

## IITA seeks to build the next generation of female scientists and leaders

On 11 February, the Women in Research and Science (WIRES) held a 13-hour marathon webinar to celebrate the International Day of Women and Girls in Science. The event themed “CGIAR Women in Science: Shaping the world through science and innovation,” assembled CGIAR centers to each give an hour presentation.

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The IITA power hour featured women scientists from different Institute hubs and stations across Africa.

## ENABLE-TAAT trained agripreneurs record their first million in the poultry business

The multifaceted [Technologies for African Agricultural Transformation](#) (TAAT) project registered another success story, this time, in Nigeria's poultry sector. A team of youth agripreneurs trained by the Empowering Novel Agribusiness-led Employment (ENABLE-TAAT) program

recorded a gross profit of over ₦1 million—about \$2,580—in 8 weeks.

They got a return on investment of about 45% after two live-broiler production cycles. They attributed their success to the technical delivery

of the ENABLE-TAAT agribusiness park initiative and the backstopping and monitoring activities provided by TAAT's Youth in Agribusiness compact (another name for ENABLE-TAAT).



This is fulfilling one of TAAT's main objectives: improving the business of agriculture across Africa by raising agricultural productivity, mitigating risks, and promoting diversification and processing in 18 agricultural value chains within eight priority intervention areas.

As part of its [Feed Africa Initiative](#), the [African Development Bank](#) sponsors TAAT, which increases agricultural productivity through the deployment of proven and high-performance agricultural technologies at scale along selected nine commodity compacts such as cassava, orange-fleshed sweet potato, aquaculture, small livestock, high iron beans, maize, rice, sorghum and millet, and wheat. These work with six enabler compacts addressing cross-sectional issues: Soil fertility management, water management, capacity development, policy support, attracting African youth in agribusiness, and fall armyworm response.

[IITA](#) leads the ENABLE-TAAT compact, which provides training and technical assistance to establish and expand youth-led agribusiness enterprises along the TAAT value chains. These include high iron beans, cassava, fish, maize, small livestock, rice, and orange-fleshed sweet potato.

ENABLE-TAAT designed the agribusiness park initiative to support clustered agripreneurs during the early days of their business start-up. This backstopping may be in the form of infrastructure, services, mentoring, and linkage.

After their training from November to December 2019, the team of agripreneurs leveraged the incubation park facilities for their start-up. This poultry cluster, comprising three youth—Apawarisia Samuel, Obarijima Onyomi, and Vivian Okuboyeio, have now completed two live broiler production cycles with resounding success.

The huge profit has motivated the agripreneurs and convinced them that agribusiness is indeed profitable. They expressed their appreciation of ENABLE-TAAT's model of engaging youth in agribusiness,



Monitoring activities of the poultry cluster by ENABLE-TAAT. PHOTO: TAAT/Dolapo Ogunsola



The birds at table size. Photo: TAAT/Dolapo Ogunsola

which helps break the major hurdle of uncertainties associated with start-ups. The model, according to the agripreneurs, boosted their confidence in taking calculated risks in investments.

“For most of us who are new to a structured business environment, the clustering experience has greatly improved our ability to work in a team, enhance our leadership

skills, practice business ethics, and improve interpersonal relationships with our colleagues, clients, and customers,” said Samuel, a member of the poultry cluster.

The agripreneurs have initiated the process of starting-up outside the incubation facility. Some of the trainees have also stocked birds outside the agribusiness park for the expansion of their enterprises.

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Besides hearing about some cutting-edge science, participants engaged directly with some of CGIAR's finest women scientists and speakers.

[IITA](#) joined WIRES to showcase how CGIAR women scientists are transforming how we look at food, land, and water systems worldwide. Apart from celebrating its female scientists, IITA also sought to train and attract young girls into science through programs like [IITA Youth Agripreneurs \(IYA\)](#) and [Start Them Early Program \(STEP\)](#). IITA Women's Group also partners in the Raising Girls Ambition (RAGA) program to sponsor young girls in science careers.

Director R4D, Central Africa and Natural Resource Management, [Bernard Vanlauwe](#), gave the keynote address during the IITA power hour, moderated by [Sylvia Oyinlola](#), Head Administration of Western Africa Hub. Vanlauwe focused on the importance of diversity and highlighted three points—first, diversity in research leads to diverse science solutions; hence, both men and women scientists are important and needed. Secondly, he stressed the need for every center to promote gender diversity starting within their organization. Finally, Vanlauwe stated that science careers could be very rewarding for women, looking at female scientists within and outside IITA.

Speaking on the contribution of women scientists to agriculture through IITA, [Leena Tripathi](#), Plant Biotechnologist, looked at the potentials biotechnology has to transform agriculture. She

emphasized that genome editing tools are becoming popular molecular tools of choice for crop improvement, and that her team in Kenya has trained quite a number of women and men researchers on the technology.

[Mercy Diebiru-Ojo](#), Assistant Specialist in Cassava Seed Systems, shared IITA's innovations to aid the rapid multiplication of clonal crops, including Semi-Autotrophic Hydroponics (SAH) for cassava and aeroponics for yam. "Food security is majorly dependent on seed systems, but there is the challenge of getting planting materials," she said.

