IITA
Research to Nourish Africa
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The IITA BULLETIN

International and national partners convene at IITA to discuss AfDB's initiative to transform African agriculture

More than 200 leading research and development partners and experts met at IITA, Ibadan, Nigeria, 12-14 April, to discuss a new initiative known as "Africa Feeding Africa", or the Technologies for African Agricultural Transformation (TAAT) program. The TAAT program is a critical strategy for transforming agriculture on the continent that would ensure that Africa is able to feed itself through agriculture.

Media briefing with (L-R): J Wadsworth (Fund Council), N Sanginga (IITA), C Ojukwu, and J Chianu (AfDB).

The TAAT Program aims to eliminate extreme poverty, end hunger and malnutrition, achieve food sufficiency, and turn Africa into a net food exporter as well as set Africa in step with global commodity and agricultural value chains.

Modernized, commercial agriculture is seen as the key to transforming Africa and the livelihoods of its people, particularly the rural poor.

To carry out these objectives, the African Development Bank (AfDB), working with IITA and other partners, has identified eight priority agricultural value chains relating to rice sufficiency, cassava intensification, Sahelian food security, savannas as breadbaskets, restoring tree plantations, expanding horticulture, increasing wheat production, and expanded fish farming.

The Forum for Agricultural Research in Africa (FARA) and the CGIAR Consortium and 12 of its 15 international agricultural centers active in Africa support this initiative by the Bank and the co-sponsors to revitalize and transform agriculture through the TAAT program. The 3-day workshop was organized by IITA in partnership with the Support to Agricultural Research for Development of Strategic Crops (SARD-SC) project for AfDB, which is funding this mega initiative.

"IITA supports AfDB and partners in ensuring that TAAT is effectively set up," said IITA Director General, Nteranya Sanginga. "The whole CGIAR system is backing this huge initiative with its research infrastructure in collaboration with FARA, AGRA, Africa Harvest, and the national partners. Everybody wants to ensure that this initiative succeeds."

More about TAAT in a special issue to come out soon.

TAAT participants pose for a historic photo, IITA, Ibadan, Nigeria.

Farmers' field day demonstrates use of fertilizer and Aflasafe™ technologies to revive groundnut production

IITA and the Agricultural Research Institute (ARI)-Makutupora organized a farmers' field day in Kongwa District, Dodoma Region, Tanzania to create awareness on improved farming methods to increase groundnut production in the region.

Kongwa District is among the top producers of groundnut in the country; however, its production is being threatened by climate change and aflatoxin contamination.

The technologies demonstrated at the event, which attracted over 400 farmers, included the use of fertilizers—organic and inorganic—and Aflasafe™ to control aflatoxins, the deadly poisonous chemicals produced by certain fungi in foods and feeds and especially maize and groundnut. A new improved groundnut variety "Pendo" was also showcased.

This was part of activities of the N2Africa project led by Wageningen University with IITA and ARI as key partners.

Speaking at the event, Anfigwege Mwaipopo, the Acting Kongwa District Executive Officer and guest of honor, said farmers' adoption of the technologies would catalyze groundnut production in the area and add to its market value.

Mwaipopo particularly noted that aflatoxin was of particular concern as it negatively affected the health of the community and reduced the crop's market value.

Farmers during the field day.

Leon Mrosso, the Central Zone Research Director from ARI-Makutupora, urged the farmers to adopt the new technologies to increase their productivity and income. He also urged them to share the technologies they had seen especially on Aflasafe™ among other farmers.

"Aflasafe™ can help protect farmers and their families from aflatoxins, which cause serious diseases such as cancer. Farmers should be made aware of aflatoxin and how to reduce it in their produce using Aflasafe," Mrosso said.

Mwantumu Omary, N2Africa Business Development Officer, said the project was working closely with farmers to identify challenges in legume production and finding sustainable solutions through research. The project's overall aim was to increase legume production.

IITA Researcher Technician Reuben Samwel talked about Alfasafe™. He said the technology was safe and environment friendly and can significantly reduce aflatoxin contamination in groundnut and maize at harvest and in storage. He encouraged farmers to use it along with other technologies such as fertilizers to get a safe product.

Village Chair Jeremiah Mtua appreciated the efforts of the project and the government in supporting farmers in groundnut production and creating awareness on new improved farming methods. He said the new improved variety should be made available to farmers.

N2Africa works in 12 villages of Kongwa District, Dodoma, each with a trial plot to demonstrate the improved technologies.

Irish Ambassador visits IITA

The Ambassador of Ireland, H.E. Seán Hoy, accompanied by David Butler, Director of Sustainable Food Systems Ireland, and Patrick Boyle, Consultant, were in IITA on 13 April to explore potential collaboration between Ireland and the Institute.

