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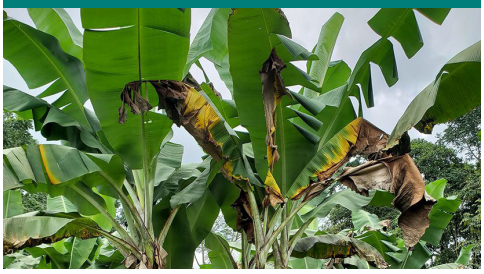

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CABI highlights value of South-South collaboration at first CAASTIA General Assembly 2025

CABI has taken part in the first China-Africa Agricultural Science and Technology Innovation Alliance (CAASTIA) General Assembly held in Ethiopia, an important milestone in South-South cooperation for agricultural innovation and sustainable development.

The event, jointly initiated by the Chinese Academy of Agricultural Sciences (CAAS) and the African Academy of Sciences (AAS) under the framework of the Forum on China-Africa Cooperation (FOCAC), brought together nearly 90 founding member institutions from across Africa and China, along with international and regional organisations.

Under the theme "Joint effort through CAASTIA towards China-Africa Modern Agricultural Development", delegates discussed how to strengthen Africa's agricultural research and innovation systems to advance sustainable agricultural growth.

Dr Daniel Elger, Chief Executive Officer of CABI, said, *"We are pleased to have participated in this first CAASTIA General Assembly, which highlights the power of partnerships in strengthening capacities, the exchange of expertise, and knowledge sharing in agriculture and development.*

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"CABI looks forward to working with CAAS, AAS and other stakeholders in CAASTIA as this alliance gains momentum in driving increased agricultural and technological collaboration between Africa and China, with potential for great benefit to both sides."

Solutions to improve food security and livelihoods

Representing CABI, Dr Elger and Ms Phyllis Ombonyo, Director of Strategy and Engagement, delivered a joint presentation titled "Accelerating the impact of scientific research through Africa-China cooperation."

They highlighted CABI's long history of collaboration with both African Member Countries and China to translate agricultural research into practice in ways that enhance food security and the livelihoods of smallholder farmers. The speakers then showcased successful examples of South-South collaborations involving Africa and China.

Successes in Africa-China collaboration

One success story highlighted by Ms Ombonyo was the building of local capacity in Rwanda for the mass production and use of beneficial nematodes to kill crop pests including the devastating fall armyworm (*Spodoptera frugiperda*).

The collaboration among CABI, China, Rwanda, Switzerland, and funded by the UK Foreign, Commonwealth & Development Office (FCDO) transferred technologies from China, and the project lives on in Rwanda thanks to Rwandan government support.

Today, Rwanda is celebrating more than 10 years of biocontrol success with the facility producing over 100 billion insect-killing nematodes per batch, enough to treat more than 100 hectares of field crops or seed beds that can later be transplanted to over 800 hectares.

Dr Daniel Elger at the lectern supported by Ms Phyllis Ombonyo.

Deogratius Magero speaking at the Africa Food Systems Forum.

CABI's support for Africa's youth leading agricultural transformation voiced at Africa Food Systems Forum

CABI has highlighted its efforts towards youth-led agri-food systems transformation, at the Africa Food Systems Forum 2025 (AFSF) in Dakar, Senegal.

A strong contingent from CABI attended the AFSF to demonstrate how the organisation is supporting inclusive and sustainable food systems in Africa by empowering youth through skills training, access to resources, and integration into agribusiness.

CABI's work is helping to sustainably manage plant health threats, address unemployment, increase productivity, and build more resilient and sustainable agriculture value chains.

In Uganda, PlantwisePlus and its partners set up an agro-skills programme, training over 400 youths in agricultural skills and agribusiness, including safe pesticide handling and use. This has taught them how to diagnose plant health problems and use sustainable pesticide alternatives as part of an integrated pest management approach. PlantwisePlus is also providing this training in Kenya and Zambia.

Overall, in the five years to 2024, PlantwisePlus has shared advice on how to improve plant health with young (18-35) farmers 7 million times. This includes advice given from a plant doctor as well as through social and behaviour change campaigns, digital tools or farmer-to-farmer sharing.

Importantly, CABI highlighted how it is helping smallholder farmers of all ages grow more and lose less to crop pests and diseases to improve their livelihoods and food security, as well as access local and more lucrative international markets.

Deogratius Magero, CABI's Youth Engagement Manager, Africa, contributed to a discussion on how to support youth innovation in agriculture.

He spoke about his involvement in a project that has equipped young people with business skills, financial literacy, and market linkage opportunities.

