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Researchers support district experts and farmers in Climate Risk Profiling

The agriculture sector in Uganda is largely rain fed; this includes Nwoya District located within the Acholi sub-region, Northern Uganda. Drought and floods, exacerbated by climate change, present significant and increasing risks to agricultural production in the district, which according to the five-year district development plan employs 98 percent of the population.

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) funds the Policy Action for Climate Change Adaptation (PACCA) project, which has mapped the climate risks of Nwoya District, as part of the situation analysis for the three-year second phase of the project. PACCA is a collaborative effort implemented by IITA, the International Center for Tropical Agriculture (CIAT), Utrecht University, and local partners in Uganda and Ethiopia.

The PACCA project team in collaboration with Nwoya District Local Government (NDLG) organized a stakeholder feedback and validation workshop at the District Council Hall from 11 to 13 June 2019. Among other things, the workshop was intended to give feedback and validate findings of the study that mapped gender-differentiated climate risks and vulnerabilities, as well as initiatives in the district (both government and non-government) undertaken to address climate risk and food and nutrition insecurity.

While officiating during the workshop opening, the Assistant Chief Administrative Officer, Ben Okong said, "Climate change has affected us in terms of food production and household income. Once production is affected, food and nutrition security as well as income are also affected."

IITA researcher Patricia Bamanyaki, gave feedback to workshop participants, who included researchers, district experts, and farmer representatives from Got Apwoyo and Alero sub-counties. She explained that the climate hazards observed during the ten-year period preceding the study included: Prolonged dry spells, which majorly occurred in 2015 and 2016, resulting in huge crop failure, especially of maize, beans, and groundnut; and flooding in Alero, Purongo, and Anaka sub-counties, which submerged gardens and cut off roads. Strange weeds, uncommon in the past, have also emerged and incidences of crop pests, such as the fall armyworm, and diseases like foot and mouth in livestock have increased.

Group discussion during the climate risk profiling workshop.
Photo credit: John Francis Okiror

She highlighted some of the strategies employed by farmers to cope with climate change impacts. They include reduction in the amount of seed planted to minimize losses and diversification to the charcoal trade. Additionally, some households planted vegetables near streams and riverbanks to cope with prolonged dry spells. Other coping strategies were formation of groups by youth to collectively purchase seed at better prices, and a reduction in number of meals consumed by households.

Following the validation and discussion of findings, the three-day workshop guided farmers and district experts through the process of prioritizing four

value chain commodities. The cassava, bean, chicken, and goat value chain commodities were not just the primary focus of the district but also addressed climate risk, food and nutrition security as well as gender concerns. They were prioritized based on indicators such as importance to district plans and budgets, climate resilience and stability, women and youth involvement, and important source of micronutrients.

They illustrated climate vulnerability and risk to workshop participants by contrasting district experts and farmers' perceptions with historic and future projected changes in climate. Perceptions of climate change included: delayed onset of rains, unreliable and variable rains, reduced and/or increased amounts of rainfall, and high temperatures during the hot season, and much lower temperatures during the cold season.

While presenting a summary of historical climate changes since 1981, Perez Muchunguzi, a visiting scientist with IITA, explained that both the first and second seasons have registered less annual rainfall. The moderate increase in mean temperature has intensified extremes such as moisture stress and heat stress. Not only has too little rain led to crop failure and livestock loss but too much rain resulted in flooding and erosion in some parts of the district, which consists of a low landscape with an altitude ranging between 1,000 and 1,200 meters above sea level. Such historical changes in climate underpin the importance of rain for agricultural production in the district.

A detailed schematic tool, replete with activities, climate hazards, and consequences, as well as ongoing and potential adaption options along the value chain (i.e., input supply, on-farm production, postharvest, and output markets), helped drive the climate risk and vulnerability message home for the workshop participants, who mainly spoke in the local Acholi language.

Governor of Mai-Ndombe Province in DRC seeks IITA's support

On 5 July, IITA-Kinshasa hosted the Governor of Mai-Ndombe Province in the Democratic Republic of Congo, Mr Paul Mputu Boleilanga. Agriculture Provincial Minister, Faustin Mbanzami and Environment Provincial Minister, Marius Trésor Boleko, accompanied Governor Boleilanga as he met with IITA-DRC Country Representative, Zoumana Bamba, and other IITA senior staff to discuss agriculture and fishing potentials of Mai-Ndombe Province.

The Governor's team with IITA-Kinshasa staff.

