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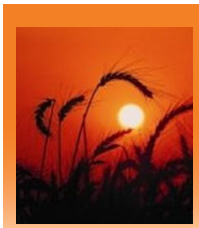
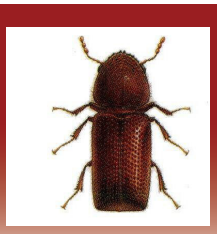


Strengthening tertiary education 02

32 universities to access CAB Abstracts Database and CABI Compendia



Controlling Larger Grain Borer 03

Protecting food from post-harvest losses

Also in this issue

AIV kitchen garden fights malnutrition!

Seed production for African Indigenous Vegetables (AIVs) continues to improve and sustain livelihoods among farmers.

TThe AIV inititative is steadily building the capacity of smallholder farmers to produce and market high quality seeds and vegetable growers are being equipped with production, post-harvest handling and value addition skills. This initiative is implemented by Kenya Agricultural Research Institute (KARI) in partnership with Simlaw Seeds Company Ltd, Excel Hort Consult Ltd (EHC), Uganda, Imbaraga Farmers Association, Rwanda, Institut des Sciences Agronomiques du Burundi (ISABU) and backstopped by CABI.

In Rwanda, the term *akarima k'igikoni* or kitchen garden has become quite common, with a recent policy that every household in the country should have an AIV kitchen garden to fight malnutrition.

In Rwaza sector of Musanze district a model AIV plot has been set up by the Imbaraga Rwanda Farmers Association in partnership with the Association for Strengthening Agriculture Research in Eastern and Central Africa (ASARECA).

"The local leaders have been here to visit the amaranthus and African eggplant plots and would like to build upon what we are doing. They have called upon us to educate other farmers on the best agricultural practices of

Women farmers weeding amaranthus in Musanze, Rwanda

AIV production, both for seed and for leafy and fruity vegetables," says Mukampunga Laurence, the group leader of Umubano Farmer Group. Meanwhile, she adds that the local leaders are eagerly waiting for them to harvest and process the seeds for other farmers throughout the region to access them.

The youth are also greatly benefitting from this initiative. In the past, young people have had poor perception of farming, but the youth in Musanze district have realized that money can be made through AIV farming.

Florent can now realize his dream of going back to school, thanks to the ASARECA AIV project.

"After secondary school, I will continue to grow AIVs to support my university education. My dream is to pursue a degree in a technology related area," says Florent. He adds that with the improved AIV seed, the yields are not only high but of better quality.

For more information, please contact, **Daniel Karanja**: d.karanja@cabi.org

New partnership key to strengthening tertiary agricultural education

32 universities receive privileged access to the CAB Abstracts Database and CABI Compendia

A key partnership established with The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is helping build capacity of agricultural graduates from 32 sub-Saharan Africa universities.

This collaboration builds on a close working relationship between CABI and RUFORUM that seeks to strengthen tertiary agricultural education in Africa.

Through this partnership, agricultural faculties of the 32 universities in Eastern, Central and Southern Africa now have privileged access to the vast amount of scientific information available in the CAB Abstracts Database and CABI Compendia.

This collaboration will improve access to agricultural scientific information and facilitate the training of quality graduate students to produce valuable research, responsive to the demands of smallholder farmers

For more information, please contact **David Onyango**: d.onyango@cabi.org

Explaining CABI-RUFORUM partnership to Rwanda's Prime Minister, Dr. Pierre Damien Habumuremyi

Communicating down-to-earth messages

The Africa Soil Health Consortium (ASHC) has achieved many major milestones in the development of communication materials this year.

ASHC has been working in partnership with Africare, a Ghana-based NGO, to help build the capacity to disseminate ISFM technology in the Volta regions of Ghana. In February 2013, we co-hosted a three-day training of trainers workshop. 20 extension workers from Ghana's Food and Agriculture Ministry (MoFA) joined farmers, local media, and Africare staff in Jasikan District for the workshop. As part of the workshop participants worked in breakout sessions to develop content for communication modules on subjects such as soil fertility and promoting ISFM.

The ASHC also held a successful rice write-shop in partnership with the Agricultural Value Chain Mentorship Project in Bolgatanga, Ghana. The Savanna Agricultural Research Institute (SARI), a long-term partner of ASHC, has been working on new rice technologies to help rice farmers increase crop yields and improve livelihoods. In just three days the participants developed 11 different communication products.

Additionally, ASHC delivered a write-shop and developed a range of communication materials including posters, leaflets and flip-charts for eight of AGRA's Soil Health Program grantees from Kenya, Tanzania, Malawi, Mozambique, Uganda and Zambia.

Another highlight of the year was the appointment of George Oduor, the project manager of ASHC, to the steering committee of the Kenya Soil Health Consortium (KSHC). This important consortium ultimately aims to enhance adoption of ISFM by smallholder farmers and thus increase agricultural productivity. A new project confirmed by AGRA in July 2013 will significantly increase the breadth and reach of the ASHC project.

