



Alliance reviews pilot control strategies for banana bunchy top disease in Africa

Members of the [Alliance](#) for Banana Bunchy Top Disease ([BBTD](#)) Control in Africa met at IITA, Ibadan, Nigeria, 9–14 March, to share progress made during the first year of pilot site implementation in eight countries in sub-Saharan Africa and to develop follow-up action.

The meeting was attended by about 50 implementing partners from 11 countries. It provided a platform for refining the protocols for studying the BBTD epidemiology; mapping household and community social practices; ensuring clean seed production and supply; and developing a plan that consolidated and improved shared learning for implementation in 2015.

BBTD, caused by the *Banana bunchy top virus* ([BBTV](#)), is the most [devastating](#) disease of banana for which no sources of resistance are available. The disease is spread through infected planting material and also by an insect vector—the banana aphid.

Banana is one of the key staple crops supporting the livelihoods of an



Alliance members during a tour of IITA banana fields in Ibadan, Nigeria, led by Lava Kumar (extreme right)

estimated 100 million people, most of who live in sub-Saharan Africa. Over 50% of the world's production of banana (and plantain) is grown in the region.

Bunchy top was first reported from Africa in 1901 and has spread extensively into new production areas during the last two decades. It recently invaded Bénin and Nigeria in West Africa and had a limited spread within the Kivu provinces of DR Congo, neighbor to Uganda, the largest banana-producing country in Africa. Currently, BBTD occurrence has been confirmed in 13 countries in sub-Saharan Africa.

In February 2013, experts under the umbrella of the CGIAR Research Program on Roots, Tubers and Bananas ([RTB](#)) formed an alliance to implement medium and long-term strategies to control BBTD in sub-Saharan Africa. The ongoing initiative under this framework, *Banana bunchy top disease containment and recovery*

in sub-Saharan Africa: Building capacity and piloting field recovery approaches through a learning alliance is led by [IITA](#), [Bioversity International](#), [CIRAD](#), together with national partners in Bénin, Burundi, Cameroon, Congo Brazzaville, DR Congo, Ghana, Malawi, and Nigeria.

The alliance is focused on field-scale approaches to the recovery of BBTD-infested areas. This includes (i) Eradication of infected plants, (ii) Design of a supply flow for BBTV-free planting material, (iii) Establishment of clean fields in the banana-free zone with virus-free planting material; and (iv) Development of capacity for disease diagnosis and control, including training farmers in producing clean planting material.

“All sites have partnered with new communities to establish banana-free fallows and a supply chain for BBTV-free planting material and these partnerships are working well”



Alliance member-partners from the national programs visit the Genetic Resources Center.

said Charles Staver of Bioversity International. He also emphasized that the success of the alliance lay in the strength of the partnerships. The project is building on previous work to assess the extent of BBTV spread in the target countries. It evaluates banana and plantain landraces and synthetic hybrids in endemic sites to assess their performance against BBTB and the banana aphid. "This work has shown some *Musa* cultivars with a high degree of tolerance to BBTB that can be used in endemic areas," said Rachid Hanna, Entomologist, IITA-Cameroon.

"Training in developing diagnostic skills is one of the focus areas of the project. Pilot sites have started to adopt diagnostic protocols for virus indexing following the training course held in July 2014 in Montpellier," said Marie-Line Caruana, Virologist, CIRAD.

The project has also focused on building research capacity through three PhD and five MSc students on aspects of the cropping system, epidemiology and ecology of BBTB, varietal reaction to disease, and socioeconomic studies. The project has partnered with the gender and socioeconomic group of RTB to identify the household and community dimensions to mobilizing recovery areas from BBTB.

"The pilot sites are proving to be effective platforms for testing new strategies and technologies, learning and forming excellent in-situ avenues for training and capacity strengthening. The pilot zone concept can be scaled up and scaled out in the eight target countries and expanded to five other BBTB-affected countries (Angola, Central African Republic, Equatorial



Bonaventure Omondi Aman of Bioversity International, Burundi, gives a talk.

Guinea, Rwanda, and Zambia) in the next phase," said [Lava Kumar](#), Virologist and workshop organizer, IITA-Nigeria.

A session on 'innovations' was organized as part of this workshop and dealt with the latest initiatives to tackle BBTB through understanding virus-host-vector interactions, disease impact on planting material degeneration, transgenic approaches to develop resistance to BBTB and the banana aphid, understanding vector dynamics in relation to climate change, new propagation technologies using tissue culture and bioreactors, and the potential for youth agripreneurs in banana seed production. Experiences and lessons from BBTB management efforts in Australia were shared by John Thomas, Virologist from the University of Queensland, Brisbane, who attended as an external expert and

appreciated the efforts of the alliance to control BBTB.

