policies on how and where CSA practices can work to support its dissemination and adoption. The projects have identified several lessons in their efforts to widely promote CSA innovations among smallholders to increase food production, reduce greenhouse gas (GHG) emissions, and build the resilience of farming systems to climate change.

The projects, "Increasing food security and farming system resilience in East Africa through wide-scale adoption of climate smart agriculture practices," and the "Policy Action for Climate Change adaptation (PACCA)," shared these insights at two end-of-project workshops—one held in Dar as Salaam, Tanzania, on 27 October and the other in Kampala, Uganda, on 30



Head of EMU, Nantai Shakwanada speaking at the opening session.

October. The two four-year projects were led by the International Center for Tropical Agriculture (CIAT) and IITA, respectively.

The projects highlighted the importance of robust and resilient, gender-responsive policies at national and local levels and gender inclusivity in climate-smart agricultural interventions. Assessment of whole-farm trade-offs and synergies in the selection of CSA practices and providing farmers with adequate information on advantages and disadvantages of the practices, involving farmers in prioritizing the

practices and supporting farmer-to-farmer and community wide social learning were also seen as key.

It was also necessary to understand farmers' constraints in adopting CSA practices, the drivers of adoption of these practices across different scales, and the use of participatory design interventions with farmers to create ownership and sustainability. These include participatory and real-time monitoring of the interventions. Another key area was the need to invest in climate-smart land and soil management practices.

Policy action for climate-smart agriculture

The IITA-led PACCA project funded by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) aimed to use science-based evidence in influencing formulation and implementation of climate-smart and gender-sensitive policies necessary for climate resilient food systems in East Africa.

“We reviewed agriculture policies in the two countries at both national and local levels and found that they did not sufficiently address climate change issues. The policies also did not adequately incorporate gender,” said Edidah Ampaire, PACCA project coordinator.

“We used future scenarios to ensure the policies were robust and comprehensive in tackling climate change in relation to food security. We also promoted the formation of learning alliances at national and district levels to support policy formulation and promotion of CSA practices. The learning alliance created “a space” for knowledge sharing, training on climate tools, and distribution of latest CSA research,” she said.

Participatory selection of CSA practices for scaling

The objective of the CIAT-led initiative funded by the International Fund for Agriculture Development (IFAD) was to support the scaling of our CSA practices through using participatory approaches to select appropriate CSA practices and identify and address the

constraints identified by farmers in adoption of the practices.

Caroline Mwongera from CIAT and coordinator of the project gave an overview of the activities and experiences. “Our main challenge in selection of appropriate CSA practices was that they vary from context to context. This led to development of a rapid appraisal tool to identify perceived benefits of and barriers to adoption. We also used crop modeling to identify the most promising practices.

“Working with partners we set up demonstration plots for the most promising practices and conducted participatory monitoring and evaluation. The projects also worked through the learning alliance (LA), for sharing knowledge, tools, approaches, and policies for wide-scale adoption of CSA technologies,” she said.

Achievements

“The learning platforms brought together different stakeholders to share research findings to inform decision making from national to grassroots levels. They supported mainstreaming climate change issues in our agriculture policies. The partnership forged between government, researchers, farmers, and the private sector is the best way to address the immense challenges posed by climate change,” said Natai Shakwaanande, the Head of Environment Management Unit (EMU), Ministry of Agriculture, Livestock and Fisheries (MALF) during the wrap-up

event in Tanzania. “As the government we will put into practice the best practices and lessons learned from the implementation of the projects.”

Some of the learning alliances had successfully attracted climate change funding from the district budgets. “We convinced the councilors to pass a budget of TZS 10 million for climate change issues and for the Chairperson to participate in learning alliance meetings,” said Moses Eliezer, the Lushoto learning alliance facilitator.

Speaking on behalf of the Commissioner, Climate Change Department (CCD) at the Uganda event, Bob Natifu noted that “the CSA scaling projects have enabled the piloting of the Uganda CSA program, jointly implemented by Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Ministry of Water and Environment.”

The workshops brought together the projects’ stakeholders, who included donors, parliamentarians, government technocrats, scientists, NGOs, and farmer representatives, among others. The aim of the events was to facilitate sharing the evidence generated from the two CSA scaling projects and inform future climate adaptation, and CSA planning and implementation through testimonies, presentations, panel and plenary discussions, as well as short documentaries.

The projects were co-implemented in Uganda by the Climate Change Department (CCD) under the Ministry of Water and Environment (MWE) and in Tanzania by EMU under the Ministry of Agriculture. They both started in 2014 and ended in 2017.

Announcements

- **CGIAR AT COP23**, Bonn, Germany, 7–16 November
- **Phylogenetic Workshop**, IITA, Yaounde, Cameroon, 13–17 November
- **Open Access Training**, IITA, Ibadan, Nigeria, 13–17 November
- **R4D Week**, IITA, Ibadan, Nigeria, 20–24 November
- **Board Meeting**, IITA, Ibadan, Nigeria, 20–24 November
- **Science Conference** on Food and Nutrition Security: Foresight and Futures, IITA, Ibadan, Nigeria, 24–25 November
- **Open Day**, IITA, Ibadan, Nigeria, 25 November
- **ATTC annual project review meeting**, Senegal, 27–29 November
- **Introduction to Liquid Chromatography and Mass Spectrometry**, IITA, Yaounde, Cameroon, 26–29 December

IITA partners with IFAD to launch project on Enhancing capacity to apply research evidence

In keeping with IITA's commitment to support youth development and employment, IITA launched the Enhancing Capacity to Apply Research Evidence (CARE) in Policy for Youth Engagement in Agribusiness and Rural Economic Activities in Africa" project. The CARE project is being carried out in partnership with the International Fund for Agricultural Development (IFAD) through its Youth Researching Youth initiative and aims to provide fellowships for young African scholars, with a special emphasis on young female professionals and students. The goal of the project is to enhance the understanding of the poverty reduction and employment impact, and the factors influencing youth engagement in agribusiness and rural farm and non-farm economy. Understanding this and the proper implementation of research findings will significantly increase the evidence of how policies and investments can contribute to economic growth and the enabling environment for Africa youth.