The Optimising Fertilizer Recommendations for Africa (OFRA) includes 13 sub-Saharan countries working towards optimization of profitability of fertilizer use and ASHC will be responsible for communications.

For more information, please contact **George Oduor**: g.oduor@cabi.org

Victor Clottey using the Level 1 handbook

Controlling Larger Grain Borer

Protecting food from post-harvest loss in sub-Saharan Africa is a critical issue in addressing food security

Insect cadaver – death due to infection by the biocontrol agent Beauveria bassiana

CABI is closing in on larger grain borer (LGB)(*Prostephanus truncatus*) - one of Africa's most damaging storage pests.

Larger grain borer infestations can cause serious post-harvest losses (>30%) and create food security problems across sub-Saharan Africa. But CABI scientists are conducting laboratory work to evaluate the pathogenicity of the insect killing fungus **Beauveria bassiana** in Ghana and Tanzania against this pest.

Based on dossiers submitted to the regulatory authorities in the two countries, permission to import the isolate and conduct trials has been granted. Pathogenicity to LGB and its predator is being checked

Once complete, this proof of concept work, which is accompanied by trials to confirm efficacy under field conditions, will be a major step towards the development of a novel, safe, sustainable and cost-effective management alternative.

Our consortium partners, Exosect and Sylvan Bio, have vast experience of developing proven and safe application products for EU markets; and using this knowledge and experience, the project will look to employ similar approaches in Tanzania, Ghana and across sub-Saharan Africa.

For more information, please contact **Daniel Karanja**: d.karanja@cabi.org

Credit for coffee

Aiming to enhance smallholder coffee farmers' access to capital and investment in Ethiopia and Rwanda, this project focuses on improving their skills. Furthermore, it improves their knowledge in production, primary processing, financial literacy and good cooperative governance in order to make them more bankable.

We are also helping smallholder farmers improve the quality of coffee they produce by modernizing their production and processing practices. In collaboration with Rabobank, CABI is providing training to the agri-loan officers of participating banks and improving their understanding of the coffee sector.

Working with 18 cooperatives in Rwanda and 22 in Ethiopia, initial loans were provided in 2012 and are expected to increase in 2013/ 2014.

For more information, please contact **Charles Agwanda**: c.agwanda@cabi.org

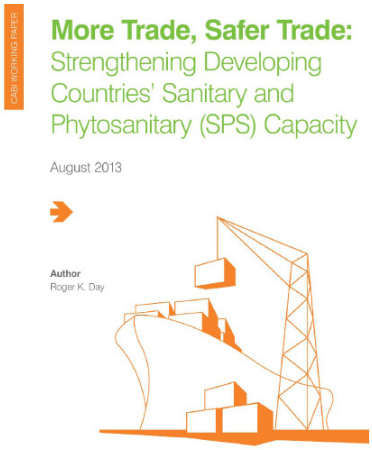
Breaking barriers, facilitating trade

Trade amongst African countries is much less than it could be, despite the various free trade agreements. Even though tariffs have been reduced, non-tariff measures (NTMs) can make trade difficult and unprofitable. Sanitary and phytosanitary (SPS) measures are a case in point.

Some SPS measures are essential to protect animal, plant and human health, but if they are not based on science, they can restrict trade without reducing the risks.

CABI has been assisting COMESA to develop a regional initiative to reduce the extent to which SPS measures unnecessarily limit trade in East and Southern Africa. The work is part of CABI's SPS capacity development activities, as described in a recent CABI Working Paper (http://www.cabi.org/projects/expertise/applied-scientific-research/).

For more information, please contact **Roger Day**: r.day@cabi.org



Communications for commercial products

CABI has recently been lauded for its work to raise awareness of bio-fertilisers, bio-pesticides and the policy issues in regulation of commercial products across sub-Saharan Africa.

The COMPRO II project, funded by the Bill and Melinda Gates Foundation, aims to eliminate products that falsely claim yield and crop quality improvements.

The project strengthens the national regulatory environment, assesses product efficacy and then communicates awareness and educates relevant stakeholders. CABI is leading the communications element of the project, and has produced six policy briefs on regulation of commercial products and a project newsletter. CABI is also developing content for the COMPRO II website and supporting technical teams to develop manuals for extension teams and farmers on the use of effective commercial products.

At a recent stakeholder meeting at IITA in Nairobi, CABI's work was positively reviewed in its leadership and contribution to the project's implementation. Vasey Mwaja, the new programme officer in charge of COMPRO II at the Bill & Melinda Gates Foundation, said,

"The new 'Quality & Yield' newsletter produced by CABI is informative. It was one of the publications I read to understand the project activities and benefits, before I took up my new assignment."

For more information, please contact **James Watiti**: j.watiti@cabi.org

Girls and boys: sustaining Kenya's coffee sector

Coffee production in Kenya, and the income it generates, has always been the preserve of male growers. But the domination of this aging population is resulting in dwindling coffee production. They are often too old to apply modern production practices, or too poor to afford productivity enhancing inputs.

