



## Making a case for investing in long-term research on soil

A group of experts on soil science drawn from all over the world met in Kampala, Uganda, recently to develop a strategy for long-term trials for Integrated Soil Fertility Management (ISFM) in Africa where the biggest obstacles to agricultural production are poor, old soils whose nutrients have been removed following years of mining with little replenishment and where fertilizer use is the lowest in the world.

The meeting, organized by IITA, took place 11 to 12 November and was funded by the CGIAR Research Program on Water Land and Ecosystems (WLE).

ISFM is defined as “the application of soil fertility management practices, and the knowledge to adapt these to local conditions, which maximize fertilizer and organic resource use efficiency and crop productivity. These practices necessarily include fertilizer and organic input management in combination with improved germplasm.”

ISFM is seen as one tool that supports sustainable intensification of farming systems in Africa which in turn is seen as one of the ways to increase agricultural production to meet the food needs of a growing population and for economic development in an environment of shrinking agricultural land.

According to one of the participants, Prof Sagary Nokoe, a biometrician with the University of Energy and Natural Resources, Sunyani, Ghana, ISFM is important because of the declining soil fertility and the need to address this in the interests of the resource-poor farmers.

“Fertility in many places has been declining following years of traditional farming



Participants in a group photo

practices that have led to mining of the soils. We therefore need to find cost-effective and sustainable practices that will ensure the replenishment of essential growth nutrients,” he said.

Bernard Vanlauwe, IITA’s R4D Director for Central Africa and head of Natural Resources Management (NRM), noted that while ISFM had clearly shown its benefit and potential to increase productivity in the short term, its effects on soil fertility and other ecosystem benefits in the long term were still unclear.

“There is a need to evaluate the sustainability impacts of ISFM. This can only be done with the engagement of scientists from institutes in Africa and the North who have a clear insight on the role long-term trials can play in enhancing our understanding of the role of soils in sustainable intensification of African agriculture,” he said.

By the end of the two-day workshop, the participants had developed a strategy for long-term ISFM trials across sub-Saharan Africa including the possible research areas and design; target agroecological zones and cropping systems; and partnerships, capacity building, and fundraising activities.

“We can say that we have reached a common understanding of ISFM, the principles, and concepts. The design components for field experiments for long-term ISFM approaches have been well understood and agreed upon by everyone. We have also elaborated an action plan on how we will move on from here. And our challenge now is funding, of course. We cannot do anything without funds,” said Andre Bationo, formerly with Alliance for a Green Revolution in Africa (AGRA).

## Central Africa hub goes on retreat too

Scientists and administrative staff from the Central Africa hub gathered at the lakeside of Naivasha for a two-day retreat to discuss issues of strategic importance to the hub and for the team members to get to know and bond with each other better. Held 6-7 November, the retreat followed those of the Southern and Eastern Africa hubs that recently held their own strategic retreats for the staff.

Bernard Vanlauwe, R4D Director for Central Africa, said the retreat was important for the region as it was among the most geographically spread hubs of the institute.

Some of the issues tackled included developing a strategic plan for the hub which outlines how it is going to contribute to the wider IITA strategy of lifting 11.6 million people out of poverty and rehabilitating 7.5 million hectares of degraded land. The Central Africa hub’s target was to lift 3.4 million people out of poverty and rehabilitate 1 million ha of land.

The scientists also explored ways to improve the quality of science at the hub. At CGIAR this is determined by the number of papers published, especially in



Central Africa hub team on a retreat

Continued on page 4...

## DDG Partnerships wants stronger ties with partners in Mozambique



Professor Tito Fernandes of University of Lurio (left) briefing Dr Ken Dashiell, IITA DDG PCD (right) on the joint activities carried out by the two institutions.

Dr Kenton Dashiell, IITA Deputy Director General, Partnerships and Capacity Development (DDG PCD) has called for a stronger working relationship with partners in Mozambique. Dr Dashiell made the call during his visit to that country recently where he met with several IITA partners. Among the partners were Lurio University (Universidade Lurio), Empresa Comercial dos Produtores Associados (IKURU), and the USAID-supported project on Strengthening Communities through Integrated Programming (SCIP).

The University of Lurio was established in 2006, to cater for the education needs of Nampula, Cabo Delgado, and Niassa provinces. At the university of Lurio, Dr Dashiell met with Professor Tito Fernandes who briefed him on the collaboration between the university and IITA on the Aflatoxin Biocontrol and Nutrition programs. Several students from the University have undertaken field work attachments with IITA. Dr Dashiell pointed out the need to strengthen the partnership and capacity building between the two institutions. The university has a new science building with laboratories. The IITA Aflatoxin Biocontrol program will be hosted in one of the laboratories.

Dr Dashiell toured the science facility and was shown the IITA lab space.