Mai-Ndombe Province, located west of Kinshasa, has a population of about 2 million people and the recently sworn-in Governor spoke of possible areas of collaboration between the province and IITA. During the meeting, Governor Boleilanga outlined some areas where IITA could be of assistance including the training of farmers in crop management and processing techniques and providing high-yielding and adaptable crop varieties including cassava, cocoa, rice, and maize as well as fishing. These will help improve the agricultural sector, which is the main economic activity of Mai-Ndombe's population.

The bad practices currently used by the farmers of Mai-Ndombe such as slash-and-burn agriculture, deforestation, and use of insecticide-treated mosquito nets to catch large numbers of fish, contribute to destruction of the soil and ecology. Governor Boleilanga said that agricultural activities in his province are still at an early stage and he urged for help from IITA to introduce new technologies and thereby improve food security and reduce poverty in the province. He also mentioned that the province had a market opportunity inside and outside DRC.

In his welcome address, Bamba thanked the Governor for the visit and consideration given to IITA as an expert in agriculture. He gave an overview of the Institute's mandate, highlighting some collaborative activities with other institutions including the National Agricultural Research Institute (INERA), National Seed Service (SENASEM), NGOs, and other stakeholders.

Bamba also explained the vision of IITA through various interventions in Africa at large and DRC in particular. These include the innovative approach of community development such as support to young entrepreneurs in the agri-food sector. Responding to the Governor's request, Bamba expressed IITA's willingness to collaborate with the province, noting that the Institute only required a written invitation to dispatch a team of IITA experts who will accompany the Governor during his tour of the province.

The tour is due to begin on 15 July and participation in this tour will allow the IITA team to identify problems and propose appropriate solutions.

RMRDC partners with IITA to train FCT farmers on Best agronomic practices

To ensure that agricultural products meet international market standards, the Raw Materials Research and Development Council (RMRDC), in collaboration with IITA, held a sensitization workshop for members of the Federation of Agricultural Commodities Association of Nigeria (FACAN) on Wednesday, 15 May 2019 at the RMRDC Conference Room in Abuja.

Beatrice Aighewi, IITA-Abuja Yam Seed System Specialist, gave a presentation on "Good agronomic practices (GAP) to enhance crop productivity in yam". The FACAN members also received training on safe use of agrochemicals in crop production to achieve export quality grade agricultural produce to meet the Zero Hunger goals of the Federal Government.

In his welcome address, Director General of RMRDC, Professor Hussaini Doko Ibrahim, thanked the participants and IITA for the partnership. He reiterated the Federal Government of Nigeria's commitment to diversifying the economy and urged all hands to be on deck.

In a related development, the RMRDC is partnering with IITA to undertake a sugar beet trial. The 0.4-hectare trial, which will be utilized as a training platform for Industrial Trainee students, will be replicated for treatment and control to test the viability of the crop in the North-Central agroecological zone.

Beatrice Aighewi.

IITA wins NIRSAL Agricultural Value Chain Award

The Nigeria Incentive-Based Risk-Sharing System for Agricultural Lending (NIRSAL) has presented IITA with the Agricultural Value Chain Award. The presentation of the award was held on 23 May in a ceremony at Statement Hotel, Central Business District, Abuja.

NIRSAL nominated IITA in recognition of the Institute's contribution to increased agricultural production and value addition in Nigeria.

Receiving the Award on behalf of the Institute, IITA-Abuja Head of Station, Gbassey Tarawali thanked the Management of NIRSAL for recognizing IITA. He also assured them that IITA will continue in its efforts to transform African Agriculture.

Gbassey Tarawali receiving the award on behalf of IITA.

Visiting Scientist discusses transfer of technologies on yam breeding between IITA and Jamaican Institution

Ryan Francis, Head of Biotechnology Department, Product Research and Development Division of the Scientific Research Council (SRC), Jamaica, is on a visit to IITA. He is visiting from 15 to 27 July and is exploring opportunities for partnership and transfer of technologies across institutions.

Ryan Francis speaking with Robert Asiedu and representatives of yam projects in IITA.

Francis is representing SRC in collaboration with the International Atomic Energy Agency (IAEA), Europe. At the introductory meeting, he said, "This is a scientific visit that aims to engage IITA's expertise on crop breeding and improvement, as well as transfer of technologies across institutions, primarily on improving yam breeding in Jamaica, making it resistant to yam anthracnose."

Of the 21 varieties of yam in Jamaica, *Dioscorea Alata* (sweet yam) is preferred. However, its availability is limited because of yam anthracnose disease, which causes up to 95% loss. Francis emphasized the need for increased productivity to ensure an adequate supply of sweet yam within the country and even facilitate export.