A principle means of reversing this trend and ensuring a sustainable future for this sub-sector is to increase the participation of the women and the youth.

Women and youth involvement in coffee production has traditionally been confined to labour provision, but with funding from the CABI Development Fund (CDF), CABI is working with its national partners to revitalise the country's coffee sub-sector by effectively integrating them at the heart of coffee production systems.

The project aims to attain sustainable production by identifying the principal barriers to equal participation and to formulate approaches that will integrate women and youth into coffee businesses. Once complete, the project will provide a road map for integrating women and the youth in coffee production in Kenya.

For more information, please contact **Charles Agwanda**: c.agwanda@cabi.org

Good seed initiative

African Indigenous Vegetables (AIVs) improve food security and generate income for rural and urban communities in Africa. However, the ability of growers to meet the increasing demand is limited by the availability of quality seed.

CABI's Good Seed Initiative works in East Africa and builds on previous work on AIVs in Tanzania. Here, CABI and partners are supporting links between smallholder growers and small to medium seed companies, the development of seed enterprises led by farmers and promoting the consumption of AIVs, raising demand for both seeds and produce. The initiative is promoting the nutritional value of AIVs through Farm Radio International and local radio, promoting seed quality and improving productivity.

The project has trained small scale seed growers to produce good quality seed from the basic seed supplied by the Agricultural Seed Agency (ASA). Their product is distributed to seed companies or sold locally as Quality Declared Seed. As a result, farmers and seed producers are improving their profits and livelihoods.

For more information, please contact **Daniel Karanja**: d.karanja@cabi.org

Plantwise impacts...

The new decentralized government system in Kenya that comprises 47 counties has brought changes in the government's affairs

This has marked a change in various sectors of the country, the agricultural sector included. It is with this in mind that Plantwise Kenya conducted an awareness meeting for 13 County Directors of Agriculture (CDAs) covering all the counties where Plantwise is implemented. The CDAs will be key in future operations for plant clinics.
Plantwise Kenya has also been conducting various trainings to strengthen clinic operations with an aim of improving quality of service to farmers.

Trainings on field diagnostics and clinic operations were held for plant doctor trainees as well as development of performance criteria for clinic operations. A team from KARI, KEPHIS, and MoA was trained on how to develop Pest Management Decision Guides (Green and Yellow Lists). 33 guides for 23 pests on specific crops were subsequently created for reference by plant doctors, and as global resources on the Plantwise Knowledge Bank.

In addition, training on data validation for nine members of Kenya's National Data Validation and Analysis Team (NDVA) was held, leading to endorsement of methods and tools for cleaning, validating and analyzing data. The process of validating data has helped identify researchable areas, and training required to improve on plant doctors' quality of diagnosis and recommendations.

Assistant Plantwise National Coordinator, Rose Kamau, addressing a Plant Health Rally in Trans Nzoia

Two trainings were conducted on how to run plant health rallies for Ministry of Agriculture (MoA) staff including 23 Cluster Coordinators. After the trainings, 37 rallies were conducted in four days reaching over 2500 people with plant health messages on how to manage cabbage black rot, banana bacterial wilt, napier grass stunt, potato bacterial wilt, maize lethal necrosis disease, and also on how to address soil fertility in relation to maize production.

The plant clinic network in Kenya is growing. A total of 22 new plant clinics have been established in the course of the year, bringing the total to 59 functioning plant clinics. Out of the 22 new clinics started this year, nine are funded by MoA through a project called SHDP – Smallholder Horticulture Development Project.

For more information, please contact **Florence Chege**: f.chege@cabi.org

Zambia joins the Plantwise family

Zambia is one of the five African countries that joined Plantwise in 2013. The initiative works very closely with two key stakeholders, Zambia Agricultural Research Institute (ZARI) and the Department of Agriculture, both of which fall under the Ministry of Agriculture and Livestock (MAIL).

Plantwise in Zambia has made tremendous achievements in its first year. 30 extensionists were trained on how to become a plant doctor and run plant clinics. Subsequently, 13 plant clinics were established in the districts of Chibombo, Chongwe, Mazabuka and Mumbwa. Technical staff from ZARI, the Department of Agriculture and the University of Zambia were trained on how to develop famer targeted extension materials.

Following these trainings, extension materials were developed on important pests affecting key crops in the country. The support from ZARI and the Department of Agriculture has been incredible, resulting in signing agreements that are essential for a smooth running of the initiative in the country.

The Data Management Agreements have given Plantwise a green light to ensure that data coming from the clinics is handled in a responsible manner for the benefit of stakeholders in the country. As a result, a data management system has been set-up and is growing in the country. Plantwise was officially launched in Zambia in August 2013 by the Minister of Agriculture and Livestock represented by the Permanent Secretary, and has been making leaps and bounds already in its first year. Plantwise looks forward to building on the gains made in 2013, especially by bringing on board more stakeholders.

