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Stakeholders discuss solutions to aflatoxin scourge on Nigeria's export market

The Reducing Postharvest loss across Vitamin A Maize and Cassava Value Chain project of IITA-CGIAR organized a virtual seminar on 26 August. The seminar featured private sector and government speakers highlighting the impact of and solution to aflatoxin contamination on Nigeria's export market.

Aflatoxins are poisons produced naturally by toxin-producing *Aspergillus* fungi in several food crops, including staple grains like maize, groundnut, and spices like chilies and ginger. Chronic exposure may result in liver cancer and immune system suppression.

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Aflatoxin-infested maize.

IITA and NIHORT to improve livelihoods through horticulture

IITA collaborates with private and government institutions to ensure sustainable agricultural development and proper execution of programs. In line with this, the National Horticultural Research Institute (NIHORT) visited IITA headquarters on 18 August to discuss collaboration on horticultural crops when implementing Partnerships for Delivery (P4D) projects. The visit focused on mango as this is a NIHORT mandate crop, and IITA has a mango orchard.

Hilde Koper-Limbourg, IITA DDG, Corporate Services, welcomed the team and introduced them to corporate service activities. She said that two

IITA management team and NIHORT team discussing the objectives of the program.

units—Facility Management Services (FMS) and the Forest Center—manage the IITA mango orchard. "We are looking forward to our discussions today as we explore opportunities for partnerships," she said.

Kenton Dashiell, IITA DDG, Partnerships for Delivery, explained that we expect opportunities to support economic development in conflict and climate-affected regions, particularly in northeast and northwest Nigeria. The program objectives would include horticultural crops that will reduce the emission of carbon dioxide and reduce hunger and poverty.

Lawal Attanda, NIHORT Executive Director, thanked IITA for welcoming NIHORT as their partner on a future project where horticultural crops would be needed. He commended IITA for the excellent teamwork towards achieving sustainable agriculture via the youth program in the Institute and the training already given to the NIHORT team. Attanda said the NIHORT team is ready to work with IITA to achieve development program goals with the help of horticultural experts, such as breeders, agronomists, and postharvest technologists. "We will put in our best effort to ensure a successful project," he said.

Touring the IITA Forest Center's Mango Orchard.

Oyinlola Oyedeji, NIHORT Plant Pathologist, added that this collaboration would create a platform for NIHORT to push out some of the on-shelf technologies that have been created and can be used to empower the youth.

Semeton Amosu, Head of NIHORT Fruits Programs, said that the collaboration would introduce appropriate technologies to fight deforestation and climate change using mango tree planting. Affirming the benefit of the program to forest activities, Adewale Awoyemi, Head of IITA Forest Center, stated that the proposal added value to the IITA Forest Center.

Wrapping up the discussion, Dashiell appreciated the NIHORT team for the visit and insightful discussion. He also appealed to both institutes to set up a team to write proposals that would include horticultural crops.
Contributed by Anita Akinyomade

Positive feedback as IITA-led Zero Hunger Project team visit demo plots and cassava processing center in Benue

"I am very happy because I know my harvest will be plenty this year. You can tell from the way the cassava plants look healthy. We just did ratooning on it. I gave some to members of our cooperative, Ashina Women Production Multi-Purpose Cooperative Society, for cultivation. The next time I do the ratooning, I intend to sell the stems instead."

Those are the words of Francisca Ajav, who owns a cassava demonstration plot in Aliade, Gwer East Local Government Area (LGA) of Benue State. IITA's Zero Hunger Initiative (IITA-ZHI) helped set up the demo plot to give farmers in her cluster practical knowledge on the best practices in cassava cultivation. The 0.25-hectare demo plot has been cultivated with TME 419 and Vitamin A


Mrs Francisca Ajav, the owner of the demonstration plot in Aliade, Gwer East Local Government.

varieties of cassava and is used by the lead extension agent in the community Moses Unja to disseminate knowledge.

Another farmer, Ortserga Seember, revealed that the practical training had helped her farm. According to her, weeds previously competed for nutrients and space with her cassava because she did not know the right approach to weed management. However, her fortunes changed after engaging with Unja and having first-hand knowledge of the demo plot. She has adopted the six steps to weed management, and her farm is quite different from what it used to be.

Zero Hunger Project team with the women at Kwande Processing Center.

Chiangi Terseer John is a member of a knapsack gang. He recently got practical knowledge on ratooning, thanks to the demonstration plot in Aliade. The lead extension agent also trained him on proper calibration and he recently acquired ratooning skills, which he uses to earn a living. According to him, people pay him to ratoon and spray because they know he is equipped with that knowledge. He says he now knows the proper length of stems to be bundled as well as the right length to cut for planting.

Unja, an extension agent in Aliade, reemphasizes the importance of the demo plot. He disclosed that the plot had demystified previously held beliefs and doubts about adopting and adhering to the six steps in cassava cultivation as the farmers now have first-hand knowledge of its advantages.

