

## Seeds of Renaissance: Changing lives in Borno

Reports of a positive impact are being received from recipients of the seeds donated exactly 1 year ago, in 2017, to help alleviate the food crisis in northern Nigeria as a result of the conflict between the Nigerian army and armed opposition groups. The rebuilding and restoration initiative, which was dubbed “Seeds of Renaissance” was organized by [IITA](#) and kick-started with a donation of about 35,930 kilograms of seed to the Borno State government.

The seeds were provided by IITA, [AfricaRice](#), and [ICRISAT](#) and included improved varieties of cowpea, soybean, maize, millet, sorghum, and rice that were adapted to the climate of the region.

Farmers from different parts of Borno, who had benefited from the donations, have spoken of their experiences in cultivating and harvesting these seeds.

“Truly, I am very happy with the seeds that I received because when I planted them, they gave no problems. I had a bountiful harvest of fine seeds in return,” said Maryam Muh’d from Hawul Local Government Area.

She received soybean seed and was full of praise for the quality which was much better than that of the other seed she had planted previously. “The seeds I used before yielded small seeds but seeds from IITA yielded a much bigger harvest...For instance, where I got exactly two bags before, I now reap between three to three and a half bags,” she added.

Most of the recipients talked about the economic impact and better quality of living that planting these improved seeds had brought to their lives.



*Maryam Muh’d at a soybean warehouse.*

Commenting on the seed yield, Zachari Yusuf Kwaya, a farmer from Kwaya village said, “There is this neighbor and friend of mine whose farm is very close to my own farm who also farms soybean and planted more than myself. But for me, as God would have it, I got better seeds from IITA and reaped twice as much as he had farmed.”

Another farmer, Lammi Lawan, also highlighted the economic benefits of these high-yielding seeds, “After I harvested them, I used my earnings to send my children to school... I also sold part of it and used the money to buy another small plot of land.”

When asked about getting more of these seeds in future, all the respondents were enthusiastic. “I like the seed very well. If only I would be able to get it again... I have reserved a small amount of it but I will not mind

getting other seeds, because the new seeds would yield better,” Usaman Madu answered.

Madu received both soybean and maize seeds. “These two seeds I have received from IITA have contributed to improving the quality of my life. Thank you to those that initiated this program. It has helped to bring development to our land especially Borno State, and we will never forget them.”

Also underscoring the socioeconomic gains of the initiative, Lawan added, “I have no husband, and I have no mother and father. Again, I had loved ones who were killed by Boko Haram. That’s why I am thanking IITA a lot because it has really helped me to ‘wipe away my shame’.”

The future looks brighter as the hope of these farmers is being restored, one seed at a time.

# Nigeria Zero Hunger Forum suggests actions to end hunger and create wealth

Coming from its third quarterly meeting in Maiduguri, the Borno State capital, the Nigeria Zero Hunger Forum (NZHF) has issued key recommendations and resolutions for immediate implementation towards the attainment of Zero Hunger by the year 2025 in its five pilot states of Benue, Borno, Ebonyi, Ogun, and Sokoto.

[IITA](#) Deputy Director General (Partnerships for Delivery), [Kenton Dashiell](#) presented these as part of a communiqué signed by Chief Olusegun Obasanjo, Nigeria's former President and chair of the NZHF, and the Governor of Borno State, Alhaji Kashim Shettima.

According to the communiqué delivered on 9 March, members of the Forum agreed on several resolutions and recommendations including the need for states to focus on crops or livestock where they have a comparative advantage, giving attention to small and medium agro-industries as a linkage between smallholder farmers and large industries, and recognition of efforts of the Nigerian Government to address financial constraints facing farmers through the [Central Bank of Nigeria](#) (CBN) and [Bank of Industry](#) (BOI).

The Forum commended the CBN for the financial assistance offered to a private sector player in Benue, Titus Agbecha, for operating his soybean processing factory. Members of the Forum also appreciated the investment of Borno State Government in mechanization while calling on the State to set up



*L-R: In a huddle: Chief Olusegun Obasanjo, Dr Babafemi Badejo, and Dr Kenton Dashiell during a tour of facilities at the NZHF meeting in Borno State.*

appropriate mechanisms that would ensure farmers' access to machines, such as the establishment of agro-service centers using the public-private sector approach to ensure sustainability. The need for training operators and mechanics was also emphasized.

The meeting in Borno was attended by representatives of the five NZHF pilot states as well as Bauchi, Enugu, Nasarawa, and Oyo states. Members

of the Borno State traditional council and the Federal Ministry of Agriculture and Rural Development were also in attendance along with the [World Food Programme](#) (WFP), the [Food and Agriculture Organization](#) (FAO), private sector representatives, farmer groups, and IITA, the technical partner to the NZHF.

