









Chileshe Kapwepwe is the current General Secretary of the Common Market for Eastern and Southern Africa (COMESA)

CABI announces appointment of Chileshe Kapwepwe as next Board Chair

The 404th meeting of CABI's Executive Council was informed that Chileshe Kapwepwe will be the first female Chair of the CABI Board and the first holder of the post from an African country, succeeding Roger Horton in April 2024.

A Zambian national, Ms Kapwepwe is the General Secretary of the Common Market for Eastern and Southern Africa (COMESA) and has been a member of the CABI Board since 2022.

CABI's CEO Dr Daniel Elger told the meeting that CABI's work continues to help tackle humanity's greatest challenges under its Medium-Term Strategy (MTS) 2023-2025, which was approved by the organisation's 48 Member Countries in late 2022 and is being implemented in partnership with them.

Dr Elger said, "I welcome Chileshe Kapwepwe as our new Board Chair and look forward to working with her as we seek to further expand CABI's worldwide impact and our offer to Member Countries. I'd like to take this opportunity to

thank Roger Horton for his distinguished service to CABI over an eventful six years.

"I'm pleased to report today a strong performance on the work we are undertaking with our Member Countries to deliver on CABI's Medium-Term Strategy. However, given the huge challenges we are working on, we know we must continually redouble our efforts, working in close partnership with our Member Countries and other partners."



Bridging the gender digital divide in Ghana



The gender digital divide is impacting women's access and use of digital agricultural tools. PlantwisePlus recently conducted a study into gender and digital advisory services in Ghana. The aim was to understand opportunities for bridging the gender digital divide experienced by farmers and agricultural service providers.

The study titled *Gender and Digital Advisory Tools*Assessment in Ghana was conducted through a series of interviews and discussion groups and took place in Ghana's Bono and Ashanti regions. It revealed a significant gender gap in accessing and using PlantwisePlus and other digital tools. Gender disparities are particularly pronounced at the community level, with the study highlighting the many obstacles facing women in agriculture.

Barriers facing women farmers and farmer advisors include digital illiteracy, cultural and social constraints, Language and content relevance, Infrastructure challenges and financial inclusion. Participants gave the following sentiments:

"Busy schedules are the barriers preventing me from using digital advisory tools to help myself. Please I don't have time to listen to the radio or watch Television."

Focus Group Discussion, Ejura - Young Female,

November 2023

"I do not understand the English language, so it sometimes becomes difficult to understand when using these digital tools."

Focus Group Discussion, Dormaa West, Gyaase – Female Adult, December 2023

The study proposes several recommendations for addressing the digital gender divide in Ghana: Creating gender-responsive apps that work offline and cater to the specific needs of both men and women, capacity strengthening and training, leveraging women-led information networks, and offering financial assistance and training support to women farmers through village Savings and loans schemes.

By implementing the recommended strategies, stakeholders can work towards a more inclusive and equitable agricultural landscape, leveraging digital tools to benefit all, regardless of gender.

Read the full report: <u>Gender and digital advisory tools</u> <u>assessment in Ghana</u>

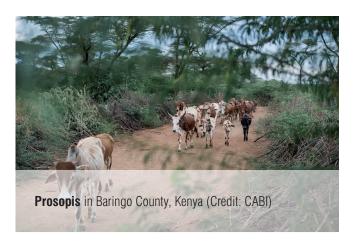


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National Prosopis Strategy approved by Kenyan government

A National Prosopis Strategy (NPS) created with expertise from CABI and a range of partners has been approved by the Kenyan government to help protect the country's environment, ecosystem services and livelihoods from *Prosopis juliflora*.

The National Strategy and Action Plan for the Management and Control of the Invasive Prosopis juliflora Tree Species 2023-2032 was given the green light by Kenya's Cabinet. It will shortly be formally ratified by the Ministry of Environment, Climate Change and Forestry.



