

## “Nigerian” yam market gets international market access

The first batch of temperature-controlled shipping containers containing yam tubers from Nigeria have been approved for export to the United States of America and the United Kingdom. Hurray!

This remarkable event was marked by a flag-off ceremony which took place on 29 June at the Lilypond container terminal, Apapa, Lagos. The event was well attended by public and private sector dignitaries including Nigeria’s Honorable Minister of Agriculture Chief Audu Ogbeh, representatives of State governments, and our very own [Kenton Dashiell](#), IITA Deputy Director General, Partnerships for Delivery, and [Robert Asiedu](#), West Africa Regional Director, Research for Development representing IITA at the event.



VIPs in the yam export flag-off ceremony in the Lagos port.

According to Dashiell who delivered a goodwill message on behalf of IITA Director General [Nteranya Sanginga](#), the yam export event marked a major

milestone in Nigeria as IITA turns 50 years in 2017; it demonstrates IITA’s commitment to transforming agriculture

**Continued on page 2**

## IITA Onne reignites partnership with state government institutions on agriculture

The IITA station at Onne, Rivers State, Nigeria, has received nods of approval from three more reputable government agencies in its host state. These are the Rivers State Ministry of Agriculture, Rivers State Agricultural Development Program (ADP), and the state School to Land Authority project. These institutions have also agreed to partner with IITA to move agriculture forward.

Receiving the IITA delegation led by [Richardson Okechukwu](#), Head, IITA Onne, to their offices on 29 June, representatives from the agencies confirmed that the revival of operations



Dr Okechukwu Richardson (second from left) and Mr Francis Adunoye (third from left) of IITA visiting with Ministry of Agriculture officials.

at the Onne station was timely and that working together, the cooperation with IITA would produce a positive multiplier effect on the state's economy. They also praised IITA's efforts in rejuvenating agriculture in Nigeria and expressed optimism that the South-South region will partake in the transformation.

*"I have known IITA Onne as far back as 1985 when it was booming. I'm happy the station is refocused now and we are ready to partner with IITA,"* stated Adolphus Nweke, Permanent Secretary, Rivers State Ministry of Agriculture.

Similarly, Atuzie, Program Manager of ADP, expressed the hope that the renewed Onne station will continue to benefit the people of Rivers State just as it did in the past with the joint work with the ADP on the [Integrated Cassava Project](#) from 2003 to 2008.

On his part, Okechukwu recalled the station's partnership with the State government in promoting better livelihoods for farmers through the Green River project sponsored by AGIP, SONGHAI, and other extension service institutions. He implored the institutions to leverage on the Institute's services and establish research fields which will be beneficial for the farmers in the State.

*"IITA Onne is a center for plantain, banana, cassava, maize, rice, yam, soybean, and cowpea research. Plantain/banana and cassava have taken the leap forward in the station at the moment. In due course, we will reignite research on the other crops. The station is now working towards attracting more investors and partners as we move forward,"* Okechukwu explained.

The IITA team also received a briefing from Vincent Amaiye, Executive Director,

School to Land Authority, about its work on livestock farming, fishery crop production, and processing. The visit was wrapped up with a tour around the facilities of the institutions.



*Team of IITA Onne pose for a group photo with the director, School to Land and some trainees.*

### **"Nigerian" yam market gets international market access [Continued from page 1](#)**

in Africa, ending hunger and poverty, and creating long-term solutions to the challenges of economic development. He emphasized the active role played by the [AfricaYam](#) and [YIIFSWA](#) projects in developing more productive and pest-resistant yam varieties to suit the needs of farmers and consumers in diverse agroecological zones as well as providing technologies for rapid multiplication in seed yam production.

This hallmark event ushered a new dawn for yam farmers, processors, and stakeholders across the yam value chain in Nigeria who will benefit from increased market opportunities for their produce. This is expected to create job opportunities and contribute to the country's economic development.

Chief Ogbeh shared his vision for yam farmers in Nigeria and emphasized the Federal Ministry of Agriculture's support to ensuring a zero-reject of agricultural produce exports from Nigeria.