Later the same day, Dr Dashiell met with the director of IKURU, a cooperative organization established in 2003, to promote smallholder farmers' partnership in agricultural development through access to improved technology and markets. "IKURU is an internationally recognized producer and processor of quality fair trade, organic, and conventional commodities. IKURU markets its range of products both locally in Mozambique (40%) and for export (60%)," said Mr Gerson Daniel, Director of IKURU. IKURU collaborates with IITA on three

projects: Tropical Legumes II on cowpea and soybean promotion; Common Fund for Commodities (CFC) on the promotion of soybean storage systems improvement and mechanization, farmers training, and product marketing; and N2Africa where IKURU is involved in demonstrations and introduction of four new groundnut varieties. However, there is still room for improving the partnership between IKURU and IITA. IKURU solicited IITA's help to make available more improved seeds to the farmers especially at the local level and invest more in research to develop technology and information packages in line with IKURU's vision of transferring new and improved technologies to farmers to boost productivity. Dr Dashiell also toured the IKURU farm equipment workshop and lauded the good working relationship with IITA that had been nurtured to ensure the project's success in Mozambique.

### Partnership with SCIP commended

At Nampula, Dr Ken Dashiell visited SCIP, an integrated project of Pathfinder, Population Services International (PSI), World Relief, CARE, and the Cooperative League of USA (CLUSA) established in October 2009 and involved in the improvement of health and nutrition. The project works in close collaboration with the government at the provincial, district, and community levels in 14 districts of Nampula Province with a total of 830 clubs (over 27,700 active members) of which 48% are women. IITA and SCIP are involved in identifying lessons for the youth groups working in five districts. Dr Dashiell was impressed with the operational structure of SCIP's agricultural youth clubs that have been established from existing systems and structure, e.g., churches and linked to a patron. He said that IITA has a youth group and should learn from the long-term involvement of SCIP with the young farmers. The young farmers are trained to produce field crops during the rainy season and horticultural crops under irrigation in the dry season. After training and graduation, SCIP encourages all graduates to have at least 1 ha of marketable crops. In addition to training, other areas of collaboration between SCIP and IITA include access to improved seed and agricultural technology know-how such as the right planting time for soybean and cowpea. IITA and SCIP need to develop training and information for different agroecological zones. Both partners expressed the possibility of developing a joint agricultural proposal to be submitted to a potential donor.

IITA Mozambique also collaborates with the Ministry of Agriculture and Mozambican Agricultural Research Institute (IIAM) in Nampula.



IITA-Mozambique staff with DDG PCD, Dr Dashiell, at the IKURU equipment workshop with Mr. Gerson (second left).

## **IITA is outstanding research partner**

Dr Dashiell met with the Provincial Director of Agriculture, Mr Pedro Zucula, who said that IITA is an “outstanding research and technology transfer partner.” Mr Zucula pointed out the pivotal role IITA is playing in uplifting the lives of smallholder farmers through providing improved soybean and cowpea seeds. It was apparent that IITA’s work blends well with the strategic plan for the government through its contribution to research for development, e.g., improved varieties and seed multiplication. The Director raised the idea of developing a joint project proposal for a specific donor organization for funding and was supported by Dr Dashiell who challenged IITA scientists to lead the initiative.

## **“Do not carry sand but build castles!”**

In addition to meeting partners, Dr Dashiell visited the IITA construction site in Nampula, IITA’s Research field at Muriaze (20 km from Nampula), and Microbiology laboratory at IIAM station. He expressed the hope that the construction of the office and lab building would commence sooner rather than later. While at the research field, the technical staff briefed him on the activities being undertaken. Dr Dashiell was particularly impressed with the large seed stocks and the operation system in readiness for the planting season. He praised the staff for the great work done and challenged them to improve on their performance each season. The DDG (PCD)’s visit culminated with a staff meeting. Dr Steve Boahen, IITA Country Representative, gave a brief synopsis about IITA activities in Mozambique with research sites in four provinces: Nampula, Zambezia, Tete, and Manica representing different agroecological zones. He also talked about the release of five soybean and three cowpea varieties following



*Dr Dashiell tours the lab.*



*Dr Dashiell and Boahen.*

collaboration with IIAM. Dr Dashiell challenged IITA staff in Mozambique to be passionate about their work and to communicate to the community at large about it. He encouraged staff to build the IITA castle rather than just ferry sand from one place to another for construction. He used a scenario where two workers at a construction site doing exactly the same job

were asked the same simple question but gave different answers. The question was; what do you do? Worker 1 said: ‘I carry sand from here to there using a wheelbarrow.’ Worker 2 said: ‘I build castles.’ IITA staff should report about their work in a precise manner to create awareness and interest in the target community. “So let us all be involved in building the IITA castle,” said Dr Dashiell.