Participants were exposed to the phytosanitary and indexing procedures used to generate healthy planting material, the in-vitro conservation of *Musa* in the IITA gene bank, and the breeder's reference collection in the field.

As part of the program, participants visited BBTB-affected areas in Idologun, Ogun State, which is also the base for the Nigerian pilot site and interacted with farmers and community leaders about the action being taken to mitigate BBTB. Sunday Akinyemi (NIHORT) and Charles Onyeani (NAQS) outlined the scheme being used to recover banana production in the pilot site. Dr Claude Mvila from Congo Republic appreciated the involvement of the entire community, from leaders to laborers, in this initiative.



Meeting participants in a group photo.

West African cocoa breeders meet in IITA

The ninth session of West African Cocoa Breeders' Working Group (ACBWG) was held 9-10 March at the IITA Ikeja Guest House, Lagos, Nigeria. The meeting was attended by participants from CRIN, Nigeria; CRIG, Ghana; IRAD, Cameroon; CNRA, Cote d'Ivoire; and representatives of the World Cocoa Foundation (WCF).

The meeting discussed the results of the fingerprinting component of the African Cocoa Initiative (ACI) project of WCF, which is true-to-type genotyping of cocoa germplasm from breeders' collection and seed garden materials. A lot of discussion was held on the issue of identifying mislabeling in cocoa germplasm, which is one of the major concerns in identification of true-to-type clones and its effect on production in farmers' fields. It was observed that majority of the clones in all the countries are mislabeled.

There were brainstorming sessions on how to address the issue of progenies that have been generated from non-true-to-type parental populations and have been distributed to farmers over the years, and its negative effects on cocoa production. Some ideas have been put forward to resolve these issues, which will require submission of additional proposals to WCF and a probable requirement of Phase II of the ACI project. In addition, discussions were also held on testing the fidelity of crosses considering cocoa as an outcrossing species and the probability of some cross-contamination during manual pollination and its effect on cocoa production.



Researchers working on cocoa initiative meet at the IITA Ikeja Guest House facilities.

The meeting ended with a note on identification of few standard true-to-type cocoa clones across the region that could be used as a reference and maintained for future cocoa improvement programs across all the countries.

This meeting was followed by a 3-day workshop on data handling, statistical analysis, and data interpretations, with Trushar Shah, Integrated Breeding Platform (IBP) Hub Manager, based in IITA-Kenya, as resource person. The workshop involved data visualization using Flapjack software and data analysis using R software.

The workshop was opened by Ranjana Bhattacharjee, IITA Molecular Geneticist, with an opening session on the importance of genome-wide SNP genotyping for true-to-type identification, diversity analysis,

genome-wide association study with the availability of quality phenotypic data and probability of using genomic selection in cocoa. This was followed by hands-on training on different statistical packages for true-to-type identification of genotypes and diversity assessment. Trushar also spoke about the importance of the IBP and Breeding Management System (BMS) as a tool for breeders for database management.

The Chief of Party of the ACI project, Sona Ebai, commended the workshop arrangements and also the choice of resource person for the workshop. He emphasized the need for writing a communique on the outcome and the impact of the first phase of the project in terms of understanding the cocoa germplasm in West and Central Africa, which contributes about 65% to the world production.

Welcome, new staff!

Dr Haroon Sseguya

has joined the IITA team in Morogoro, Tanzania, as Technology Scaling Specialist of Africa RISING. Dr Sseguya, from Uganda, obtained his PhD in Sociology and Sustainable Agriculture (2009) from Iowa State University (ISU), USA. He has an MSc degree in Agricultural Extension Education (2001) and BSc (Hons) from Makerere University, Uganda.



Before his appointment, he was a Lecturer and Coordinator for Graduate Programs at Makerere University, Department of Extension and Innovation Studies. He

was also a technical advisor (Agricultural Extension, Monitoring and Evaluation) for a livelihoods improvement program jointly implemented by ISU and Makerere University (2009-2014) in Kamuli district, southeast Uganda. He worked as a Graduate Research Assistant at the Department of Sociology, ISU (2005-2009); Assistant Lecturer (2001-2005) at Makerere University, Department of Agricultural Extension/Education; Research Assistant (2000-2001) at the International Food Policy Research Institute (IFPRI) Uganda; and Field Agricultural Extension Officer (1998-2000) at Mukono District Local Government, Uganda.

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Dr Gundula Fischer has joined IITA-Arusha Tanzania as Social Scientist and Gender Expert. Dr Fischer is a German citizen. She obtained her Master's degree in Social Anthropology and German as a second

language at Ludwig Maximilians University, Munich, Germany (1993) and her PhD in Social Anthropology at the University of Bayreuth, Germany (2006).