It introduces a framework that confines the existing invasions by preventing further spread to new areas through Early Detection and Rapid Response (EDRR) measures that include biological, chemical and mechanical control methods.

CABI staff from CABI's regional centre for Africa in Nairobi, Kenya (Dr Ivan Rwomushana, Winnie Nunda and Linda Likoko) and the Swiss Centre (Dr Urs Schaffner and Dr René Eschen) were involved in the drafting of the NPS.

It capitalizes on the findings of the CABI-led Woody Weeds project that facilitated the development of a common approach in policy formulation of long-term management of *Prosopis juliflora* in eastern Africa.

Structures set up in the strategy will enhance Kenya's capacity and commitment to manage invasive weeds of national importance in general. The NPS will guide the management of *Prosopis juliflora in* 15 counties for the next 10 years.

Hon. Soipan Tuya, Cabinet Secretary, Ministry of Environment Climate Change and Forestry, in the NPS, said Prosopis is considered to have devastating consequences on the overall ecosystem and the livelihoods of pastoralists and farmers threatened by the loss of critical dry season grazing areas, pastures and cropping areas.

Furthermore, in a press release issued by the Kenyan government, President William Ruto and the Cabinet noted that "the extent of invasion has escalated to emergency stage of the national disaster-risk index assessment scale".

The strategy outlines that areas of intervention will undergo appropriate active land use in addition to restoration measures aimed at achieving the original status of the indigenous vegetation especially in areas of high conservation values.



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Success after farmers plant virusfree cassava cuttings in Zambia

Smallholder cassava farmers in Zambia are celebrating success after growing their crops with clean cassava cuttings free from the potentially devastating Cassava Brown Streak Disease (CBSD) that threatens livelihoods and food security.

Seventy percent of the 500 farmers in the Nsama District of Northern Province – that in February 2023 received disease-free cassava cuttings to plant for healthy crops – have reported a "very good crop stand" and the crop is "performing well."

CABI is working with various departments under the Zambian Ministry of Agriculture (MoA), including the Seed Control and Certification Institute (SCCI), Zambia Agricultural Research Institute (ZARI) and the Department of Agriculture (DoA), to promote the cultivation of healthier cassava crops in Zambia, which



are at risk of total loss from invasive CBSD.

The cassava crop from 16 CABI-trained cassava seed growers has been inspected and the crop from 14 of these growers has met the requirements for official certification by the SCCI. This means the crop is currently fit to sell as virus-free seed (cuttings) and can be used to propagate cleaner cassava fields in the region.

The cuttings are already being bought from the CABItrained seed growers by Itabwa Investments who are also providing the smallholder farmers with tractors and anti-termite products, as well as other inputs, to help improve their cassava production.

A stakeholder meeting held during the campaign agreed on a response plan to curb the spread of the disease. This included better diagnostics, phytosanitation at the farm and community level and the development of a seed system to ensure farmers' access to improved and disease-free planting materials.

The beneficiaries of the cassava cuttings were trained on the correct cultivation and management of the cassava crop and are now reaping a harvest of clean cassava cuttings free from CBSD.

Dr Chapwa Kasoma, Post Doctoral Fellow, Invasive Species Management, said, "By working closely with our public and private sector partners including smallholder farmers and their communities, together we have demonstrated that crop pests and diseases can be tackled. In the case of the cassava subsector, this further demonstrates that a functional seed system can be instigated and sustained through collaborative efforts."

Mr Musonda Chansa, CFO of ITABWA Investments, said, "We hope to buy more cuttings over the next three years to distribute to at least 2,000 farmers for whom we will also provide a market."



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Drones, insects and local community to tackle prickly pear

CABI scientists in Kenya, with support from The Nature Conservancy, are working with the local community in Lower Naibunga to manage the invasive prickly pear cactus pest with a sustainable and safer-to-use biological control agent *Dactylopius opuntiae*, (prickly pear cochineal).