In Zambia, for example, youth trained under the "Village-Based Biocontrol of Fall Armyworm" project have established farmer cooperatives and now operate microenterprises offering pest control services, input supply, and crop aggregation.

Mr Magero said, *"My contribution highlighted a crucial point: the most effective way to drive youth leadership is to make agriculture modern and profitable, and an accessible career and business choice."*

Radio campaigns focused on addressing social barriers to women's participation in agriculture (Image: Evans Ahorsu for CABI).

Women farmers in Ghana empowered by radio campaign

Women farmers in Ghana face significant barriers to accessing agricultural extension services.. The services are often designed for men and give them an advantage when it comes to farming productivity.

CABI's assessment in Ghana's Bono and Central regions found that social norms are at the root of discouraging women's participation. These norms include, for example, the belief that farming advice is only valuable for men and that cash crops are not suitable for women.

To address gender inequality, CABI, through the PlantwisePlus programme, promoted access to climate-smart agricultural advice for women farmers in Ghana. One key initiative was the Green Leaf radio magazine programme. Through this, Farm Radio International developed an advisory platform to address social norms.

The campaign focused on addressing social barriers to women's participation in agriculture. They established dialogues to counter the types of social norms that limit equitable access to extension services. Specifically, the project developed a 16-week radio programme through stakeholder engagement and a technical workshop. It covered a range of relevant topics, including:

- Addressing barriers such as land access, credit, and legal rights
- Building women's confidence, leadership and participation
- Encouraging the use of technology and entry into commercial farming
- Promoting shared decision-making and recognizing women as farmers
- Reducing childcare, mobility, and time constraints

The project was a huge success, reaching over half a million listeners within the target areas. In total, the campaign aired 123 live programmes. Many farmers – men and women – reported an increase in knowledge about the subjects covered. This helped to build the confidence of women farmers in Ghana. Men also reported working jointly with their wives to improve productivity, thanks to the knowledge gained from the radio programmes.

Proud to be a farmer in her own right

For 24 years, Esther Benko farmed cassava and plantain in Goaso. She often questioned her place as a woman in agriculture. Farming felt like a man's world until she heard a radio programme about 'Women as Farmers.' It was a turning point, affirming her value and opening her eyes to the link between farming and health. Inspired, Esther now improves her techniques and prioritizes her well-being.

PRISE data model gives timely advice for smallholder farmers tackling coffee berry borer pest in Kenya

CABI has used the tried and tested Pest Risk Information Service (PRISE) data model to compile a comprehensive risk assessment of the Kenyan coffee sector and create a model to help smallholder farmers tackle the coffee berry borer pest.

As part of a project funded by Innovate UK and Innosuise, CABI and partners Farmer Connect, Trade in Space and the Kenya Agricultural & Livestock Research Organisation (KALRO) Coffee Research Institute (CRI), have created a data model which can predict the emergence of coffee berry borer and provide accurate timings for intervention strategies.

CRI officers have been trained to collect coffee phenology, pest phenological development information and weather data, focusing on Kirinyaga County – a major Kenyan coffee-growing region on the slopes of Mount Kenya.

The models generate practical, location-specific outputs – such as alerts indicating when farmers need to act against coffee berry borer, and forecasts predicting key coffee growth stages like flowering, berry expansion, and harvest timing.

Together, these outputs support farmers with timely, evidence-based decision-making to protect yields and improve the quality of their coffee.

Highlighted the need to scale the initiative nationwide

Henry Mibei, Project Manager, Digital Development, Africa, said, *"Coffee berry borer assessments were also carried out to calibrate emergence predictions and position information. In-situ climate monitoring (rainfall, temperature and relative humidity sensors alongside manual rain gauges) provided key microclimate inputs for the phenology and pest models."*

CRI has highlighted the need to scale the initiative nationwide, beyond the pilot sites and deliver the advisories and time-to-act (TTA) messages directly to coffee farmers across Kenya to reduce the damage caused by coffee berry borer to the Kenya supply chain.

Researchers in the field on a mission to tackle the coffee berry borer with alerts indicating when farmers need to act and forecasts predicting key coffee growth stages like flowering, berry expansion, and harvest timing (Credit: CABI).

New CABI-led study identifies over 9,000 pest species of potential concern previously unreported in Uganda

Fusarium f.sp. cubence Tropical Race 4 (FoC TR4) on a banana plant (Credit: CABI).

A team of researchers led by CABI have identified 9,071 pest species previously unreported in Uganda which pose potential concern in terms of possible threats to the livelihoods of smallholder farmers as well as food security in the country.