Prior to her appointment, she worked as a Research Coordinator at the Southern Highlands Culture Solutions (EU-funded Development Project). She was a Senior Lecturer,

Cultural Anthropology Director of Research (2009-2014) at the University of Iringa. She was a Visiting Lecturer at the University of Gottingen, Germany (2014) and a Lecturer of Sociology at St. Augustine University of Tanzania (2006-2009).

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Two new yam projects launched: CAY-Seed and YAMSYS

Two new projects on yam were launched recently: *Community Action for Improving Farmer-saved Seed Yam (CAY-Seed)* and *Biophysical, institutional and economic drivers of sustainable soil use in yam systems for improved food security in West Africa (YAMSYS)*.

CAY-Seed was launched on 23 February, in Kumasi, Ghana, by the Ashanti Regional Minister, Hon. Dr Samuel Sarpong. CAY-Seed is a 3-year project funded by the Bill & Melinda Gates Foundation, with [CSRI-Crop Research Institute, Ghana](#), as the lead implementer. A representative of the Gates Foundation, Ms Claire Kpaka, was present at the launching, as well as other partners: [IITA](#), National Root Crops Research Institute ([NRCRI](#)), Umudike, Nigeria, Institute of Statistical Social and Economic Research ([ISSER](#)), Ghana, Missionary Sisters of the Holy Rosary/Diocesan Development Services ([MSHR/DDS](#)), Nigeria, Catholic Relief Services ([CRS](#)), Ghana, Ministry of Food and Agriculture, Ghana, and seed yam farmers.

In his opening remarks at the launching, Dr Victor K. Agyeman, the Director General of CSIR, encouraged all partners working on the project to ensure that the plight of yam farmers as regards the availability of good quality seeds was addressed.

The project will work at establishing a sustainable seed yam system that will improve food security and reduce the poverty of smallholder yam farmers in pilot yam-growing areas of Ghana and Nigeria. To achieve this, emphasis



The Director General of CSIR giving his opening remarks at the launching of CAY-Seed in Kumasi, Ghana

will be placed on using positive selection and sorting, integrated soil and crop management practices, and knowledge sharing among key actors along the yam value chain in the selected communities.

After the launching, a planning meeting followed with presentations and discussions on all components of the project. The i-Train and Evaluate Center (i-TEC), a consulting firm, made presentations to orient the CAY-Seed project partners on the logical framework theory and results framework to raise awareness on the need to move beyond implementation monitoring to results monitoring.

CAY-Seed is [linked](#) to the *Yam Improvement for Income and Food Security in West Africa (YIIFSWA)* project as both projects are working with the same farmers in the selected communities.

Meanwhile, YAMSYS, a 6-year project aimed at improving the productivity of yam in Côte d'Ivoire and Burkina Faso, was launched at the Swiss Centre for Scientific Research ([CSRS](#)) in Abidjan, Côte d'Ivoire, 2-6 March.

This meeting brought together a group of scientists made up of Board members, project coordinators, and supervisors of students to be trained in the project, as well as the accountants of project partners.



Participants at the launching of CAY-Seed in Kumasi, Ghana



Participants at the launching of YAMSYS at CSRS, Abidjan, Côte d'Ivoire.

Altogether, eight partner institutions were present: IITA; Felix Houphouët-Boigny University, Côte d'Ivoire Swiss Centre of Scientific Research (CSRS) in Côte d'Ivoire, the International Center for Research in Agroforestry (ICRAF); the Research Institute of Organic Agriculture (FiBL) Switzerland; Institut de l'Environnement et de Recherches Agricole (INERA) Burkina Faso; Bobo-Dioulasso Polytechnic University (UPB), Burkina Faso; and École Polytechnique Fédérale de Zurich (ETHZ), Switzerland.

A work planning meeting immediately followed the launch with the aim of getting all members of the team to have a common vision as a basis for a successful take-off and eventual execution of all activities of the project. Issues discussed included assignments for partners, establishment of innovation platforms, methods of internal and external communication, selection of pilot sites and communities, budgeting for activities of year 1, a unified understanding

of project accounting principles by partner accountants, and monitoring and evaluation of YAMSYS. There were also presentations and reflections on the concepts, objectives, methodologies, and results of other ongoing yam projects such as YIFSWA and the yam MAFF projects of IITA, and the Yam Project of Sri Lanka. This was intended to enable partners to draw lessons which would help in the smooth operation of YAMSYS.

A field trip took participants to the Wholesale Market of Bouaké, where discussions were held with traders and market officials on the marketing of yam, the second largest commodity after kola nut. Discussions were held with an existing Cassava Platform in Bouaké to facilitate the formation of yam innovation platforms and learn from their experiences. At the end of the meeting, a selection was done for candidates who had applied for positions for PhD, MSc, and site managers.

The project YAMSYS is funded by the Swiss National Science Foundation (FNS) and the Swiss Agency for Development and Cooperation (SDC) to the tune of 3 million Swiss francs.