There is an ongoing collaboration between SRC and IAEA on improving various crops of economic importance, particularly ginger and *D. Alata*. SRC has various projects on crop development and provides clean planting materials to farmers. "As breeders, we are taking responsibility for crop cultivation, primarily crops of economic importance. We maintain a gene bank with 200 different types of crops including yam, banana, and cassava industry crops to ensure food security," said Francis.

Francis is meeting with various IITA scientists working on yam breeding and improvement projects. At the end of his visit, he hopes to have established links and collaborations that will aid the transfer of technologies between IITA and SRC-Jamaica.

Ryan Francis discussing the need for technology transfer across institutions.

Got a story to share?

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The Ambassador of the United States to Cameroon visits IITA-Cameroon

His Excellency, Peter Henry Barlerin, the Ambassador of the United States to Cameroon and five members of his team visited the IITA Cameroon Station on 12 July. During the visit, the Ambassador's first to IITA, he learnt about various projects implemented in the context of the Congo Basin Institute (CBI) with US partners.

The Ambassador was received by IITA-Cameroon Country Representative, Cargele Masso and his colleagues. The event began with a presentation of some of the activities implemented by IITA in Cameroon.

In his presentation, IITA Entomologist Komi Fiaboe demonstrated how invasive pests represent a major bottleneck in crop productivity. Recent cases of fruit flies and fall armyworm were used as examples to demonstrate the level of such threats. Fiaboe emphasized how IITA identifies, in different agroecologies, natural enemies that silently kill these pests and secure food security, with no harm to human and environmental health. He also mentioned the fact that IITA-Cameroon initiated a Biopesticide Development Unit, using indigenous isolates and holding potential for industrialization.

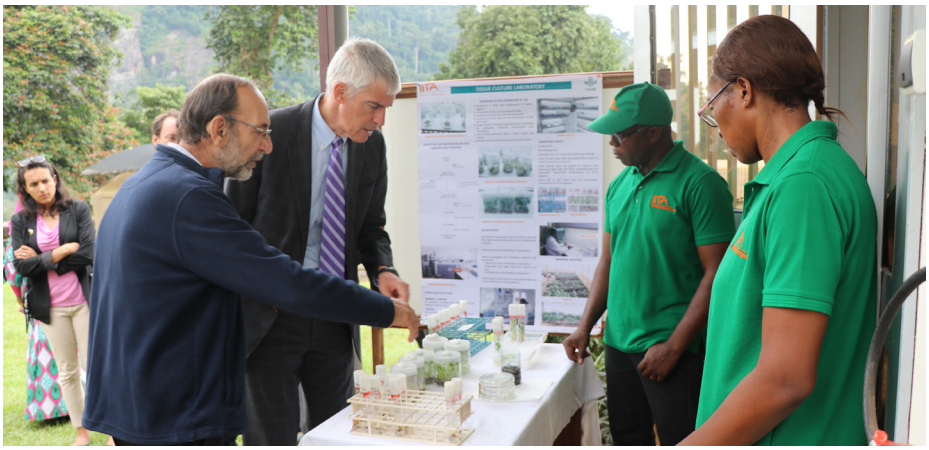
The Ambassador toured the facilities including the Molecular Biology Laboratory, where Head of the Laboratory, Sergine Ngatat made a presentation on the lab's capacity to diagnose plant pathogens and identify species using molecular tools.

Matthew LeBreton gave a rundown of some upcoming workshops to be hosted by CBI that are aimed at linking students, researchers, and local policy makers for better natural resource conservation. The US Department of State supports most of this work, which is implemented by numerous members of the CBI consortium.

The tour also included stops at the Ebony Project, the IITA tissue laboratory, and ENABLE Youth Cameroon. The Ambassador was impressed with the determination of the young aspiring agripreneurs at the Youth Agribusiness Incubation Center (YABIC) and encouraged them to continue taking their training seriously. He indicated that they deserve support for them to excel in the agricultural sector.

The visit of Ambassador Barlerin followed a visit to the USA Embassy in Yaoundé by Prof Tom Smith, Executive Director of the Congo Basin Institute (CBI) and Dr Masso, in June.

Dr Sergine Ngatat making a presentation at the Molecular Biology Laboratory.



Ambassador Peter H. Barlerin listening to Giovanni Forgione of the Tissue culture lab.

Presentation on invasive pests by Komi Fiaboe.