CABI sourced the cochineal from Texas, USA and evaluated it for specificity and impact in South Africa before releasing it into the Loisaba Conservancy, neighbouring the communal lands of Naibunga. Since then, this agent has been mass-reared and effectively deployed in Loisaba.

Since September 2023, CABI has been working with the Lower Naibunga community to prevent the spread of the cactus into upper and central Naibunga. This collaboration has included the establishment of mass rearing facilities for the insect, the mapping of *Opuntia* species distribution, and community capacity building.

CABI collaborated closely with local stakeholders to establish three community-led mass rearing units for prickly pear cochineal within the Lower Naibunga Community Conservancy and community land.

The sites, where rearing units have been set up, were



strategically selected based on the presence and density of the cactusinvasions within the landscape. This is to ensure easy access to invaded areas when mass release will take place, since the project relies on community engagement to spread the agent.

Christine Metto's household serves as the host for one of these units. She and her community are determined to manage the site and spread the insect to combat the non-native cactus that is taking over large swathes of their land.

She said, "We tried cutting the cactus, but they keep growing. The insects are thriving, so I'm happy we have this screen house for a lasting solution. It's our only hope right now."

Winnie Nunda, Research Officer, Invasive Species Management at CABI, said the community members, selected to host and manage the rearing units, underwent intensive training on mass-producing cochineal and maintaining optimal cultures for field releases.

CABI employed drones to meticulously map the Opuntia coverage across various clusters within the Naibunga Community Conservancy. Operating over predefined zones, the drones captured aerial imagery.

Subsequent analysis of these images involved the calculation of diverse vegetation indices to gauge water levels, chlorophyll content, spectral reflectance, and the overall condition of the prickly pear cactus.



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Can Uganda's agro-dealers become champions of sustainable pest control?

In Uganda, agro-dealers are often the go-to source of knowledge for farmers seeking pest management advice. A recent CABI-led paper argues that agro-dealers could be well positioned to help farmers access and understand not only chemical pesticides, but non-chemical products, too. This research looks at the challenge of non-certified agro-dealers. But it also considers the potential role of certified ones too in promoting sustainable pest control.

The paper revealed a low uptake of biopesticide products among uncertified agro-dealers. The low uptake was primarily attributed to a lack of awareness about the products. It was linked to a lack of

accessibility and availability, and a low demand among farmers, too.

However, the study's results indicated that certified agro-dealers were more knowledgeable about biopesticides. However, even those who are certified can face challenges in providing accurate information. This can be due to limited training and technical knowledge. PlantwisePlus in collaboration with Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Makerere University and Uganda Agro-input Dealers' Association (UNADA) are enhancing knowledge of MAAIF Inspectors, who are agrodealer trainers to upskill and learn more about non-chemical pest control.



The programme delivered, for example, a 'training of trainers' workshop to the MAAIF Inspectors. The workshop focused on incorporating lower-risk plant protection products using an IPM approach,

identification of bioproducts, modes of action, application, transportation and storage.

This knowledge sharing approach is not just beneficial for agro-dealers, but it could also help them to support the work of agricultural advisory services. So, many smallholder farmers rely on agro-dealers for advice and support. With certification in sustainable practices, this critical role could help smallholders have better access and knowledge on application of such products. And with global challenges like global warming and subsequent pest migration set to worsen, they could help to provide farmers with 'climate-smart' approaches and products.

Read the study in full: The role of agro-input dealer certification in promoting sustainable pest control: insights from Uganda



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Plant clinics restart following conflict in Tigray region of Ethiopia



In the Tigray region of Ethiopia, village-based plant clinics have traditionally flourished. Running from 2014 to 2020, with the support of CABI and Ethiopia's Ministry of Agriculture (MoA), the local government and community embraced the clinics. The regional government even expanded on their services. However, a two-year conflict in Northern Ethiopia interrupted plant clinic operations. The war resulted in plant doctors and

trained experts moving away from the areas where they operated. And the plant clinics saw materials and resources damaged as a result of the war.