[Delphine Amah](#), Regional Breeding Manager, spoke on how IITA has turned challenges in plantain breeding into opportunities. "Our contribution in resolving the challenges of pests and diseases in plantain production has improved food security in Africa," she noted.

[Busie Maziya-Dixon](#), Food and Nutrition Scientist, explained the importance of knowing the types and amounts of food consumed in different locations of Africa, stating that most diseases are related to diet. "Because we are what we eat, knowing what people eat, the quantity and nutritional quality of the food, will help us have the right interventions," she said.

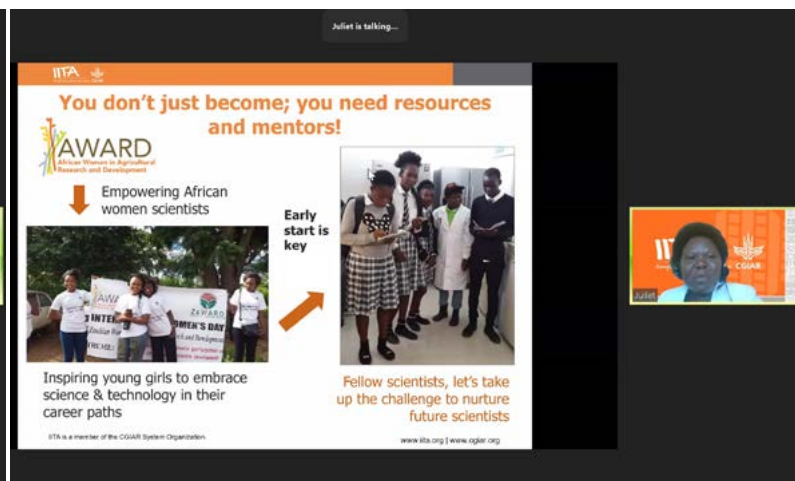
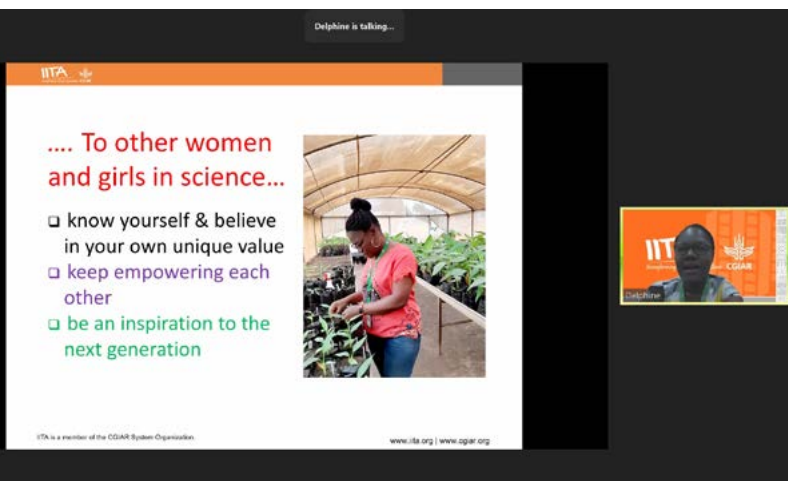
Emphasizing the significance of mentorship to building a career in science, [Valentine Nakato](#), a Postdoctoral fellow in Plant Pathology, spoke on how to fit the puzzle pieces together in the world of plant science

research. She mentioned the need to be mentored by senior scientists and mentoring upcoming scientists. "I have an ongoing research project where I am being mentored by senior scientists and I am also mentoring the young scientist within my team. So I am both a mentor and a mentee," she said.

[Juliet Akello](#), Plant Pathologist, recalled how the hunger she experienced in the 90s fueled her passion to find a solution to hunger and malnutrition in Africa. She highlighted how the experience also inspired her to mentor young girls to build a career in science. "I encourage senior scientists also to take up the challenge to nurture young scientists."

Also, [Sika Gbegbelegbe](#), Agricultural Economist (Foresight Modeler), looked at what the future holds and how science can help. According to her, "The food security in Africa can be improved by nurturing young people, including girls, to take up a science career."

Wrapping up the presentations, [Elizabeth Parkes](#), HarvestPlus Cassava Breeder, handled the question and answer session while [Gundula Fischer](#), Social Scientist and Gender Expert, gave the closing remarks. Fischer mentioned that women scientists network to use the best talent and achieve development goals, but there is still a long way to go to include more women and girls in science, and building their interest and mentoring them to improve and sustain inclusion and diversity.



Regional Breeding Manager for plantain/banana improvement in West/Central Africa, [Delphine Amah](#), advises other women and girls in science.

IITA Plant Pathologist [Juliet Akello](#) giving her presentation.



# Aflasafe KE01: Biocontrol measure for Aflatoxin

Aflatoxins are a family of secondary toxins produced by certain fungi found on a wide range of commodities, including maize and groundnut. The primary fungi that produce aflatoxins are *Aspergillus flavus* and *Aspergillus parasiticus* found in warm and humid regions of the world. Aflatoxin-producing fungi can contaminate crops in the field during harvest and storage, making food and feed unsafe for human and animal consumption. This has led to various health issues such as cancer, liver damage, and stunted growth in humans.