For more information, please contact **Joseph Mulema**: j.mulema@cabi.org

Trained plant doctors in Zambia

Continuing to scale up and out in Sierra Leone

Since it first began in the country, Plantwise has made gains to become an important part of the plant health system. This year, training on *'How to be a plant doctor'* was provided for 35 extension staff from Agricultural Business Centres (ABCs) and from the Ministry of Agriculture, Forestry and Food Security (MAFFS).

The trainees were taken through various class and field exercises as well as power point presentations, teaching basic principles of how to diagnose plant health problems and also how to operate a plant clinic.

Field diagnosis using live plants is an important part of the course and participants collected live diseased and sick-looking plant materials and attempted to describe the symptoms with the aim of diagnosing the problem. They also visited a plant clinic in Ogoo farm on the outskirts of Freetown which attracted media attention from Africa Independent Television (AIT-SL) and Sierra Leone Broadcasting Corporation (SLBC/TV) during its official opening. Speaking during the visit, Chief Agricultural Officer, Mr Francis A R Sankoh from MAFFS, who officially opened the training, said the plant doctors' training will assist in reduction of the losses caused by grasshoppers in the country. He added that the trained plant doctors can train others as ambassadors and help the ABCs and the communities in their regions.

At the end of the training, all participants from the ABCs represented agreed to start new clinics in their districts (Bo, Kambia, Moyamba and Port Loko), with 30 in total. One excited participant said,

"I learned new things which I have never come across before. Your message flowed, was simple and well understood. The reference materials provided will be useful and I will consult these materials whenever I am in doubt. I will be committed to serve the farmers in a more serious note, to the best of my knowledge."

For more information, please contact **Martin Kimani**: m.kimani@cabi.org

Trainees learn how to describe symptoms

Plantwise in Burkina Faso

Burkina Faso is the latest country in West Africa to embrace the Plantwise programme. The first contact was made with the National Plant Protection Organization, La Direction de la Protection des Végétaux et du Conditionnement (DPVC). The Director-General of the over-arching Directorate for Crop Production - Direction Générale des Productions Végétales (DGPV), Dr Thio Bouma, gave his full accord to initiate Plantwise in the country.

A stakeholders' meeting held in Koudougou was attended by National and Regional Directors of the various Directorates of Agriculture, Self-Help Africa, GRAD and the Millennium Challenge Compact (MCC) financed agricultural project AMVS, in the Sourou Valley. This forum has strengthened links and provides key organizations with a basic foundation to scale the programme up and make it sustainable.

The stakeholders proposed a framework of how to use the existing structures on the ground to facilitate the establishment of plant clinics and the flow of information to and from the plant doctors.

It is at the zonal level that the plant clinics will be established. They will be set up at the Units for Agro-Technical Support (UATs) in each zone and it was proposed that each of the trained plant doctors, zonal personnel of the NPPO, will move around 8 villages running the clinics.

Institut de l'Environnement et de Recherches Agricoles (INERA), the national research institute, together with the Ministry of Agriculture has developed a number of fact sheets on crop protection which can now be shared globally on the Plantwise Knowledge Bank page for Burkina Faso.

The University of Bobo, with support from the Belgian Government, will equip laboratories that can serve as diagnostic centres to help plant doctors provide quality, science-based advice. Prof Irénée Somda, leading the project at the University of Bobo, is ready to collaborate with CABI, the NPPO and other stakeholders involved in PW activities to turn it into a national programme to strengthen the plant health system in Burkina Faso.

For more information, please contact **Victor Clottey**: v.clottey@cabi.org

Stakeholders meeting in Burkina Faso

Knowledge Bank's version 2 launched

The Knowledge Bank version 2, a global resource to help combat plant health problems, was launched in June 2013 with positive feedback from users. In this latest version, users are able to search across all the site content, undertake diagnostic searches with auto complete text boxes, search for factsheets and build booklets through the Factsheet Booklet Builder. In addition, there are language translations through Google Translator and the regional homepages that link to the regional diagnostic searches.

The Knowledge Bank has received large volumes of crop pest data from plant clinics running across Africa. In Kenya, the data has been validated in collaboration with various stakeholders in the Plant Health System. This work aims to establish the quality of data being collected, diagnosis and recommendation as offered to farmers. This baseline will be used to measure on-going improvements relating to future plant doctor training.

Data management training has been rolled out to countries implementing the Plantwise initiative in Kenya, Tanzania, Uganda, Malawi, Rwanda and Ghana.

Visit *http://www.plantwise.org/KnowledgeBank/Home.aspx* for an interactive session with version 2.1.

For more information, please contact **MaryLucy Oronje**: m.oronje@cabi.org

Starting off strong to build plant health capacity in Tanzania

After having successfully trained plant doctors and established the first 12 plant clinics in Tanzania in 2012, a new set of plant doctors from the extension staff of the Ministry of Agriculture, Food Security and Cooperatives (MAFC) was trained by Stefan Toepfer, Peter Karanja and Martin Kimani.