The study, published in Frontiers in Agronomy, used the CABI Horizon Scanning Tool to gather the data from which a subset of 1,517 pest species – such as Fusarium f.sp. cubence Tropical Race 4 (FoC TR4) on banana – for rapid risk assessment.

This was based on the likelihood of entry and establishment, the magnitude of socio-economic and environmental impact, as well as potential pathways of introduction of pest species.

In total, 360 of the 1,517 were reported as invasive

Recommended actions to help manage the risks posed by these pest species include targeted surveillance, regulation supported by pest risk analysis, contingency planning, publicity, management by the industry, and research.

Dr Joseph Mulema, lead author of the study and Senior Scientist, Research at CABI, said, *"The horizon scanning study has identified high-risk invasive pests that could threaten Uganda's agriculture, biodiversity, forestry, and livelihoods.*

Dr Paul Mwambu, Commissioner of the Department of Crop Inspection and Certification (DCIC) in Uganda, and also the National Plant Protection Organization (NPPO) head said, *"Having now gained a comprehensive understanding of the potential impact that pest species may have on Uganda's agricultural industry and environment, we are positioned to significantly enhance our capacity to manage these pests sustainably across the entire food value chain, and promote safe trade."*

Pest pathways were assessed

Professor Herbert Talwana, from Makerere University, Uganda, and a co-author of the research, said, *"Three pathways through which the pests could be introduced were assessed. These included containment, stowaway, and unaided.*

"The containment pathway, relevant to seed-borne and seed-transmitted pests, was considered more plausible for species within and beyond Africa. However, the stowaway pathway, applicable to vector-and soil-borne pests, was deemed more plausible for species reported in a neighbouring country."

Among the recommendations, the researchers suggest the DCIC should devise a strategy for risk communication and a code of conduct for key stakeholders to minimise the introduction of highly damaging pests identified in this study.

The paper can be read open access here: https://www.frontiersin.org/journals/agronomy/articles/10.3389/fagro.2025.1601845/full

The horizon scanning study has identified high-risk invasive pests that could threaten Uganda's agriculture, biodiversity, forestry, and livelihoods

CABI and ICGEB's NAMSSA partner with Exotic Green Power to commercialise VH Biofertiliser in Zambia

CABI is partnering with the International Centre for Genetic Engineering and Biotechnology (ICGEB) to launch the Nature-Based Microbial Solutions for Sustainable Agriculture (NAMSSA) project and help ensure greater sustainable food security.

In Zambia, smallholder farmers have faced a decline in soil fertility, reduced crop productivity, drought, and over-reliance on synthetic fertilisers that threaten food security in the region. This reality has led to degraded soils that lack beneficial microorganisms that improve soil and plant quality.

To resolve the issue, the NAMSSA project is supporting Exotic Green Power Enterprises Limited (EGPE) in developing the VH Biofertiliser, an innovative biofertiliser produced from locally sourced organic materials.

It contains components with biostimulant activity that stimulate plant growth and support beneficial microbial functions in the soil, enhancing crop resilience to biotic and abiotic stresses and contributing to higher yields.

"Farmers who have used the VH Biofertiliser report improvement in soil structure, increased biological activity, and enhanced crop yields," said Ms Lucy Karanja, CABI's technical staff working in the NAMSSA project.

With its incredible success, this VH Biofertiliser remains unregistered in Zambia, limiting its universal use in the formal agricultural sector. NAMSSA's mission is to assist in the process of making the biofertiliser a certified product, enabling its purchase by any farmer at an agricultural inputs store.

The project will provide resources to support documenting production processes, developing Standard Operating Procedures (SOPs), coordinating laboratory testing, and engaging with regulatory stakeholders to formally register the biofertiliser and make it accessible to smallholder farmers.

In accordance with ZEMA requirements, products must have a technical dossier – a collection of documents that provide details on the product. The CABI technical team and EGPE prepared the technical dossier. It included production records of the batches produced during the visit, documentation of quality parameters like nutrient content and microbial diversity, and the development of a material safety data sheet (MSDS).

Dr Joseph Mulema, Project Manager and Senior Scientist, Research at CABI, said, *"CABI aims to help Exotic Green Enterprises register the VH Biofertiliser beyond Zambia, to other countries where the NAMSSA project is active."*

Fermentation of the product.