For more details, read the [extended report along with a list of the Forum resolutions and recommendations](#).

## Events

- West Africa Transforming Breeding Workshop, 12–15 March, IITA, Ibadan, Nigeria
- BASICS Annual Review and Planning Meeting, 14–16 March, IITA, Ibadan, Nigeria
- 2018 Annual Review and Work Planning Meeting, Cassava Weed Management Project, 19–20 March, Conference Center, IITA, Ibadan, Nigeria
- IITA Board Meeting, 24–26 April, [Center for Development Research of Bonn University](#) (ZEF), Bonn, Germany
- Special event on “African agricultural transformation: The IITA Agripreneur Approach to Job Creation”, 26 April, ZEF, Bonn, Germany
- 7th International Food Legume Research Conference, 6–8 May, Palais des Congrès, Marrakech, Morocco



# IITA joins innovators at annual Nairobi Innovation Week

For the second time in a row, [IITA](#) took part in the [Nairobi Innovation Week](#) that took place 5-9 March at the University of Nairobi. The Innovation Week has become a flagship program in Kenya that attracts over 2500 delegates from within Kenya and beyond.

The event brought together partners from government, the private sector, the development sector, and research centers with the aim of providing a platform for showcasing and encouraging innovations.

This year, IITA was a strategic partner alongside organizations such as the [Africa Development Bank](#) (AfDB), [UNICEF](#), [UNESCO](#), the Finish Embassy, [Barclays Bank](#), [IBM](#), and relevant government ministries.

## Shared value in food security

Researchers from IITA took part in a one-day forum organized by the Finish Embassy and the Food Africa program that looked at initiating a strong dialogue on a “shared value”/sustainable development approach in relation to food security among all actors, but especially between academia, research, and the private and public sector in Africa. The session looked at how the shared value concept can create social impact, its benefit to academia and the private and public sectors, and how sustainable and shared value partnerships can be created in East Africa.

The event brought together a cross-section of actors in agriculture from academia, research, development, the private sector, and policy makers to create a common understanding of shared value from different perspectives and to deliberate on these issues.

Creating a shared value concept places emphasis on the involvement of the private sector in efforts to address food security but in a way that promotes a win-win solution for all the players, said Mrs Tarja Fernández, Ambassador of Finland to Kenya, while delivering the welcome remarks.

Participants from IITA included [Victor Manyong](#), IITA hub Director for Eastern Africa; [Fred Kanampiu](#), N2Africa Project



*IITA exhibition booth, visitor listens to Edwin from aTTC talking about the aflasafe product.*



*Visitors admiring products by youth agripreneurs.*

Coordinator, and [Danny Coyne](#), IITA Soil Health Specialist.

## NIW exhibition

IITA also took part in Nairobi Innovation Week exhibitions and showcased some innovations in agriculture. These included aflasafe, the biocontrol solution to addressing aflatoxins by the ATTC team represented by Edwin Nyabiba, Business Development Specialist for Kenya. The ACAI project shared its innovations in promoting

good agronomic practices for cassava including mobile applications being developed. IITA Youth groups from DRC, Kenya, and Tanzania also exhibited various products.

## Side event on youth in agribusiness

IITA also organized a half-day side event to explore challenges and opportunities around youth in agriculture in partnership with the [International Potato Center](#) (CIP) (See separate story on page 4).



# Youth in agribusinesses: The unexplored potential

The majority of youth in the African continent are moving away from rural to urban areas seeking jobs, even in the informal service sector. Yet, empirical evidence shows that over 60% of African employment is in agriculture where the potential for enhanced productivity and value chain development is high. As a consequence, emerging opportunities for youth in agriculture and agribusiness remain largely unexploited.

This was noted by the Permanent Secretary of Industrialization in the State Department for Investment and Industry, Ministry of Industry, Trade and Cooperatives, Ms Betty Maina, while giving a keynote speech on the role of youth in agriculture in realizing Kenya's Vision 2030.

She was speaking at a forum looking at the unexploited opportunities for youth in agribusinesses organized by IITA and the [International Potato Center](#) as part of this year's [Nairobi Innovation Week](#). The aim of the event was to bring together youth interested or engaged in agriculture, and institutions and organizations supporting them to discuss challenges and opportunities of youth engagement in agribusiness.

In her speech read on her behalf by the Ministry's Director of Policy and Research, Ambassador Joseph Kiplagat, Ms Maina further noted that the average age of African farmers is 60. "This has negative implications not only for food security in the country but also for the sector and the country's economic growth. Attracting youth to agriculture will therefore save both the country and the sector," she said.

"However, to unlock opportunities for youth in agribusiness, the agriculture sector needs to be modernized through investment in its transformation towards agribusiness. It must transform also from subsistence to being innovative, commercially oriented, and modern," she added.

