IITA news
No. 2558, 5 – 9 October 2020

# Agriculture stakeholders discuss possible solutions to food insecurity and trade challenges in Nigeria

On 29 September, the National Action Committee on the African Continental Free Trade Area (AfCFTA) held a virtual workshop on Agriculture and Agribusiness. The workshop brought together notable professionals in the agricultural sector to discuss sustainable solutions to the challenges of food security and trade in Nigeria and Africa.

*Dr Kwesi Attah-Krah, IITA Director of Advocacy and Country Alignment.*

AfCFTA was created to expand intra-African trade and enhance competitiveness at the industry and enterprise levels by taking advantage of opportunities for scale production, continental market access, and better reallocation of resources. The National Action Committee on AfCFTA was set up to develop Nigeria's strategy and mobilize all relevant public and private sector actors to implement interventions that will prepare Nigerian businesses for the AfCFTA.

Agriculture is a priority sector in Africa, being a key driver for economic diversification. In Nigeria, agriculture remains the largest employer of labor, providing jobs for one-third of the population. "In the first quarter of 2020, agriculture contributed 21.69% of Nigeria's GDP," said Alhaji Muhammad Sabo Nanono, Honorable Minister, Ministry of Agriculture and Rural Development. Smallholder farmers account for 60–70% of production, and the program plans to provide mechanization services to these farmers for improved production, which will, in turn, improve the country's economy.

In charting a way forward for the nation, the professionals discussed limiting

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# Harnessing insect biodiversity for sustainable plant health in tropical Africa

Fall armyworm (FAW), a ravaging pest of the maize plant, is spreading globally. Every year, Africa, Asia, and the Near East lose 80 million tons of maize worth US$18 billion to the damaging effects of FAW.

*Goergen Georg.*

Georg Goergen, IITA Entomologist and Biocontrol Specialist based in Cotonou, highlighted past and ongoing efforts to control the spread and effect of FAW on maize crops in a presentation titled: 'Harnessing insect biodiversity for sustainable plant health in tropical Africa'.

Despite all the invented technology in terms of insecticides and genetically modified organisms (GMOs) for maize, FAW remains the most crucial maize pest to be overcome.

Goergen said no silver bullet control would eradicate this insect pest given the mode of FAW's spread and infestation. Multiple approaches have to be combined.

He said among other measures to control the pest, biological control is the best. This involves introducing natural enemies to the Fall armyworm that would eat up the pest at the different stages of its development. He mentioned that farmers have their local solutions for controlling this pest, one of which is neem plant extracts.

The strategy for biological control is two-pronged. The first step is introducing parasitoids to eat up the FAW pest at maize's vegetative phase as early damage prevention. Once the maize reaches its reproductive stage, controlling the infestation becomes more difficult.

Another biological control measure he identified is using biopesticides. He said the first commercially produced Baculovirus that IITA tested combined with other factors provides no risk for non-targeted insects. But factors that have slowed down the adoption of this solution include lack of awareness, high cost, UV sensitivity, and lack of training for users.

Goergen said IITA and other collaborators (USAID, CIMMYT, and Michigan State University) had been involved in producing animations for building awareness on this biopesticide so users can understand how to use it without having to go through long scripts of instructions.

Goergen also looks forward to collaborating with partners to develop insect 3D modeling to help farmers identify the insect pests and deal with them.

His work also detected a second armyworm species called the Southern armyworm (SAW), which took about two years to trace, and was also observed as an insect pest on cassava.

His contributions in controlling this voracious maize insect pest include surveillance activities, faunistic assessments, training workshops, and capacity building.

As the world marks the International Year of Plant Health in 2020, Goergen thanked all collaborators and participants, including IITA, who have contributed to his work's success over the years.

*Fall armyworm destroys maize.*

**Take responsibility! Stop the spread of COVID-19!**

Always clean your hands; practice physical and social distancing; wear face masks; avoid crowds and public places; keep a 2-meter distance from the next person; practice general sanitation and hygiene.