Chief Ogbeh addressed the concerns of stakeholders who expressed fears over the possibility of yam scarcity and high prices as a result of limited availability of yam in the domestic market. The minister affirmed that postharvest losses account for a significant part of yam wastage annually and export markets provide an opportunity to earn income for yam which would have been lost. He assured stakeholders that the government is working through the National Centre of Agricultural Mechanization ([NCAM](#)) to deliver

mechanized solutions capable of making yam mounds and harvesting which will significantly reduce the costs of yam production.

With the stage set for yam export, it is essential that certified clean seed yams are planted to maximize the earning potential of producers while also adopting recommended agronomic practices. Investments in mechanization, yam conditioning center, and refrigerated shipping containers among others will enhance the yam value chain.

Asiedu also shared his expert thoughts on yam production in Nigeria with Channels TV. Watch video here (starts at 6:58).



*Left: Nigeria's Honorable Minister of Agriculture Chief Audu Ogbeh addressing the crowd at the launch. Right: Ken Dashiell (left) and Robert Asiedu (right) answering questions from the media.*



## R4D Special: Scientists push for use of animation in rural communication

Over 1 billion low literate and illiterate individuals living in the remote rural areas of developing countries have been reported to experience the daunting challenge of understanding scientific findings. Because of lack of formal education, their comprehension of science is further hampered. The situation in countries like Benin republic and Nigeria for instance is no different, but there's hope.



In the past, traditional government-based agricultural extension programs have mostly been the channel through which knowledge reaches rural farmers in Africa. This is however seriously hindered by lack of funds and materials, forcing one extension worker to provide services to over 1200 farmers in many instances.

Through a recent survey conducted by IITA scientists in collaboration with partners, it has been found that the mobile technological application—Michigan State University's Scientific Animations Without Borders ([SAWBO](#))—has bridged the hurdles that extension agents face in discharging their duties and now makes learning more fun and easier for West Africa's rural beneficiaries.

With SAWBO, extension agents are better able to share life-improving knowledge with the farmers who produce the bulk of Africa's food.

Carried out in Bénin, the [study](#) tagged "An assessment of learning gains from educational animated videos versus traditional extension presentations among farmers in Benin" sought to verify the retention of lessons acquired in agriculture and health through SAWBO versus that from traditional learning extension (TLE). The survey

was anchored on the premise that farmers in Benin and other developing nations have the potential to access information through mobile phones, and since they constitute the largest proportion of the uneducated population in rural areas, they should be the main target audience of any exploratory ICT training.

SAWBO represents an academically based exploration for connecting global experts in a virtual manner to create educational content for use by low-literate learners—an exploration that aims to produce tangible educational content that is testable, useable, and effective in the field. By design, SAWBO animations use carefully crafted, cross-culturally acceptable visual images amenable to translation and description in potentially any local (or locally accented) language. Each SAWBO educational video addresses specific diseases, value chain limitations, or agricultural challenges and proposes effective and simple techniques that can be adopted in the field.

The videos are provided free of charge and for educational purposes only. SAWBO can be directly downloaded onto a computer from their online library (<http://sawbo-animations.org>). Additionally, SAWBO's Deployer

Application (App) 1.1 allows anyone with an Android phone and access to the Internet to access SAWBO animations. The animations, in turn, can be downloaded onto an Android device through the Deployer App and then played at any time, including when the device has no access to the Internet.

In this way, an extension agent or aid worker can use such a device as a portable video-viewing device for individuals or groups in the field, easily providing them access to educational animations either on a specific, relevant topic and in a specific, relevant (or locally accented) language as well as the local country accent for that language (where available) or at least the closest useful animation and language/accents.

Additionally, the animation can be shared and transferred onto other devices using Bluetooth technology, allowing the animation to spread "virally" between phones, even those without an Internet connection, thus making it a highly efficient and accessible system of sharing knowledge. The App is available for free download on Google Play ([goo.gl/uH7Ggo](http://goo.gl/uH7Ggo)).