The training was conducted in collaboration with Plantwise Tanzanian National Coordinator, Jubilant Mwangi, with the MAFC. All 26 participants successfully completed the course and were issued with certificates. Subsequently, 12 additional plant clinics were set up. Further training was provided for 20 plant doctors on the monitoring, evaluation and quality assurance of plant clinics. A draft monitoring plan assigning objectives, tasks and responsibilities was established.

For more information, please contact **Martin Kimani**: m.kimani@cabi.org

Farmer explains his problems to the plant doctor

Plantwise Uganda

The achievements of Plantwise in previous years have been consolidated during 2013, setting a platform for sustainability. The National Agricultural Advisory Services (NAADS), whose national Plantwise coordinator, is Mr. David Oruka, is a key stakeholder with a mandate to lead extension in the country. Mr. Benius Tukahirwa, of the Department of Crop Protection, will ensure that data coming from plant clinics is put to good use. The Commissioner, Mr. Komayombi Bulegeya, chairs the Steering Committee.

Plantwise has registered numerous gains with clinics now distributed over 44 of 112 districts. To help meet this demand, 8 master trainers were trained to provide support for plant doctors that are highly needed across the country. In addition, possibilities of integrating the training into academic institutions have been explored starting with the launch of student Plantwise training in Makerere University. To address the necessity for sustainability, Plantwise carried out massive public awareness among key stakeholders. During the awareness meetings, key technical staff, were sensitized about the initiative and the need to cater for its funding in the district local government budget. Plantwise has continued to support training in partnership with local implementing organizations, especially Self Help Africa and NAADS.

Development of extension materials by technical staff continues in the country. A monitoring and evaluation study is now underway with Self Help Africa, RIC-NET and local government. This study will provide key answers to various questions as Plantwise moves into a period of more stakeholder involvement in Uganda.

For more information, please contact, **Joseph Mulema**: jmulema@cabi.org

Makerere University trainees in Plantwise modules

Plant clinics continue making gains in DRC

Plant clinics are an important resource in parts of North Kivu and Province Orientile in Democratic Republic of Congo. ESCO Kivu, a private company specialized in cocoa production, supports a number of plant clinics around Beni, while University Catholic Graben (UCG) is operating clinics in Butembo area of North Kivu. Another private cocoa company, CERAD, is also operating a plant clinic in Aru, Province Orientale.

The private operators provide the service so farmers can produce consistent yields of good quality for their markets. The benefits extend beyond the exported crops, to all crops which are grown by farmers and which may be facing plant health problems.

In all these areas, farmers remain keen and keep bringing their "sick" crops to the clinics to seek help from the plant doctors. The government is interested in plant clinics as well, and has joined hands with the institutions. The National Office of Coffee (ONC), Quarantine and Crop Protection Department (IPAPEL: Inspection pour l'Agriculture, Peche et Elevage), the Director General, and teachers in the department of Agronomy of ISEAV, an agricultural college (Institut Scientifique d'Etudes Agricoles et Veterinaires) have all been trained in running plant clinics in DRC. This will result in NGOs and government institutes working together to help in reducing plant health problems in the country.

Plans are to increase the number of plant clinics to reach more communities in new regions soon.

For more information, please contact **Noah Phiri**: n.phiri@cabi.org

Plant clinic session in DRC

Plantwise takes off in Malawi

As a member country of CABI, Malawi saw the need for the Plantwise programme to be implemented in the country. In response, CABI met the Principal Secretary for Ministry of Agriculture and Food Security who decided that the Department of Agricultural Extension Services would coordinate Plantwise activities.

Activities in Malawi kicked off with the training of 34 plant doctors who would set up plant clinics in pilot districts of Lilongwe in the central region, and Mzimba in the northern region. During the training, plant doctors had practical sessions which included a trip out to the Group Village Headwoman (GVH) in Kamwana to attend to farmers' crop health problems.

Once they arrived in Kamwana, the GVH could not hide her joy as she led the women in song and dance in praise of the Ministry of Agriculture, partner World Vision International and CABI, who helped them with their 'sick' crops through the introduction of plant clinics.

Plant clinics were officially launched in Nathenje, Lilongwe District, presided over by the Controller of Agriculture Services, Mr Wilfred Lipita. The national radio and TV station of the Malawi Broadcasting Corporation covered the official launch of plant clinics.

Cutting of a ribbon at the official launch of the plant health clinic

The launch saw over 50 farmers bring their "sick" plants to the clinic. A total of 12 clinics were started, and are serving farmers in the pilot areas.

Plant doctors and their supervisors have been equipped further with training and production of fact sheets to supplement their reference materials. Plant doctors were also supported by carrying out a review of their services through cluster meetings which will continue to be held every quarter. Supervisors of plant doctors were also trained in data management, and monitoring and evaluation to ensure quality of diagnoses and recommendations.

The country now plans to expand the number of clinics in 2014 to cover several districts in all regions.