Some YAMSYS partners discuss issues with the President (in white shirt) of the Yam Traders Association at the yam section of Bouaké Wholesale Market.

IITA partner is recipient of Borlaug LEAP Award

Mrs Adama Yahaya, a PhD student in the Department of Biological Sciences, Ahmadu Bello University (ABU), Zaria, Nigeria, is among the recipients of the 2014 Borlaug LEAP award. Her application, supported by IITA, will enable



her to do PhD work in the Virology and Molecular Diagnostics Unit of IITA and the Texas A&M University Agricultural Research and Extension, Weslaco, USA.

She will be jointly supervised by Lava Kumar, Head, IITA's Germplasm Health Unit, Dr D.B. Dangora from ABU, and Olufemi J. Alabi from Texas A&M. Her research work is on the molecular epidemiology of potyviruses infecting cereals with a particular focus on maize and sugarcane in Nigeria.

The Norman E. Borlaug Leadership Enhancement in Agriculture Program (Borlaug LEAP) awards are fellowships for outstanding graduate students who show strong promise as leaders in the field of agriculture and related disciplines. The program honors Dr Norman Borlaug whose distinguished career epitomized the qualities of leadership, scholarship, scientific achievement, international cooperation, mentoring, and passion.

Africa RISING ESA external review team praise research; call for improved efforts to ensure adoption of technologies

The IITA-commissioned external review of Africa RISING East and Southern Africa project concluded on 16 March after nearly 5 weeks of literature review, project stakeholder interviews, and field visits to project sites in Tanzania and Malawi. While presenting their [preliminary report](#) at the IITA Malawi offices, the team of reviewers expressed satisfaction with the majority of the ongoing research and also called for improvements in the integrated systems research approach by partners involved as well as the strengthening of the innovation/R4D platforms facilitated by the project.

The reviewers recommended a revision of some of the indicators in the [project document](#), an update of the [Africa RISING ESA logframe](#), a project-wide socioeconomic analysis of the technology combinations being tested and promoted as well as a stronger consideration of the gender component in all ongoing research activities.

“Great progress is being made in the project especially with the biophysical research work being implemented by the scientists. Of course there are areas for improvement that we have pointed out but really it has been impressive seeing, for example, the yield increases that farmers have testified to farmers introduced by the project. We think that the next step should now be to carry out an economic analysis of the technologies being promoted to ensure that they are adoptable by farmers,” noted the lead reviewer, Jim Ellis-Jones.

Another member of the review team, Colletah Chitsike gave further encouraging comments: “This project is breaking new ground in turning research into use and you have started very well. It will grow and spread,” she said.



Irmgard Hoeschle-Zeledon (right), Jim Ellis-Jones (second right), Regis Chikowo (center) and Colletah Chitsike (center left) view a mother trial for climbing bean varieties in Linthipe, Malawi. Jim and Colletah were part of the team of three reviewers.

The external mid-term review had been commissioned by IITA which leads the two Africa RISING projects in East/Southern Africa and West Africa with the objective of assessing the conformity of the implemented work with the research framework developed, evaluating how the project was fostering learning by the stakeholders, assessing partnerships and project management. Results are expected to feed into the donor-commissioned program review later this year and the planning for the next project phase.

“This has been a very intense review,” noted Irmgard Hoeschle-Zeledon, Africa RISING Coordinator for West Africa and East and Southern Africa, at the end of the debriefing meeting. “Thanks to everybody for being available and making contributions. We will look at the recommendations with careful interest, consult with the project donor, USAID, and see what adjustments are possible. Thank you, reviewers, for taking up the task. Your knowledge of the region was

very helpful. We had a very capable team.” The final review report is expected to be ready by the end of April 2015. A corresponding review of the Africa RISING West Africa Project was conducted in September/October 2014 and [the final report has been published](#).

Events

Regional/Station Administrators Meeting and Training, 16-20 March, Vigna Room, IITA-Ibadan, Nigeria

18th International Association of Research Scholars and Fellows (IARSAF) Annual Symposium, 23-24 March, IITA Conference Center, Ibadan, Nigeria

N2Africa-Nigeria 2015 Annual Planning Meeting, 24-25 March, Hotel De Bently, Utako District, Abuja, Nigeria

Annual Review and Planning Meeting of the Africa RISING West Africa Project, 24-25 March, Mensvic Hotel, East Legon, Accra, Ghana

Women Empowerment Platform, 25 March, Conference Center, IITA-Ibadan, Nigeria

Got a story to share? Please email it with photos and captions every Wednesday to Andrea Gros (a.gros@cgiar.org), Katherine Lopez (k.lopez@cgiar.org), Jeffrey T. Oliver (j.oliver@cgiar.org), Catherine Njuguna (c.njuguna@cgiar.org), or Adaobi Umeokoro (a.umeokoro@cgiar.org).