## Energy, knowledge, and innovations

This was reiterated by IITA's Director for Eastern Africa, [Victor Manyong](#), who noted that the youth with their energy, knowledge, and risk-taking were in a better position to transform the agriculture sector. "For agriculture



*Victor Manyong speaking during a panel discussion with the keynote speakers.*

to address the challenge of meeting the demand for food for a rapidly increasing population in Africa, we need to use new modern technologies and techniques. It is easier for young people to adopt new farming methods than older farmers," he said while giving welcome and introductory remarks at the forum.

He said this was one of the reasons that IITA had started the Youth Agripreneurs program--to attract young graduates to agriculture. The youth are also conduits for disseminating new technologies and knowledge from research to the farm.

"Agriculture is seen as a sector for the uneducated. The IITA youth program is active in nearly all the countries we are working in and through an incubation program the youth are exposed to new farming methods and processing of staple crops to support value chain development," Manyong said.

## Turning challenges into opportunities

The well-attended forum was a mixture of presentations from experts and panel discussions. Giving a talk on the opportunities for youth in agriculture. Prof Bitange Ndemo of the University of Nairobi said the sector presented immense opportunities for the youth to tap into and develop innovative solutions.

"Innovation is finding a solution to a problem. Fortunately, or unfortunately, there are many problems in the agriculture sector in Africa to innovate around," he said.

While acknowledging the many obstacles the youth faced in engaging in agriculture and agribusiness, Ndemo also challenged them to turn these into opportunities and think out of the box to find innovative solutions.

## Youth actors and enablers: Opportunities and challenges

Two panel discussions were held at the forum. One brought together youth engaged in agriculture to share their success stories and the other brought together research organizations supporting youth to engage in agriculture. The youth panelists were drawn from the [IITA Youth Agripreneurs](#) in Kenya based at Kibwezi, from another group supported by CIP in processing orange-fleshed sweet potato, and from an incubation platform by the [United States International University \(USIU\)](#). They shared their journey into agribusiness and their successes.

"I joined the IITA Youth Agripreneurs in Kibwezi when I was unable to get a job after graduating from university. And I do not regret it. We are now making enough money to meet all our needs and extra to plow back into our businesses. We are engaged in vegetable and fish farming.

We are not even able to meet market demands. So, there is a lot of future opportunities for growth. I therefore advise the youth: come to agriculture and employ yourselves,” said Tabitha Mule.

The enablers’ panel discussions brought together representatives from the Kenya Youth Enterprise Development Fund, [African Agricultural Technology Foundation](#) (AATF), and CIP. Ms Millicent Maina, Regional Coordinator, Nairobi Region, noted that while the Development Fund provided

affordable loans to youth, many still shied away from taking loans.

Elly Atieno, a research associate with CIP, briefed youth on opportunities for their participation along value chains of staple crops using sweet potato and Irish potato as examples. He noted that many of the farmers missed lucrative markets as they failed to meet market standards. He gave an example of the well-known American fast food chain KFC, which was not able to source potato locally for their fries.

George Marechera, Business Development Manager for AATF, focused on mechanization in agriculture. He noted that many youth were repelled by the drudgery in agriculture and therefore the development and promotion of simple, affordable machines was a crucial area in efforts to involve youth in agriculture.

The well-attended forum was very interactive and was facilitated by Koki Robi from USIU and David Ngome from IITA Central Africa hub.

## R4DSpecial

# IITA and partners conduct first ‘proteomic’ investigation in plantain and banana

Scientists from [IITA](#) and partner institutions have carried out the first known proteomic investigation into plantain. The results of the study are featured in a paper, titled “[The plantain proteome, a focus on allele specific proteins obtained from plantain fruits](#)” by [N.A. Campos](#), [R. Swennen](#), and [S.C. Carpentier](#).

Proteomics entails the study of the expression of proteins in a cell or organism. This is important because proteins are responsible for both the structure and the functions of all living things.

IITA banana breeder [Rony Swennen](#) said the identification and public release of the plantain fruit proteome is an important step for plantain varietal selection and breeding. He said the research is important because little attention has been given to postharvest research in plantain, a staple especially in Central and West Africa and Latin America, which grows most of the world’s plantains.

Fruit development and maturation in plantain is hardly studied unlike in the more popular dessert banana. As a result, he said plantain suffers from many pests and diseases, although it is currently bred for higher yield. The acceptance of new plantain hybrids by farmers needs to be accelerated, hence the importance of better understanding the fruit physiology of plantain to develop hybrids that are more acceptable to consumers and have a better shelf life.

The proteomic research into plantain used an easy and reproducible procedure for protein extraction and identification, resulting in the first proteome (set of proteins) of plantain fruits. The results were compared with the proteome from the dessert banana Cavendish.