For more information, please contact **Noah Phiri**: n.phiri@cabi.org

Plant clinics prove popular in Rwanda

Plant clinics are gaining popularity across Rwanda. They have been held in all four regions of the country by RAB – the Rwanda Agriculture Board – with CABI technical support. A number of local mayors are also requesting that plant clinics be established to help extension officers advise farmers in their districts.

To meet the demand, the number of clinics organised has grown by 60%, with additional plant doctors having to be recruited and trained to support the core team. National interest in plant clinics has been stimulated through a constant presence in the media and attendance at various meetings, workshops and national agriculture shows. Other national projects, with complementary objectives, are also requesting clinics and provide further opportunities to provide plant health advice, while plans are afoot to expand clinic provision so they are available in all districts of the country.

Earlier in the year, the Principal Secretary for Agriculture officially opened the national stakeholder forum. Here representatives of agricultural stakeholders were brought together to share their plant clinic experiences and discuss their effectiveness as a delivery mechanism for resolving farmers' plant health problems.

To hear the story of one plant doctor, Martin, running plant clinics in Kayonza district east of Kigali, watch this video: *http://www.plantwise.org/default.aspx?site=234&page=5274*

For more information, please contact: **Noah Phiri**: n.phiri@cabi.org

Ghana: Plantwise Programme inaugurated

Plantwise was introduced as a pilot initiative in two regions (Ashanti and Brong Ahafo) of Ghana following a series of discussions and engagement with national partners, the Ministry of Agriculture and Food (MoFA) and the Council for Scientific and Industrial Research (CSIR).

11 plant clinics were initiated in late 2012 following training for 29 plant doctors. Its initial success prompted CABI, in collaboration with relevant national partners, to expand the initiative to two more regions of Ghana in 2013. These regions, Ashanti and Brong Ahafo, have also decided to set up more plant clinics in new districts, to improve access for farmers living in these communities to quality, science-based advice.

Already in 2013, 14 new plant clinics are being established. Now that clinics are generating information on farmers' plant health problems, a data management system is needed; 10 MoFA staff have been trained. A national coordinator and data manager have also been identified.

For more information, please contact **Negussie Efa**: e.negussie@cabi.org

Chief opening one of the clinic sessions

Strengthening phytosanitary capacity of the floriculture sector in Uganda

In just two decades Ugandan floriculture has grown from a one hectare farm to a $30 million export industry. To continue this growth and increase market access, CABI is helping to strengthen national phytosanitary capacity so Uganda is better placed to meet various international trade standards.

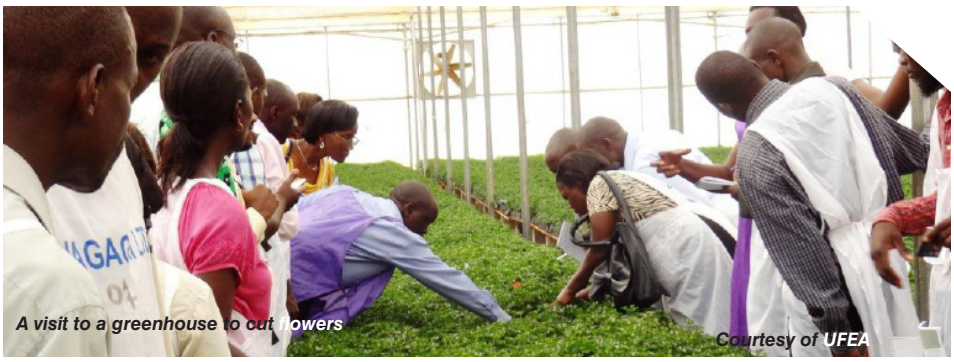
To better understand best practice, this two year project has financed study tours to Kenya while also providing detailed training for Department of Crop Protection (DCP) inspectors and other flower industry stakeholders. Training was delivered by the Centre of Phytosanitary Excellence, part of the Kenya Plant Health Inspectorate Service (KEPHIS) and the University of Nairobi's College of Agriculture and Veterinary Science.

Trainees undertook theory and practical sessions at KEPHIS sites and private sector farms. They also participated in practical phytosanitary certification inspection, the preparation of import permits and issuance of phytosanitary certificates based on importing country requirements. The handling of notification of significant non-compliance was also addressed.

The country's flower industry has improved its understanding of EU export requirements due to the project, while inspection and certification skills capacity has increased. A number of practical and policy issues relating to inspections of flowers for export to the EU have also been identified for modification and improvement to facilitate trade.

Funded by the Standards and Trade Development Facility Trust Fund this project is being implemented in Uganda by various stakeholders, with the Department of Crop Protection (DCP) of the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) taking the lead.

For more information, please contact **Florence Chege**: f.chege@cabi.org



A visit to a greenhouse to cut flowers *Courtesy of UFEA*

Scaling up mobile to reach more farmers

Direct2Farm (D2F) is a mobile-enabled agricultural information service. Sponsored by the UK's Department for International Development (DFID), we are now aiming to expand the project to research the use of mobile in agricultural extension and get corporations on board. Initially, we plan to pilot the scaled-up service in Kenya and India to reach 400,000 farmers by 2015.