Similarly, it was also discovered that participants who watched a video animation demonstrated greater learning gains compared to those who attended a TLE presentation of the same information, and also that animation viewers more highly recommended them as a form of information sharing.

Based on these findings, the scientists are advocating for a concerted effort in sharing and replaying learning videos because the "authority" of the information in the videos resides in their scientifically developed content. Replaying the video reproduces the original learning environment on the spot and effectively makes each person sharing the video into a kind of teacher.

The study was conducted by Julia Bello-Bravo from Michigan State University, East Lansing, Michigan, USA; [Manuele Tamò](#), and Elie Ayitondji Dannon from IITA, as well as Barry Robert Pittendrigh, also from Michigan State University.

# Lessons from efforts to reduce postharvest losses and commercialize cassava to boost food security in Africa

Over a fifth of the food produced by smallholder farmers in sub-Saharan Africa is lost during and after harvesting making a significant contribution to the high levels of poverty and food insecurity in the continent. Therefore, efforts to reduce poverty and make the continent food secure must include postharvest management options that reduce food losses.

This was said by [Adebayo Abass](#), IITA Postharvest Specialist based in Dar es Salaam, Tanzania, who is leading the institute's efforts to address postharvest losses in Eastern Africa, while giving a seminar titled "*Value Chain Innovations from Postharvest Management to Adoption: Lessons for Technology Delivery Agenda.*"

According to Abass, factors contributing to the high levels of food losses include the use of inappropriate technologies for harvesting, transportation, storage and processing. Poor storage leads to spoilage and attack by pest and spoilage microorganisms.

He said IITA and partners have been introducing and promoting an extensive range of processing and storage technologies for cassava and grains in Africa. These include technologies that allow farmers to harvest and process cassava into shelf-stable high-value products and low-cost technologies that protect the grains from insect damage. They also reduce incidences of toxin contamination, especially aflatoxins and [cyanogens](#).

## Postharvest management for cassava

Cassava is an important food and commercial crop for smallholder farmers but its production is threatened by its short shelf-life. For the last 10 or more years, [IITA](#) together with partners has been working on postharvest management of cassava in Western, Eastern, and Southern Africa.

*"Once cassava is harvested, it needs to be sold immediately otherwise the fresh cassava roots will start to deteriorate and cannot be sold at a good price, resulting in high financial loss for the farmers and fresh root traders. It is therefore important to introduce technologies for extending the shelf-life of fresh cassava roots or processing into shelf-stable products such as flour, chips and starch,"* said Abass.



*Good cassava harvest.*

From an agro-processing standpoint, IITA has been providing technical assistance to private enterprises to enable them to adopt new technologies for processing cassava such as grating and pressing and mechanical drying.

From 1999 when the improved processing technologies for making novel cassava products were introduced in West Africa and later to East, Central and Southern Africa, the number of processing enterprises have been increasing steadily, providing new income streams for smallholders in many countries. This shows positive response from farmers and private investors towards the technologies.

*"We have also tested waxing of cassava roots to increase their shelf-life from 48 hours to more than 7 days working with our partners in Uganda. Another technique—pruning of cassava plants before harvesting the roots—was also found to increase the sweetness of the roots to be waxed. The pilot Ugandan farmers and traders have been selling the good quality and tasty cassava roots to hotels and super markets,"* he added.

Research further shows that the mechanical processing of cassava not only improved the quality of cassava products but also limited mycotoxin effect.

## Lesson learned

According to Abass, the work had shown that the adoption of an integrated system of cassava production, processing, and marketing can make Africa competitive in

the global market. The range of improved technologies and innovations should be introduced simultaneously and targeted at the right category of farmers who have the capacity to apply the technologies to obtain maximum outputs.

While there is the opportunity for cassava commercialization, the crop remains underdeveloped in some regions in Africa due to factors such as insufficient processing options, inadequate marketing channels, and poor linkages between producers and the end users preventing greater profitability for producers and processors.