The project targets two categories of young scholars: (1) Academics and professionals at research institutes and universities in Africa, and (2) Youth wishing to pursue Masters or PhD degrees. This will allow the development of the leaders of tomorrow in social science research in Africa.



Youth entrepreneurs being trained for engagement in agribusiness.

The specific objectives of CARE are to:

- Strengthen the capacity of young African scholars in generating, appraising, and disseminating evidence-based results to inform future action plans for national governments, the international community, the business sector and local communities.
- Increase the availability and use of evidence for youth policies and decision-making related to youth participation in the rural sector.
- Strengthen the ability of key stakeholders to better use an

evidence-based approach in youth economic empowerment in policy development.

CARE ultimately intends to have an impact on youth and their partners' capacities to deliver improved policies and investments that are effective at supporting youth in agriculture.

Both IFAD and IITA have had many years of experience in funding youth economic empowerment and managing youth programs and research for development in sub-Saharan Africa.

Call for applications

Fellowships on "Youth engagement in agribusiness and rural economic activities in Africa"

IITA has received a three-year research grant focused on "Enhancing capacity to apply research evidence in policy for youth engagement in agribusiness and rural economic activities in Africa". This grant, which is funded by the International Fund for Agricultural Development (IFAD), seeks to contribute to the development of policies for better engagement of youth in agribusiness and rural economic

activities in Africa and has made available 20 research fellowships for 2018.

Awards for Research Grants are up to \$10,000 and should cover the following topic areas: Social dynamics, Economic opportunities and youth engagement, Contexts, Rural labor dynamics, Youth migration, Youth and institutions, and Entrepreneurial development.

Interested applicants should get eligibility and other application details here: <http://ow.ly/AQ5m30gotWV> (English) and <http://ow.ly/XxFR30gouHO> (French), and download the application form from here: <http://ow.ly/fNr630gosZB> (English) and - <http://ow.ly/5pfZ30got5B> (French). Applications must be submitted electronically in English or French by 23:59 WAT, 28 February 2018

Young Expert Programmes (YEP)

The Young Expert Programmes, organized by the Dutch government, in partnership with CGIAR, gives opportunity for 2 Dutch nationals and 2 local young professionals (Post-doctorates or researchers) to

submit proposals in water and agrofood sectors, with focus on Agriculture for Nutrition and Health, Sustainable Value Chains and Sectors, Genetic Improvement and Propagation Material,

and Climate Smart Agriculture. For more information, applicants should visit <https://www.yepprogrammes.com/minimenu/documents> before the 1 December deadline.

Africa RISING guidelines for capturing gender-sensitive stories in agricultural research and development

Gender-sensitive story writing is not only a professional and ethical aspiration but it can also improve development efforts and co-create more gender-balanced and inclusive societies.

From this conviction, Africa RISING has developed guidelines for capturing gender-sensitive stories which focus on gender-aware selection of sources, stories and visual material, the elimination of stereotypes, and the use of fair language.

Practical case examples are given for readers. The authors analyze two stories and critique a selection of

photos published by Africa RISING for their level of gender sensitivity.

This resource is meant to be a quick reference guide for partners implementing the project as they work with smallholder farmers to gather stories. It can also be used as foundational instruction material for subsequent trainings provided by the project communications team on how partners can effectively document success stories, which are a standard requirement for all United States Agency for International Development (USAID) Feed the Future grants like Africa RISING.

Download the [guidelines](#).



Looking back

Battling the Cassava Mosaic Virus



Dr. S.K. Hahn in 1988

Source: <https://www.flickr.com/photos/iita-media-library/13943910137>

In 1971, Dr S.K. Hahn arrived in the IITA campus in Ibadan to establish a Root and Tuber Improvement Program. However, he was greeted by the problem of the *cassava mosaic virus* disease (CMV). The disease is spread mostly through the planting of infected stem cuttings, or by the whitefly vector *Bemisia tabaci* (Genn.). The disease results in smaller yields to no yield at all due to the characteristic chlorosis in the leaves caused by CMV. Losses due to CMV have been estimated at between 12 and 23 million tons, equivalent to around 15 to 25 percent of production.

Hahn recognized the impossibility of increasing yields through his research until the CMV disease was solved. Thus, he focused his research mainly on solving this problem.

Hahn and his team found mosaic-resistant populations developed by A.J. Storey in East Africa nearly 30 years beforehand, as well as those of Brian Beck in the 1950s at Moor Plantation in Ibadan. However, these populations had very poor root yields. The team brought in germplasm from Asia and South America. With the help of Audrey Howland, the team was able to incorporate their desired level of resistance into "elite" IITA cassava breeding materials.

Source:

Ortiz, Rodomiro, compiler. 2017. *IITA: 50 years after. International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria*

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 Africa, Jeffrey T. Oliver (j.oliver@cgiar.org) for Southern Africa, Catherine Njuguna (c.njuguna@cgiar.org) for Eastern Africa, and David Ngome (d.ngome@cgiar.org) for Central Africa.