The first step is to define the business model and establish good relationships and partnerships with operators, service and content providers in each country. In order to do this, we are undertaking a competitor and user needs analysis; establishing what partnerships we want and what services we can offer.

In the research, we will be investigating what kind of information can be communicated using mobiles, and how mobile delivery can compliment other communication pathways.

As CABI has already established mobile-enabled information services for farmers in Kenya and India, we are well set-up to take advantage of this 'mobile revolution' which is enabling farmers to seek and source solutions to their day-to-day farming problems in real-time and on demand.

For more information please contact **Lucy Karanja**: l.karanja@cabi.org

Happy 1st birthday CABI WAC!

In 2012, CABI signed an agreement with the Ghana government to establish a centre to serve the needs of member countries in the West Africa Sub-Region. The new CABI West Africa Centre (WAC) office is hosted on the CSIR headquarters campus along with other international agricultural research organizations.

A year on, the office is fully operational, with 4 full-time staff. The office has been engaged in coordination of project activities in Ghana including Plantwise and the Africa Soil Health Consortium. It is also providing backstopping and coordination of other CABI-led activities in the sub region and is working towards the extension of activities to Burkina Faso and La Côte d'Ivoire.

The centre also represented CABI in the 6th Africa Agricultural Science Week and FARA General Assembly conference held in Accra from 15th to 19th July 2013.

For more information, please contact **Ama Koomson**: A.Koomson@cabi.org

Mobile phones: a solution for farmers

Airtel Kilimo (or Airtel agriculture) is a unique and innovative service aiming to provide phone-based agricultural information, advice and support to smallholder farmers over Airtel's mobile network. This service utilizes Africa's mobile network and technologies to bridge the knowledge gap in rural areas.

Funded through the GSMA mAgri initiative to develop agricultural information and advisory services, the project will benefit over 2 million farmers. The mAgri initiative is supported by the Bill & Melinda Gates Foundation and USAID.

Farmers receive three texts and one voice message per week relating to each crop they choose. Information includes weather forecasts, market prices, agronomy tips and advice on dealing with pests and diseases. Soon a farmer helpline will be established and other communication mediums will be used – such as local and national radio – to provide high quality information to farmers.

CABI is managing the advisory content, assuring quality and using crop calendars and other tools to determine what information is most beneficial to farmers. Agronomy information on the first five crops is already with our partner, Kenya's Agricultural Research Institute (KARI), after which it will be distributed to farmers. New agricultural content will be added to the database on quarterly basis.

Through this project, farmers will be better informed and better placed to improve crop yield, quality and income.

For more information, please contact **Lucy Karanja**: l.karanja@cabi.org

NERICA rice: getting post-conflict areas growing

Re-establishing local food production is a key step toward repairing the damage caused by regional conflict. CABI and its partners are helping to achieve this by encouraging the cultivation of a special rice variety across northern Uganda and South Sudan.

To improve food security and generate income, this ASARECA funded project is helping farmers to upscale production of upland rice, such as New Rice for Africa (NERICA). This variety is suited to the local growing conditions and is an ideal replacement for imported produce as it combines high yield potential, short growing season, drought tolerance and good pest resistance.

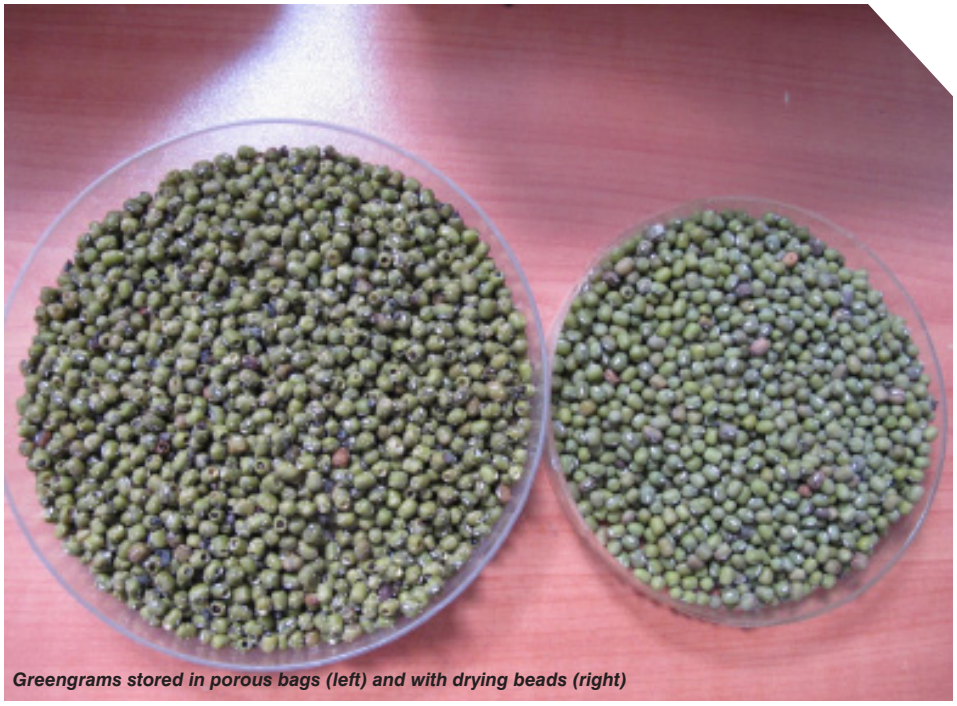
Smallholders through to millers and traders are now working in a coordinated way through innovation platforms established by the project in both countries. Good quality seed is now being produced and widely distributed in tandem with promotional activities. Communication is raising awareness of the benefits of cultivating NERICA, highlighting seed availability and how best to grow the crop. Posters, production manuals videos, newspapers and radio and television programmes are all being produced.