But in light of the previous local commitments and achievements, PlantwisePlus, in collaboration with MoA (Ethiopia) decided to allocate funding to reactivate the clinics in the region.

Simple but necessary resources, including tables and chairs, were dispatched to the region. And a workshop was organized to conduct a refresher course for plant doctors and local experts. The participants provided updates on the status of their plant clinics, with remaining days of the training devoted to presentations about the revised training modules on diagnosis and giving advice for pest management.

Dr Eyasu Abreha who heads Tigray's Regional Bureau of Agriculture (BoA) expressed gratitude for the support provided by PlantwisePlus and MoA for reactivating the plant clinics. He pledged BoA's continued support for the initiative. The war had a devastating impact. But, he urged the trainees to launch their clinic operations and ramp up efforts quickly. In this way, they can help to strengthen their farming communities once more.



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CABI-led study shows benefits of chatgroups to human health can be replicated in plant health



A CABI-led study has revealed that there is evidence of the benefits of chatgroups to human health which can also be replicated in plant health.

The research analysed the opportunities and pitfalls of using chatgroups for plant health systems and examined the conditions for strengthening chatroom functions. It also considered the possibility of replicating reported successes in healthcare settings to plant health systems.

The scientists from CABI, who were joined by colleagues from Wageningen University and the University of Lusaka, Zambia, focused their attention on chatgroup usage under the Plantwise programme in Ghana, Kenya, Uganda, and Sri Lanka.

Dr Dannie Romney, an author of the research and who is Senior Global Director, Development Communication and Extension, said, "Replication should not be a 'copy and paste' approach. This is due to the general lack of evidence-based guidelines and lessons learned to move beyond the initial adoption success of communication applications."

The researchers found that, in general, posting behaviour was seen to vary amongst health professionals and similar variations in participation were also observed with plant clinic networks. Higher levels of active participation were reported amongst younger members (20-39 years-old) and those with less than 10 years professional experience.

Between 2017 and 2019, for example, the proportions of participants remaining relatively silent in the plant clinic chatgroups were 37-48% in Kenya, 50-52% in Ghana, and 35-58% in Uganda. In Sri Lanka, participation was more variable across years and groups. Hierarchy was also a factor with junior members more reluctant to post in groups that also included senior staff.

Co-author of the study, Anna Wood, who is also an Integrated Crop Management Advisor at CABI, said, "Another observation from all the plant clinic chatgroups is that interactions within chatgroups often revolved around several central figures; either diagnostic experts, experienced extension agents or chatgroup facilitators."

The researchers argue that, over time, in the plant health chatgroups, it was observed that although the number of requests for diagnostic support decreased over time, the quality of diagnostic support improved.

In addition, it was also reported that the proportion of cases where conflicting or incorrect diagnoses were given also declined. As in healthcare settings, the sharing of images across plant doctor chatgroups is critical in identifying and diagnosing pests and diseases, they said.



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African smallholder farmers benefit from a novel pest alert service

A newly published review of the CABI-led Pest Risk Information Service (PRISE) project shows that smallholder farmers in four African countries who received pest alerts created using earth observation data benefitted from reduced crop losses and higher incomes compared to farmers who did not.

PRISE works by gathering data from a variety of sources including satellite observation, weather data, geographic data, and details about the seasonal occurrence, abundance and biology of pests.

For instance, in respect of 2,000 smallholder maize farmers in Kenya surveyed in 2021 who received pest alerts for fall armyworm, a harvest of 2,089 kg/ha was achieved with an income of 18,020 Ksh/ha. This is compared to smallholder farmers who did not receive these alerts where only a harvest of 1,988 kg/ha was gained with a lower income of 15,733 Ksh/ha.

PRISE alerts augment the advice (the what) already being serviced to farmers with their bespoke optimum 'time to action window' (the when) allowing farmers to prepare for pest threats in advance so increasing the efficiency and efficacy of interventions.