The scientists found that both the plantain and Cavendish cultivars were relatively close genetically but showed contrasting phenotypic or physical differences such as size, texture, color of fruit, and flavor. These characteristics, the scientists said, come from a different physiology and maturation process.

The plantain fruit preserves more starch for longer periods than sweet banana. The type of starch also differs. According to the scientists, there are

two types of starch in banana: resistant starch (RS) and non-resistant starch. This classification is linked to the capacity to be digested by the human body. Plantain degrades RS faster, but at maturation, is richer in resistant starch.

The paper concluded that an improved understanding of the fruit maturation process may yield benefits for public health, farming, and agricultural business.

The study was conducted as part of a collaboration of researchers from IITA, the [Laboratory of Tropical Crop Improvement](#), Division of Crop Biotechnics, [Katholieke Universiteit](#), Belgium, and SYBIOMA: Facility for SYstems BIOlogy based MASS spectrometry, KU Leuven.



Plantain fruit. Photo by Nádia Campos, KU Leuven.



# Tropical Legumes III and HOPE II projects hold in-country review and planning workshop at IITA, Kano

Recently, Tropical Legumes III (TL III) and Harnessing Opportunities for Productivity Enhancement (HOPE II) projects held a three-day, in-country review and planning workshop at [IITA](#), Kano Station. The meeting came before the cropping season to address challenges to increased production and productivity of legumes (cowpea and groundnut) and cereals (sorghum and millet) in Nigeria. It also discussed ways to improve the seed and other technology delivery systems in both crops.

The workshop sought to review the activities of the two projects for the past three years, i.e., what worked well and what needed to be improved, and strategize for 2018 activities.

[Alpha Kamara](#), IITA representative, Kano Station, in his welcome address, encouraged the project leaders to ensure that the TL III and HOPE II project goals are achieved. He also alerted participants on the emerging pest problem (Fall armyworm) that is threatening the production and productivity of maize in Nigeria and Africa at large. He advised that partners expand their scope of work to proffer solutions to emerging issues, which are of economic importance not just to maize, but a host of other important cereals, such as sorghum and millet.

Prof D.D. Yusuf, Deputy Director, IAR/ABU Zaria, acknowledged the support from the [Bill & Melinda Gates Foundation](#) and the research and development work of IAR as an implementing partner of the two projects. He also said the Institute will continue to give maximum support toward the success of the two projects.

Dr Hakeem Ajeigbe, [ICRISAT](#) country representative, encouraged objective leaders to publish their research findings to justify the huge investment from donor organizations in their institute. He challenged project leaders to present publications as evidence of the work they are doing.

Dr Lucky O. Omoigui, the TL III Seed System Specialist, thanked all the various stakeholders and institutions for attending the workshop. He also



Participants at the workshop. Photo by Lucky O. Omoigui, IITA.

highlighted IITA's research work in cowpea and assured the NARS of IITA's continued support in developing sustainable seed systems in West Africa, research to improving food production, and reducing hunger and poverty in Nigeria. Omoigui and Prof Olufunmilola Alabi, Dean, Faculty of Agriculture, ABU Zaria and Coordinator, HOPE II, also gave an overview of the activities and achievements of the two projects. Alabi specifically pointed out that HOPE II activities had placed Nigeria among the leading producers of sorghum and millet in the world. Nigeria also continues to play a dominant role in global cowpea production with over 3.02 million tons of grain produced in 2016 from an estimated land area of 3.5 million ha. This is partly attributed to IITA's research effort in improving the production and productivity of cowpea in Nigeria and Africa at large, says Omoigui.

The welcome/goodwill messages were followed by project updates by various objective leaders. These updates/presentations allowed the participants to appreciate the synergy between the sister projects. The major output of the meeting was a detailed 2018 workplan and seed road-map for the country.

The following issues were identified for synergy: the need to leverage

resources between the two projects to improve the efficiency and effectiveness of seed delivery; joint capacity building of national partners; and alignment of Gates Foundation seed sector development activities to national priorities.

The following were also seen as challenges to increased production and productivity: limited use of data capturing tools by partners, targets in seed production not met largely due to underreporting of seed produced by seed companies; and late submission of project reports by partners.

Participants agreed on the need to re-strategize to increase seed production and encourage wealthy individuals to invest in legume and cereal seed production.

In his closing remarks, Prof O.O. Olufajo of IAR/ABU Zaria expressed gratitude for the success of the workshop and the large turnout of the various stakeholders. He also expressed gratitude for the valuable contributions of the two projects toward addressing the challenges of legumes and cereals variety development and seed production. He shared his hope that the synergy would be a success and provide an example and lessons for other sister projects.