## Got a story to share?

Please send your story with photos and captions every Tuesday to iita-news@cgiar.org or Katherine Lopez (k.lopez@cgiar.org) and Uzoma Agha (u.agha@cgiar.org) for headquarters and Western Africa, Catherine Njuguna (c.njuguna@cgiar.org) for Eastern and Southern Africa, and David Ngome (d.ngome@cgiar.org) for Central Africa.

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factors in agriculture and trade in Nigeria. Toda Atsuko, representing Dr Adesina Akinwumi, President of African Development Bank (AfDB), identified some of the challenges limiting Africa's agriculture from meeting up with its growing population, including low agricultural productivity and high cost of production. "Intra-African trade is growing but dominated by Southern and Eastern Africa; Nigeria needs to join in," she said. Atsuko also mentioned that half of African trade is dominated by processed foods.

Kwesi Atta-Krah, IITA Director of Advocacy and Country Alignment, stated that Africa needs to find ways to increase agricultural production, fair trade, and investment. "Transformation must begin from the mind, with us seeing agriculture as a business and job creation area," he said.

Using IITA as an example, Atta-Krah explained that agriculture should not only be research-based but should also involve delivery. "Using a model of research mobilization to agribusiness, IITA has been providing jobs, especially for youth in agriculture through the IITA Youth Agripreneurs (IYA) program, Young Africa Works (YAW) in partnership with MasterCard, and the Start Them Early Program (STEP)."

Discussing the opportunities available in agriculture for Nigeria and Africa at large, and how to leverage them to scale production and trade, Otunba Adebayo Adeniyi, Honorable Minister, Ministry of Industry, Trade and Investment, mentioned that Nigeria is at an advantage because its market is a target for all countries of Africa, being the largest economy in the Continent. HE Abubakar Atiku Bagudu, Governor of Kebbi State and Vice Chairman of the Food Security Council, mentioned that agriculture could be used to seal the free-trade agreement in Africa, since it is a continent with many food-insecure people.

Aside from general farming, some specific aspects of agriculture were analyzed, including poultry and fishery. Implementation of the conclusions drawn from these discussions will result in an agricultural revolution that will strengthen security, improve skills of farmers and the economy, as well as increase mechanized agriculture across Nigeria.

# IITA strengthens relations with the Nigerian Immigration Service

On a recent visit to CGIAR-IITA, the Zonal Coordinator of Zone 'F' of the Nigerian Immigration Service (NIS), Assistant Comptroller-General (ACG) Dora Amahian, highlighted possible areas of collaboration with the Institute, including crop production on agency land. ACG Amahian led a 9-person team on the courtesy visit to strengthen institutional relations between the two organizations.

The ACG, who was received by Hilde Koper, IITA Deputy Director General, Corporate Services, expressed delight at the amount of research taking place at the Institute. She revealed that she had been unaware of IITA's work to transform agriculture in Nigeria and the Continent. "I would often drive past IITA but did not know amazing things are going on here; it is impressive," she said.

Amahian also stated that the immigration service had improved its services, and IITA can now enjoy a wide range of visa options under the recently enacted visa policy.

In her welcome address, Koper appreciated the NIS for supporting IITA over the years and highlighted the Institute's commitment to upholding all the laws and regulations as required by the agency.

The team embarked on a tour of IITA's facilities, including visits to the Virology and Food and Nutrition laboratories, the Genetic Resources Center, and the Post-Harvest Utilization unit. During the tour, Amahian said "I am here to maintain the existing relationship but would like to explore the idea of growing some crops on the land we have here in Ibadan. I would like IITA to partner with us," she said.

*Assistant Comptroller-General (ACG) Dora Amahian receiving a complimentary package from DDG Corporate Services, Hilde Koper.*

*The NIS team visited the Cassava processing center at IITA.*

# IITA BIP and partners host virtual Vegetable Field Day for farmers

Vegetables are one of the most consumed foods worldwide because of their high nutritional value. Although the vegetable business is profitable, vegetable farmers usually face challenges accessing quality seed, knowledge of good agronomic practices, and markets.

In resolving these challenges, the IITA Business Incubation Platform (BIP), in conjunction with Rijk Zwaan and Seedforth Agro, hosted a virtual Vegetable Field Day on 30 September. The aim was to showcase vegetables and their market potential to farmers and equip them with knowledge on crop management practices, and where to source for quality seeds.