Dr Bryony Taylor, Digital Development Coordinator, Modelling and Data Science at CABI, said, "Results varied across countries and crops, as was expected. "The differences were more pronounced for



male-headed households as compared to those headed by women, with significant reductions in crop losses for men for all crops and all countries apart from bean and tomato crops in Malawi. However, for women, the only significant reduction in crop losses were observed in Kenya for all crops, and in Zambia for maize."



Plantwise helps strengthen plant health systems in Burundi

The CABI-led Plantwise programme made considerable progress to help strengthen plant health systems, livelihoods, and food security in Burundi, according to the end evaluation report published by the Royal Tropical Institute (KIT). Investigators said the programme had either 'met' or 'exceeded' expectations.

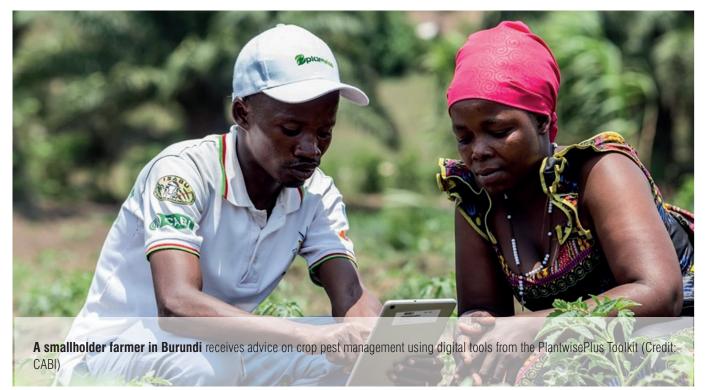
The 'End evaluation of CABI Plantwise Burundi (2020-2023)' highlights that both men and women smallholder farmers are positive about their plant clinic experiences and most see the facility as 'the best source of information on plant health.'

Most smallholder farmers reported that they are

implementing the advice they were given to tackle potentially devastating crop pests and diseases such as fall armyworm on maize, mealybug on mango trees and bacterial wilt on bananas.

Women and men also reported much improved joint decision-making and collaboration in their household activities, which are clear indications of gender-transformative change.

However, the report also stresses that improvements in plant health extension exposed, as a result of Plantwise interventions, weaknesses in input supplynotably the lack of farmer access to quality seed and appropriate plant protection products. Furthermore, the



investigators state that plant clinics are still relatively sparse and too distant for many farmers to have easy access to their services.

The project, the investigators say, will "need to focus on consolidating its achievements and strengthening Ministère de l'Environnement, de l'Agriculture et de l'Elevage (MINEAGRIE) ownership of the Plantwise model and associated policy reorientation."

Among five key recommendations made, the

investigators suggest a focus on the continuity of quality plant health advice, the availability of recommended seeds and chemicals, improving data management processes, and strengthening the engagement of DPV and the Provincial Office for the Environment, Agriculture and Livestock (BPEAE).



How a tiny wasp can save the livelihoods of papaya farmers

"We have a problem with the attack of mealybugs, which are becoming a menace to the production of papayas. I fight them, but they are also fighting back." Ben is a farmer in Machakos County, Kenya.

Like many other smallholder farmers in Kenya, he faces a constant battle with papaya mealybugs. The invasive pest is spreading across the country, wreaking havoc on key horticultural crops. It can destroy a whole crop if left unmanaged. To try and control the pest, farmers are turning to hazardous pesticides. However, they are often ineffective. They also damage local biodiversity and pose human health risks.

However, a tiny parasitic wasp is providing a safe and natural solution. The tiny parasitoid, known as *Acerophagus papayae*, is being used to manage the papaya mealybug through an Integrated Pest Management (IPM) approach.

It attacks the papaya mealybug by laying eggs on the pest. Rearing is an essential step in biological control to guarantee its safe usage. This takes place under laboratory conditions.