Plant health services in Ethiopia boosted through PlantwisePlus partnership

A strategic partnership with the CABI-led PlantwisePlus programme has boosted plant health services in Ethiopia. Recently, a refresher course held in October delivered plant clinic training to 61 of the country's plant doctors and plant health experts, a quarter of whom were women. CABI and the government of Ethiopia jointly delivered the three-day PlantwisePlus capacity-strengthening workshop in Adama. The event focused on strengthening plant health in Ethiopia by using the plant clinic model and its digital farmer advisory tools.

Konjit Feleke opened the event. As Head of Regular Pest Control at the Ministry of Agriculture she emphasized the critical role that training plays in building plant doctors' capacity and improving the quality of plant clinic services. Moreover, she noted how community-based initiatives are important for providing practical and timely advisory services to farmers, especially in the face of crises such as climate change.

During the course, district and regional representatives shared lessons learnt about the performance of their plant clinics. Notably, newly trained plant doctors benefited from the experience and guidance of their established peers. The exercise highlighted how progress has been mixed. For example, in some regions, plant clinics run regularly and are even expanding. In other regions, unrest has caused interruptions to services. However, certain areas have reported their plans to reactivate plant clinics in areas where security has improved.

Plant clinics have played a part in post-conflict reconstruction. Following the cessation of frictions in the north of the country, PlantwisePlus supported the reactivation of plant clinics to restore essential plant health services in Ethiopia. These efforts are helping rebuild local capacity and ensure smallholders once again have access to timely, science-based crop advice.

The event lays the foundation for upscaling and ensuring sustainability. Ethiopia's Ministry of Agriculture's co-financing of and commitment to the clinics is a sign of national ownership as the clinics become an integral part of extension services and broader food systems. In future, PlantwisePlus will continue its activities and integration into local services, becoming a tried-and-tested part of the agricultural extension system.

Plant clinic trainees in Ethiopia (Image: Negussie Efa, CABI).

PlantwisePlus plant doctors now helping farmers increase livelihoods and food security across the whole of Malawi (Credit: CABI).

PlantwisePlus plant doctors now in every district of Malawi helping farmers increase livelihoods and food security

In a significant stride for increased livelihoods and food security, Malawi has achieved a remarkable milestone: a network of trained plant doctors now operates in every district across the country.

This achievement is the result of a sustained partnership between CABI's **PlantwisePlus** programme and the Malawian Ministry of Agriculture, culminating in a recent August training session in Mponela.

The week-long training equipped 22 new extension officers from 10 only remaining districts of the total 28 in country with advanced skills in diagnosing crop health problems and running effective plant clinics.

Since the programme's inception in Malawi in 2013, over 400 plant doctors have been trained, establishing more than 130 plant clinics.

Dr Natasha Mwila, CABI's Regional Director for Southern Africa, said, "These clinics are the frontline of defence for smallholder farmers against devastating pests and diseases, providing

The latest training focused on two critical modules: 'Field Diagnostics and Plant Clinic Operation' and 'Giving Good Recommendations.'

Participants learned to accurately identify pests and diseases and to prescribe safe, effective, and environmentally sustainable solutions, often using Integrated Pest Management (IPM) practices.

This knowledge is crucial in a country where crop loss figures can be alarmingly high, sometimes estimated at over 30 percent.

Reaching every district with a Plant Doctor is a game-changer for three key reasons.

Firstly, regarding national access – it ensures that no matter where a farmer is located, expert help is within reach. This is vital for containing outbreaks that can spready rapidly across regions.

Secondly, it helps create data-driven decision-making. The prescriptions written at these clinics generate invaluable data. This helps national authorities "predict, prevent, and prepare" for emerging threats, mapping pest hotspots and trends to protect the nation's food basket.

The data driven from the plant clinics is being used in academia by MSc and PhD students. The **Lilongwe University of Agriculture & Natural Resources** (LUANAR) has a plant clinic that serves both as a place farmers can go for diagnosis and as a research developmental lab for environmentally sustainable solutions for pest and disease management.

Thirdly, with regards to sustainability, the government's deep commitment – evidenced by over a decade of support – ensures these clinics are not a short-term project but a permanent part of Malawi's agriculture extension service.

Malawi's achievement provides a powerful blueprint for neighbouring countries. It demonstrates that with sustained partnership and government commitment, it is possible to build a robust national network that directly supports the farmers who feed the nation.

The next steps include conducting refresher courses, fully digitizing clinic operations for better data flow, and continually motivating the Plant Doctor network.

Since the programme's inception in Malawi in 2013, over 400 plant doctors have been trained, establishing more than 130 plant clinics

Mr Pearson Soko, Director of the Extension Service Department (centre), with participants of the training (Credit: CABI).


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