A [study](#) carried out in Kenya revealed that the negative effect of aflatoxins on crops and animals has affected health and productivity and reduced the market value of agricultural products internationally. Therefore, a biocontrol product, [Aflasafe KE01](#), was introduced, which would be facilitated by the farmer's willingness to pay and factors that would affect their decision.

The researchers carried out the study in four counties—Makueni, Machakos, Kitui, and Tana River—the hotspot regions for aflatoxin contamination. The research team used systemic sampling to select a sample size of 480 farmers. The Contingent Valuation Method (CVM) was used for the analysis.

The study revealed that the major constraints to aflatoxin management, despite the numerous recommendations, are a poor interpretation of knowledge about solutions, time and labor intensiveness of some of the technologies, inadequate know-how on use of technologies, and ethical aspects.



*Charity Mutege explaining the use of Aflasafe to participants at a workshop.*

There is also the issue of climate change favoring aflatoxin accumulation even when mitigation measures are in place.

The study also highlighted the need for integrating different approaches to the control of aflatoxin contamination, such as breeding for resistance, good agricultural practices, biological control, postharvest measures, physical methods, chemical methods, genetic engineering, and enforcement of regulatory measures.

Aflasafe KE01 is effective, cutting aflatoxin levels in maize and groundnut by 80% to 100%, down to safe levels. A single application of Aflasafe KE01 by farmers protects food for humans and animals, with Aflasafe-treated maize cutting chicken mortality by 40%.

The study revealed that contact with the extension agents positively influenced

farmers' willingness to pay for the aflatoxin biological control product. The extension agents introduced it to them through awareness activities and the availability of household income.

The findings suggested that distribution networks should be made available to reach end-users to scale up the product.



*Bagging Aflasafe KE01 in the factory.*

## 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](mailto:iita-news@cgiar.org) or Katherine Lopez ([k.lopez@cgiar.org](mailto:k.lopez@cgiar.org)) and Uzoma Agha ([u.gha@cgiar.org](mailto:u.gha@cgiar.org)) for headquarters and Western Africa, Catherine Njuguna ([c.njuguna@cgiar.org](mailto:c.njuguna@cgiar.org)) for Eastern and Southern Africa, and David Ngome ([d.ngome@cgiar.org](mailto:d.ngome@cgiar.org)) for Central Africa.



# Making a case for migrants' originating households in Malawi

According to [research](#), migration for employment is a key feature of youth mobility in certain parts of Africa. Individuals migrate primarily to improve their social status and learn new skills and trades. Internal migration—both rural to urban and rural to rural—of youth is also increasing due to lack of employment opportunities and other factors, including environmental and climate changes, demographic pressure, and political crises.

“The world is experiencing a higher rate of migration than ever, which is dominated by rural-urban migration arising from various developments, particularly among the youth,” reveals [Emmanuel Tolani](#), an [IITA-CARE](#) awardee, researching welfare effects on migrants' originating households in Malawi.

According to his [study](#), developing countries constitute a large proportion of people living in rural areas globally, and these countries are experiencing an increased urban population growth rate. While most households in developing countries depend on farming as their primary source of livelihood, with family labor as the main labor source, migration of family members from rural to urban areas might impact the household members left behind.

“Migration is common in most sub-Saharan African countries, and Malawi is no exception. In Malawi, migration dates back to the 1960s after attaining independence. People have been moving from rural to urban areas within the country looking for better living conditions—to earn income to supplement what they get from agricultural production. This is predominant among the youth,” states Tolani.

Despite government interventions to address migration challenges in Malawi, there is a dearth of information on the determinants of rural-urban youth migration and how rural-urban youth migration affects the welfare of originating households in the country. Looking at these determinants and their



*Migration for employment is a mainstay of youth mobility across Africa.*

impact on influencing policies, Tolani developed scientifically based evidence during a study funded by [IFAD](#).

The research carried out under the IITA-CARE project found that rural households faced with agricultural shocks are more likely to send their youth household members to urban areas. “These shocks include floods, droughts, prolonged dry spells, pests, and diseases,” states Tolani.

Tolani revealed that the migration of family members from rural to urban areas often has implications on the household left behind, such as labor loss for agricultural production. Households with urban youth migrants were producing less maize per hectare than their non-urban youth migrant counterparts.

Despite efforts to make remittances available for family members left behind in rural areas, it is often not enough to compensate for productive family labor lost due to migration. As part of policy interventions, the study recommends that the government in Malawi explore more and better employment opportunities, such as revising the minimum wage rate that will enable youth to improve their living standards and remit enough to their household members in rural areas.

The IITA-CARE project is building young researchers' capacity across 10 countries in Africa to generate and disseminate evidence-based results to inform future action plans related to youth participation in the rural sector for policymakers.

## Remember these COVID-19 prevention and control measures

1. Wear face masks in public spaces
2. Maintain physical distancing of at least 2 meters
3. Wash hands and sanitize regularly
4. Practice respiratory hygiene
5. Stay at home when sick with related symptoms