After releasing the parasitoids, agricultural experts recommend that farmers construct a Natural Enemy Field Reservoir (NEFR). A NEFR is a simple, economical way for farmers to breed high quantities of natural enemies on their farms to help control specific pests.

Rama Hamisi is an Agricultural Extension Officer based in Kwale County. "With the introduction of parasitoids, he has witnessed crops thriving. "Pawpaws** are shining and green in colour," he says.



Farmers having access to a NEFR means they have the pest control on-site. This means CABI doesn't need to continue coming back to farms to release more; the solution is already in the area. Therefore, farmers are advised to grow more papaya.

With the increased spread and proven efficacy of the classical biological control agent in coastal counties in Kenya, farmers see the fruits of their labour. They're saving both money and time with this new method of control. This further spurs them to grow more papayas in the future.



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PlantwisePlus delivers plant health 'training of trainers' in South Sudan



PlantwisePlus is scaling out its activities in South Sudan and has been scoping out potential collaboration in South Sudan for over six months. In mid-2023, the programme conducted a situational analysis of the country. The report provided a comprehensive examination of South Sudan's plant health systems. This included status, challenges, opportunities and potential future strategies.

Based on the analysis, CABI's scientific staff delivered

a 'training of trainers' for plant doctors. The objective was to understand local knowledge about plant health systems and extension. Based on the plant doctors' Modules I and II, the workshop focused on field diagnosis of crop health problems and pest management. The training consisted of practical exercises, an interactive lecture and informational handouts.

The training had 22 participants, mainly from the Ministry of Agriculture and Food Security (MOA). They also included seed providers and staff from training organizations.

Pre- and post-training quizzes revealed a key issue. Delivering both modules during the same week could be problematic for participants. The modules contain a large amount of new information. Therefore, trainers suggested holding separate activities for each module. Further training of trainers is envisaged for the future. But first, a clear roadmap must be established for the operation of plant clinics in the country.



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Role of African women and young people in agricultural service provision investigated



The role of African women and young people engaged in agricultural service provision has been investigated in a new CABI-led study published in the <u>CABI Agriculture</u> and <u>Bioscience journal</u>.

The findings show that the engagement of African women and young people in agricultural service provision is 'not a panacea to the challenges they face' such as limited decision-making in production and income.

However, the researchers argue that various business models have been successful in contributing to economic empowerment, to increasing entrepreneurial activities and to upskilling of women and young people engaged as service providers.

Business models that are successful, the researchers say, are place-based and people-focused, market-driven and focused on value chains.

Challenges however abound due to various factors. Therefore, for sustainability there is need for multi-sectoral inter-institutional collaboration that pulls in funding and which makes a case for private sector buyin, they stress.

Dr Mariam Kadzamira, lead author and Senior Researcher, Agribusiness at CABI, said, "For sustained and effective engagement of women and young people in agricultural service provision, there is need for multisectoral inter-institutional collaboration. This requires long term dedicated funding from governments and development partners.

"Dedicated funding should include components for continuous capacity building as well as provision of lowcost credit for the service providers."

She adds that any capacity building programme should budget to provide potential service providers with multiple skills, for them to respond effectively to the evolving needs of their communities, value chains or industry, thus enabling them to earn a sufficient level of income over a cropping season.

Co-author, Dr Monica Kansiime, CABI's Deputy Director of Development and Outreach for Africa, said, "There is also need for buy-in from industry and the private sector to deliberately incorporate women and young people in their business plans and marketing networks.

"This requires a clear articulation of how the marketdriven approach would contribute to the bottom line of the agribusiness while concurrently tapping into a locally available and underutilized human resource."

The researchers stress a need to rigorously assess the extent to which successful agricultural service business models are engendered – given the prevailing gender gap in the agricultural sector and the fact that service provision in agriculture is still predominantly delivered by men.

The paper can be read full open access.



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