The IITA-ZHI team, led by Monitoring, Evaluation, and Learning Manager Oyewale Abioye, also visited a demonstration plot in the VCDP-assisted Kyogen Cluster in Kwande LGA, Benue State. They held an interactive session with Mbakur Multi-Purpose Cooperative Society members, custodians of the demo plot. Cluster Chair, Elder Denen Gregory, said that the demo plot had been an eye opener, making him aware that one can ratoon a cassava farm twice before harvest, resulting in having more seeds to replant or sell.

VCDP extension agent Hellen Ijeh, expressed delight at the level of adoption by the farmers. She added that the farmers had been taught the nutritional benefits, particularly of vitamin A cassava. Ijeh appreciated IITA-ZHI for its efforts, particularly on value addition, as she is expecting more trainers attending a training of trainers workshop on nutrition and agripreneurship organized by IITA-ZHI. She expressed hope that after the training, her women farmers will be able to make products such as cakes, moin-moin, pap, and other snacks to earn money and complement the nutritional needs of their families.

Giving justification for the demonstration plots, IITA-ZHI Training Manager Bolanle Olorode disclosed that extension agents lead the plots on farmers' fields. This is to ensure that the agents can lead these research efforts independently and be convinced of the need to transfer this knowledge and technology to farmers. He added that the demo plots are appropriate avenues for showcasing best practices in cultivation like the six steps but also to test technologies like herbicide calculators, calibrators, and area calculators and how they influence input cost, yield, and profitability. The visit also allowed the team to ratoon and distribute improved vitamin A cassava varieties and TME 419 to farmers in the hope that they would give the seeds to other farmers upon cultivation.

The women at the processing center in Kwande LGA, supported by the Wet Hammer mill donated by the project, excitedly demonstrated how they had been using the cassava and cassava peel processing equipment.

Contributed by the Zero Hunger Project team

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IITA's Godwin Atser, Project Manager and Advocacy, Promotion and Outreach Lead, who moderated the event, said that the seminar's purpose was to look into the issue of aflatoxin and how it is affecting the import market in Nigeria.

Titilayo Falade, Associate Scientist at IITA Pathology/Aflasafe Unit, said that the seminar would highlight pitfalls of the export market and how to avoid them. She mentioned that representatives from the private sector and the government would speak on the theme from the perspective of their institutions.

Williams Ezeagu, Former Director of Product Development Department, Nigeria Export Promotion Council (NEPC), gave an overview of commodity export in Nigeria with particular reference to the issues of aflatoxin. He said major export products like cocoa, sesame seed, cashew seed, and groundnuts cover about 70% of Nigeria's export. However, these products now experience export rejection resulting in losses due to aflatoxin contamination. "Aflasafe, introduced by IITA, is a game changer for us, and this seminar is one of the ways to create awareness on food safety in the country," he added.

Abdullah Ndarubu, Harvestfield Industries Limited (HIL) Chief Operating Officer, spoke about aflatoxin from the private sector's perspective. He mentioned that over 20% of maize and groundnut produced in Africa are affected by aflatoxin. He also shared

the effectiveness of Aflasafe and its role as a catalyst for export. "We appreciate IITA for selecting Harvestfield in 2018 to be a manufacturer of Aflasafe in Nigeria," he said.

Oyeleke Rasaq, Deputy Director and Head of Nutrition at the Federal Ministry of Agriculture and Rural Development (FMARD), shared the government's efforts in curtailing aflatoxin spread in grains and improving export. He highlighted various initiatives that have been created, including Agro-zero Reject Initiative, which was inaugurated in 2021 to ensure zero export rejection and ease export business. "We have a national program on aflatoxin control in Oyo, Kano, Kaduna, and Abuja. We need the support of IITA in suggesting ideas and accessing funding partners so we can extend this project to all states in Nigeria," he said. He also spoke of the importation of groundnuts for RUTF (ready-to-eat-therapeutic foods) because Nigerian groundnuts do not meet the safety requirements due to aflatoxin contamination. He stressed that government agencies need to move from working in siloes to working collaboratively.

Participants at the workshop emphasized the need for Nigeria to work towards reducing aflatoxins for the safety of domestic consumers and the opportunity to access quality-sensitive international markets.

Rounding off the seminar, Falade added that IITA is working collaboratively with partners to organize a convention that will converge stakeholders via a Food Convergence Innovation with partners in McGill university and with support from FAO, GAIN, and HarvestPlus. The convention aims to create traction towards actionable steps for collaborative, sustainable aflatoxin management nationwide.

Contributed by Ochuwa Favour Daramola

Researchers reveal agribusiness programs as a solution to poverty among youth in Nigeria

In developing countries, youth unemployment has received increasing attention in policy dialogue. Over half of Nigeria's more than 200 million population is either unemployed or working in low-wage jobs. This has created a pathway to poverty and vulnerability to poverty, making young people engage in illegal activities or migrate illegally to wealthier countries in search of better opportunities.