The visit included a brief meeting with Kenton Dashiell, Deputy Director General for Partnerships and Capacity Development, and a tour of IITA facilities including the Business Incubation Platform (BIP), specifically the pilot plants of Aflasafe, NoduMax, and GoSeed; the cassava processing facilities; and the fish ponds of the Youth Agripreneurs.

Ambassador Hoy became Ireland's Ambassador to Nigeria in September 2014. He is also Ireland's Ambassador to Ghana and the Economic Community of West African States and the Ambassador-designate of Ireland to Senegal.

L-R: Dare Odusanya, Winifred Akinpelu, Patrick Boyle, H.E. Ambassador Seán Hoy, DDG Ken Dashiell, Katherine Lopez, David Butler, and Layi Olatunji.

Making large scale-cassava drying technologies work for small-scale processors

One of the greatest challenges facing smallholder farmers and small-scale entrepreneurs in processing cassava is drying. Many of them rely on sun-drying which limits processing during the rainy season as well as affects the overall quality. As a result they are not able to supply their produce to industries which need regular, all-year-round supply and consistent quality.

The pneumatic dryer has been identified as one of the most appropriate drying technologies for high quality cassava flour and starch. It is widely used by large-scale cassava processors in Brazil, Thailand, and even Nigeria.

Cassava flash dryer.

The IITA cassava value addition team and partners have introduced the technology in Nigeria and more recently Tanzania for use by medium and small-scale processors. This is part of efforts to promote cassava as a source of industrial raw material and tap into its huge but unutilized potential to improve livelihoods and incomes of rural communities. However, there is need to adapt it to make it suitable and appropriate for them.

This was the focus of Marcelo Precoppe, an engineer from Brazil, who just finalized his two-year postdoctoral work at IITA based in Dar es Salaam, Tanzania. Using participatory design development approaches and his engineering knowledge, Precoppe has been working with the processors and manufacturers in Nigeria and Tanzania to make the dryers more efficient and suitable for small-scale processing.

"We realized that a major challenge for the pneumatic dryers was high heat loss, low energy efficiency, and high fuel consumption. This was because the dimensions and length of the drying duct were not properly calculated to factor in air velocity and flow rate", he said while giving a seminar on his last day at the hub.

"From a choice of many options including increasing the length of the drying duct, we settled on correcting the air velocity inside the duct by reducing the speed of the blower and this in turn reduced the speed of the air flowing through the duct," he said.

"There was a significant reduction in energy consumption with this simple, low-cost modification. However, a lot more still needs to be done to make the dryers really efficient," he said.

Victor Manyong, IITA Director for Eastern Africa hub, commended the work saying it was very valuable to the institute's efforts to alleviate poverty through value addition of key staple crops: "With value addition, farmers get more money from their produce and we are also able to reduce postharvest losses and particularly for a highly perishable product like cassava." he said.

Precoppe said while participatory design approaches were time consuming they were very effective in ensuring that a technology was appropriate—well adapted to the end users' needs and requirements and the local conditions as well as easy to use and maintain. This leads to a higher level of adoption of the technology and sustainability of the project. However, for it to work there has to be an efficient and continuous feedback mechanism between the user, manufacturer, and researcher.

Precoppe worked with Ukaya processing center in Tanzania and Niji farms and Niji Lucas in Nigeria.

The results of this study have been published in the Journal of Food Processing Engineering: Tunnel Dryer and Pneumatic Dryer Performance Evaluation to Improve Small-Scale Cassava Processing in Tanzania while another manuscript is in the pipeline for publication.

Announcements

- **Science Forum 2016: Agricultural research for rural prosperity: Rethinking the pathways,** Addis Ababa, Ethiopia, 12-14 April 2016
- **ENABLE** (Empowering Novel AgriBusiness-Led Employment) **Youth Program Workshop**, Abuja, Nigeria, 21-22 April 2016
- **Training of Trainers (ToT) on ITC's Trade Intelligence Tools** (Market Access Map, Standards Map, Trade Map), IITA Ibadan, 10-13 May 2016. For more inquiries, contact info@ieom-ng.org; op.akande@gmail.com; IITA-TrainingUnit@cgiar.org.
- **7th International Nitrogen Initiative Conference,** Melbourne, Australia, 4–8 December 2016. More details on the conference are available here.

Got a story to share? Please email it with photos and captions every Wednesday to Katherine Lopez (k.lopez@cgiar.org), Jeffrey T. Oliver (j.oliver@cgiar.org), Catherine Njuguna (c.njuguna@cgiar.org), or Adaobi Umeokoro (a.umeokoro@cgiar.org).