For more information, please contact **Noah Phiri**: n.phiri@cabi.org

Storing seeds for life

High quality seed is a basic agricultural input that can determine the commercial success of a crop. In tropical and sub-tropical regions, seed storage can be a major problem, where high temperature and high relative humidity (RH) cause rapid deterioration of seed quality. When seeds are stored in warm, humid conditions, they rapidly lose quality and perform poorly when planted.

Seed storage life can be enhanced by lowering moisture content using drying beads. Seed drying beads are modified ceramic materials (aluminum silicates or "zeolites") that absorb and hold water molecules very tightly in their microscopic pores.



Greengrams stored in porous bags (left) and with drying beads (right)

The beads can absorb water until all of their pores are filled, up to 20% of their initial weight. Seeds placed in a container with the beads will lose moisture due to the low air humidity, and will continue to do so until they come to equilibrium.

Beads can be mixed with the seeds for more rapid drying, and can be easily screened out from the seeds for reuse. Alternatively, the beads can be enclosed in a porous bag within the airtight container with the seeds, allowing easy separation of beads and seeds.

Once the seeds are dry, they must be packaged in airtight containers to avoid the reabsorption of moisture. Good results on seed drying have been obtained with green gram and a number of vegetable species in Kenya, Tanzania, Nepal, Bangladesh, India and Thailand, under the project led by University of California, Davis.

For more information, please contact **Daniel Karanja**: d.karanja@cabi.org

EAAPP communication strategy

CABI has been commissioned to develop a Communication Strategy for the $120m Eastern Africa Agricultural Productivity Programme (EAAPP). Funded by loans from the World Bank, EAAPP is establishing Regional Centres of Excellence (RCoE) for Cassava (Uganda), Dairy (Kenya), Rice (Tanzania) and Wheat (Ethiopia).

A key element of EAAPP is the regional approach, and this presents particular challenges in communication. CABI is leading the strategy development, with team members from the Africa Centre for Development Communication and the World Agroforestry Centre. The team met with a wide range of stakeholders in the four countries, and has drafted the strategy and implementation plan which will be reviewed at a regional workshop convened by ASARECA.

For more information, please contact **Roger Day**: r.day@cabi.org

Managing agricultural knowledge

Kenya has requested CABI's assistance in developing a knowledge management system for the agriculture sector. Working with the Agricultural Sector Coordination Unit (ASCU), the first step is to conduct an audit and scoping exercise. This will provide the basis for a full development plan, to be implemented in 2014.

For more information, please contact **Roger Day**: r.day@cabi.org

Strengthening CABI membership

CABI's Member Countries are at the core of what we do, so keeping in touch is critical. This year the Review Conference was held in UK, and African countries' Liaison Officers were much in evidence, highlighting achievements and changing needs. Dr Daphrose Gahakwa of Rwanda joined a high powered platform to debate issues of global food chains. The Regional Director also regularly visits member countries. In the last half of 2013 he has been to Botswana, Burundi, Côte d'Ivoire, Mauritius and Tanzania. He, along with other staff members, visited various countries for CABI membership, project-related activities and courtesy calls.

We also encourage our Member Countries to visit our offices in Africa or elsewhere. We were recently delighted to host at our headquarters Hon. Christopher Chiza, Tanzania's Minister of Agriculture. Membership of CABI offers a range of benefits, and any country can join (see http://www.cabi.org/membership).

For more information contact the Regional Director, **Morris Akiri**: m.akiri@cabi.org

From L to R: Morris Akiri - CABI Africa Regional Director, Ram Prakash Nowbuth - The Permanent Secretary Ministry of Agro Industry and Food Security, Mauritius, Qiaoqiao Zhang - CABI Memberships Director, and V. A. Punchoo - CABI's Liaison Officer and Chief Agricultural Officer Agricultural Services Ministry of Agro Industry and Food Security, Mauritius

Welcome! New team members

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Finance Assistant, Projects

Willis Ochilo
Content Development Assistant, Knowledge Bank

Elizabeth Mutinda
Finance Assistant, Plantwise

Jeffery Edue
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Martin Macharia
Data Manager, OFRA

Margaret Mulaa
Training Officer, Plantwise

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