*Dr Dashiell meets IITA-Mozambique staff.*

## NAFDAC and IITA flag off awareness on aflatoxin in Nigeria



Participants at the NAFDAC-IITA meeting in Enugu.

Nigeria's food and drug regulator, the National Agency for Food and Drug Administration and Control (NAFDAC), in collaboration with IITA, organized an awareness workshop for the country's southeastern region this week, 13 November.

The Director General of NAFDAC, Dr Paul Orhii, said the objectives of the campaign were to educate consumers, farmers, and the industrial sector on the risks and harmful effects of aflatoxins in food and feeds as well as their control/reduction strategies.

Dr Orhii, who was represented by Mrs Stella Denloye, NAFDAC's Director of Laboratory Services, said, "We want to highlight the extent of aflatoxin contamination in Nigeria's staple foods and export commodities ... the negative economic impact on trade and foreign

exchange earnings ... and to draw attention to mitigation strategies."

Produced by the fungus *Aspergillus flavus*, aflatoxins are naturally occurring fungal toxins abundant in the soil that contaminate food products such as maize, groundnut, and other crops. They are toxic to man and cause immune suppression, cancer, and growth reduction in animals. In some cases, consumption of high levels of aflatoxins has resulted in deaths of animals and human beings. In Kenya, for instance, consumption of maize contaminated with aflatoxins resulted in about 200 deaths between 2004 and 2006.

"Studies in Nigeria also show high levels of aflatoxin contamination in maize and groundnut," say Drs Ranajit Bandyopadhyay, IITA scientist and team leader for the Africa-wide initiative for the control of aflatoxin; and Joseph Atehnkeng,

Project Coordinator for Aflatoxin Control in West Africa.

"And people are consuming these toxins in ignorance, compromising their health," they added.

To prevent the spread and contamination of grains by these lethal fungal toxins, IITA and partners developed a biocontrol product—*aflasafe*<sup>TM</sup>—that has proven effective in controlling aflatoxins. Studies show that the application of *aflasafe*<sup>TM</sup> in farmers' field reduced aflatoxin contamination by more than 90%, and birds fed with *aflasafe*<sup>TM</sup>-treated maize recorded less mortality and had a higher feed conversion ratio.

Adebowale Akande, AgResults Aflasafe Pilot Manager, said the flag-off aimed to introduce *aflasafe*<sup>TM</sup> to farmers in the southeastern part of the country so that they could adopt and use the product on their farms for both health benefits and higher incomes. "The more people are aware of mitigation options, the better equipped they will be to handle and manage the situation," Akande added.

The workshop in Enugu is the third in the series, coming after similar ones in Abuja and Ibadan for the north-central and south-western regions of Nigeria, respectively. It builds on ongoing initiatives such as the Commercial Agricultural Development Program (CADP).

The awareness/sensitization workshops are supported by Australia/AUSAID, the Bill & Melinda Gates Foundation, Canada/Finance Canada, the United Kingdom/DFID, and the United States/USAID through Deloitte Consulting LLC on behalf of the World Bank under the AgResults Initiative.

### CA hub retreat...continued from page 1...

Thomson-indexed journals and citations. The scientists identified setting aside writing time and organizing writeshops as possible ways to increase the number and quality of papers published.

Other issues discussed included the drafting of the 2013 annual report for the hub, strengthening monitoring and evaluation—led by IITA's M&E specialist Thomas Wobill, and fundraising with Kristina Roing de Nowina, Proposal Development Coordinator, including expanding to other countries such as Chad and Central Africa Republic.

The retreat also included fun team-building games and exercises with external facilitators. By the end of the retreat, all the participants were happy about the event and agreed that it should be held annually. Martin Yemefack from Cameroon said the retreat allowed the team members to get to know each other.

"This is the first meeting for all of us as colleagues at the hub. It was a good

## Welcome

Ms Valerie Poire has joined IITA-Ibadan as the Humidtropics Communication Officer. Ms Poire is a Canadian. She obtained an MSc and BSc in Communication from the University of Quebec, Montreal in 1992 and 1994, respectively.

Among her recent assignments, she was Senior Communications Advisor to Government of Liberia's Minister of Finance with whom she



developed an Open Government Initiative (OGI) presentation framework (2012); and she was Communications Advisor to the Government of Papua New Guinea during the implementation of the Standard Integrated Government Tax Administration System (SIGTAS) at the Internal Revenue Commission (2011-2012), where she was in charge of communication planning for change management, information and outreach campaigns, oral communication training and capacity building.

She resides in Apartment 3C, Tropical 1, IITA-Campus. Her e-mail address is [V.Poire@cgiar.org](mailto:V.Poire@cgiar.org) and could be reached on Ext. 2233

opportunity to get to know what each person is doing and identify areas for collaboration. The team-building activities

were great," he said.

The next retreat has been tentatively set for April 2014.