The event brought together breeders, agronomists, and agribusiness specialists from host organizations who shared with farmers advice ranging from markets, use of quality seed, good agronomic practices, and dealing with pests and diseases.

Clement Onoja, Business Development Manager, Seedforth Agro, enlightened participants on good crop management strategies for selected vegetables including how to detect and manage plant viral and bacterial diseases.

*Top: Youth Outgrowers Program vegetable greenhouse.*
*Bottom: BIP Youth Outgrowers' team displaying harvested vegetables in the open field.*

In her input on good agronomic practices, Miriam Samekpolo, IITA BIP vegetable team lead, advised farmers that choosing good seed, good soil, and setting up a greenhouse would aid maximum productivity in vegetable farming.

Eugene Agricolo of Rijk Zwaan, Agricolo spoke on the general procedure for raising good seedlings. "Raising seedlings/nursery involves making a good bed, using organic manure, having a good planting material, and good dedication to the plants for good production," he said.

The vegetable field day happens every year and is hosted by IITA BIP. Participants are taken on a tour of the greenhouse where vegetables are planted, and the field where crops are showcased. This year's demonstration was virtual with a live video from the greenhouse and open field at IITA. Vegetables, including tomato, cucumber, bell pepper, sweet pepper, and cabbage were showcased.

Rikj Zwaan is an organization known for quality seed and high-yielding vegetable varieties. The organization breeds over 25 different types of vegetables, including lettuce, tomato, cucumber, bell pepper, sweet pepper, and cabbage. Varieties of these crops are selected based on traits such as flavor, texture, consistency, production capacity, health, and nutritional values.

Seedforth Agro is the sole distributor of Rikj Zwaan seeds and farmers have been linked to them for access to seed, market linkages, and technical support services that can increase their yield.

IITA-BIP is available for partnership and collaboration on vegetable production. To learn more about BIP, visit www.iitabip.org or contact Victor Saleh (victorsaleh@iitagoseed.com) or Miriam Samekpolo (m.samekpolo@cgiar.org).

# Researchers reveal a more sustainable approach to address postharvest fish losses

Small-scale inland capture fisheries contribute significantly toward enhancing the food, nutrition, and economic security of millions of people in low-income countries. Over time, several factors have restrained women's participation in fishery value chains, limiting capture fisheries from achieving their full development potential. These factors have also reduced the impact that small-scale fisheries can have on poverty alleviation and food and nutrition security.

*Properly dried fish, after harvest.*

Technical and social constraints have been the major causes of postharvest loss in fish farming. An example of a technical constraint is the use of inadequate methods when drying fish. However, the gender constraint is more of a problem because it restricts women's decision-making capacities on the types of activities they participate in, their time and labor investments, and how they use their incomes in fishery value chains.

Researchers carried out a study in *Gender, Technology, and Development* (March 2020) to understand how fisheries extension and development programs can effectively address these constraints to reduce or end postharvest losses. The study compared the gender accommodative and gender transformative approaches in terms of influencing women's empowerment outcomes within a postharvest fish loss reduction intervention. The study took place in fishing camps in the Barotse Floodplain, Zambia.

A gender accommodative approach recognizes gender constraints but seeks to work around these constraints to engage women rather than challenge the barriers that limit women's participation in or capacities to derive benefits from value chains. In contrast, a transformative approach seeks to engage with and reduce or overcome gender-based constraints, not work around them. This approach encourages critical awareness among men and women of gender roles and norms, promotes women's position, challenges the distribution of resources and allocation of duties between men and women, and/or addresses the power relationships between women and others in the community.

The study revealed that tackling the technical and social constraints in value chains using the transformative approach provides small-scale fisheries with more significant potential to enhance the food, nutrition, and economic security of all people who depend on their natural resources. The findings also suggest that integrating gender transformative approaches with technical innovations offer a more potent way forward to address food losses.

IITA Gender Specialist Steven Cole, who led the research for the World Fish Center in Zambia, mentioned that the study's findings could contribute to informed decision-making by development programs working in fisheries.

*Newly harvested Tilapia fish.*