He also noted the constraints and barriers to participation in the global market: transaction costs and inadequate transportation networks and poor road infrastructure. These significantly increase costs at each node of the chain and limits income for farmers.

He recommended the use of a [GIS protocol](#) to predetermine the potential impact of road infrastructure on operational efficiency and access to raw materials before selecting locations for private loan-investments in agro-processing industries. The protocol, which is based on a spatial analysis of road infrastructure, was applied in Nigeria to assess the effect on commercial operation of cassava processors by estimating the costs and distances from cassava production areas to processing centers.

This protocol, he said, could be applied for large-scale technology delivery projects to predetermined locations where agroprocessing technologies can make the highest impact. Abass also emphasized on the need to improve access to credits and market information and land reforms for the success of efforts on cassava commercialization.

*"With proper delivery of the technologies and value chain arrangements, Africa can compete favorably with the rest of the world,"* Abass said.



*More cassava for processing.*

# Looking back

## The two principal founders of IITA

The idea of a research institute in sub-Saharan Africa was first discussed by Forrest Hill and George Harrar of the Ford and Rockefeller Foundations, respectively.

In the upcoming publication, *IITA: 50 Years After*, compiled by Rodomiro Ortiz, he expounds on this: "As told by the late Lowell Hardin, former professor of economics at Purdue University and officer at the Ford Foundation in the early 1960s, many of the original centers of today's CGIAR were conceived in the daily exchanges of two neighbors traveling to work each day in to New York City. They were George Harrar, the first leader of the Rockefeller-Mexico program and then president of the Rockefeller Foundation, and Forrest ("Frosty") Hill, then vice president of the Ford Foundation."

In October of 1963, both of them visited Nigeria to determine the feasibility of this idea. By December of the same year, the Board of the Ford Foundation authorized the submission of the proposal for IITA. Hill and Harrar are now considered founders of the International Institute of Tropical Agriculture, and most of the other CGIAR centers around the world.

Forrest "Frosty" Hill earned his bachelor's degree in the University of Saskatchewan in 1923, and a Ph.D. in agricultural economics from Cornell in 1930. Hill spent 25 years as a professor of land economics in Cornell, as chairman of the Department of Agricultural Economics, and as provost of the university. In 1955, he accepted the vice presidency of overseas development for the Ford Foundation.

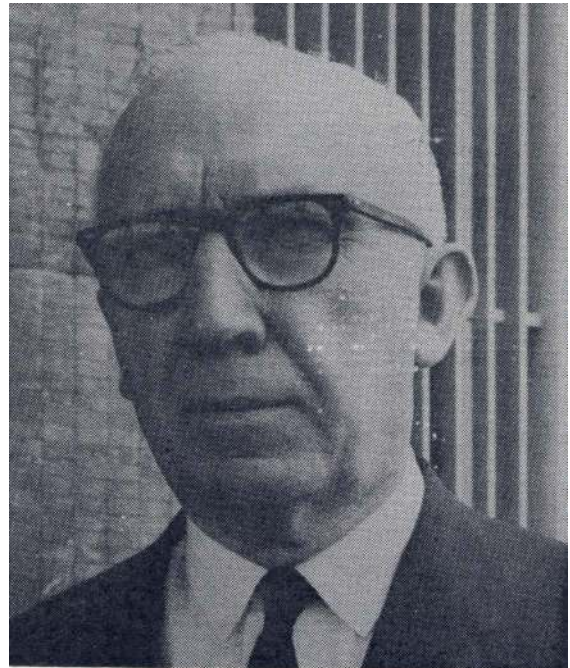
Jacob George Harrar graduated from Oberlin College in 1928, and earned an M.S. in Biology in the Iowa State University, specializing in plant pathology. In 1943, Harrar was asked by the Rockefeller Foundation to lead its Mexican Agricultural Program. Spurred by the accomplishment of the program, Harrar built an agricultural research institute in the Philippines with the help of the Ford Foundation.

The success of this project further led the two foundations to develop three other institutions, one of which was IITA. Harrar devoted the rest of his career to the foundation, until his retirement in 1972.

**Sources:**

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