Researchers have noted that urgent policy and program reforms are imperative in solving this challenge, especially within the agricultural sector. Hence, some researchers recently conducted a study to evaluate the impact of youth participation in agribusiness programs (YIAPs) on poverty and vulnerability to poverty in Nigeria. The research, done in Ondo and Ogun states in southwestern Nigeria, was funded by the International Fund for Agricultural Development (IFAD) and IITA.

The research was led by Lateef Olalekan Bello, Research Fellow at IITA. He analyzed data from a sample of 668 youth. Results revealed that the poverty headcount of the sample population was approximately 60%, using the international poverty line of $1.9 per day as the benchmark. Findings also showed that some socioeconomic and institutional factors, including gender, are responsible for influencing the poverty status of youth and their vulnerability to poverty.

Enumerators interviewing youth farmers that engaged in crop production.

The impact estimate indicated that participation in an agribusiness program has a significant positive effect on poverty reduction among youths. It also showed a potential 28% reduction in exposure to future poverty for non-participants if they had participated in a YIAP. The results suggested that intervention programs, such as YIAPs focusing on skill acquisition and youth empowerment, be strengthened and scaled up to improve youth welfare and reduce or eradicate poverty and vulnerability to poverty.

The researchers mentioned that the significant effect of gender on poverty and vulnerability to poverty suggests that female youth should be encouraged to participate in agribusiness. They also concluded that giving the same enrolment quota to both gender groups in agribusiness programs could enhance female participation in the sector and reduce poverty among them.

Lateef said, "This study affirms the poverty-reduction impact of YIAP. Hence, we recommend subsequent implementation of YIAP in different parts of the country."

Contributed by Ochuwa Favour Daramola

Stakeholders validate Zero Hunger project baseline study report for Benue and Ebonyi states

Project Monitoring, Evaluation, and Learning Manager, Oyewale Abioye briefing the participants.

Lead farmers and extension agents in Nigeria's Benue (cassava farmers) and Ebonyi (rice farmers) states have validated the IITA-led Zero Hunger project baseline study report for the two states. The validation exercise was conducted in Makurdi on 17 August 2022 at the Center for Food Technology and Research, Benue State University Makurdi (CEFTER-BSU) for Benue State, and in Abalaki on 23 August at the Ebonyi Agricultural Development Programme (EBADEP) office for Ebonyi State.

The Zero Hunger project in Nigeria is a three-year IFAD-funded project implemented in three states—Benue, Ebonyi, and Ogun—in Nigeria and two regions (Kara and Plateaux) in Togo with a target of 35,000 direct and 500,000 indirect beneficiaries. It seeks to increase rice and cassava farming system productivity and improve nutrition by adopting locally developed and tested agricultural technologies and innovative crop management practices leveraging on two pillars, "technology and innovation" and "policy analysis and policy engagement". In realizing these objectives, it was necessary to identify and address specific challenges faced by stakeholders along commodity value chains, hence the baseline survey and subsequent validation by stakeholders.

The overall objective of the Baseline Survey was to support the Zero Hunger project team to establish benchmarks against the outputs, outcomes, and impact of the program for assessment during and after implementation, focusing on the core outcome Indicators related to productivity, income, and nutrition. It seeks to establish baseline value indicators of intended outcomes against which future measurements can be made of changes in behavior, systemic capacity, and impact on the conditions of households and individuals. It also aims to gather and analyze information that will assist the project's stakeholders in designing or modifying appropriate interventions or generating information to refine the project's logframe and monitoring and evaluation plan.

According to the Project Monitoring, Evaluation, and Learning Manager, Oyewale Abioye, the essence of the validation exercise was to hear directly from the farmers and extension agents who acted as enumerators to enable them to contribute to the interpretation of the study and validate the result. He noted that during the validation exercise, it was discovered, among many issues, that there was a need to set up demonstration farms to showcase different cassava varieties, which can be used to organize a variety identification workshop. He added that the demonstration plots also give first-hand practical knowledge of best farming practices. The study also helped the ZHI team identify action points and areas to follow up on interventions and policy issues, one of which is the government's efforts to curb the menace of adulterated and harmful agrochemicals.

In their separate remarks, Abdul Samuel Ngbede and Mbalaha Joseph Terkula, extension officers from Agatu and Buruku Local Government Areas, respectively, validated the baseline study report, calling for the adoption and implementation of its findings and suggestions. This was echoed by other extension officers and lead farmers who participated in the exercise. Similar validation remarks were made by farmers and extension agents in Ebonyi State. The project team also visited the Ebonyi State Commissioner of Agriculture and Natural Resources, Prof. Humphrey Nwobashi, to brief him on the project's progress. He used the opportunity to reiterate the Ebonyi State government's commitment to ending hunger in the state and thanked the Zero Hunger team (IITA and AfricaRice) for the partnership toward this goal.

Contributed by the Zero Hunger Project team

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