

A quarterly newsletter of the African Agricultural Technology Foundation



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## WEMA Stakeholders Pledge Country Support



### WEMA regional meeting participants

Members of parliament from Kenya, Mozambique, South Africa, Tanzania and Uganda pledged their support for the WEMA project during a two-day regional meeting attended by 70 stakeholders in Johannesburg, South Africa in April. The members of parliament said they would help the project address issues that could affect its progress in their countries. The parliamentarians, who led their country delegations to the meeting, commended the collaborative spirit of the project saying that it is an exemplary public/private partnership.

They were impressed by the progress made by the project in its first two years and the level of involvement and participation of various stakeholders that has ensured transparency and information sharing.

Hon Lulu Johnson, the Chairperson of Portfolio Committee, Department of Agriculture, Forestry and Fisheries, South Africa, said that food security is still a challenge for many poor households in South Africa despite the country being a maize exporter. He challenged researchers and scientists to find ways of ensuring that the smallholder farmers in South Africa who are still food insecure are able to grow their own food.

Hon Lastus Katende, a member of Uganda's Parliamentary Committee on Agriculture, Animal Industry and

Fisheries, said the WEMA project was in conformity with Africa's goals and the millennium development goals that aim at addressing food security constraints.

The Chairman of the Parliamentary Committee on Science and Technology in Kenya, Hon Dave Koech, said that Africa needs to develop drought tolerant and high yielding crops but noted that there are challenges related to acceptance of genetically modified crops. He advised that communication and information sharing is important in providing the public with the answers they seek. He went on to say that researchers should allow enough time in doing their work to ensure attainment of good science.

From Mozambique, Hon Francisco Mucanheia, President of the Commission on Agriculture and Local Power, Assembly of the Republic of Mozambique, said his country is committed to the WEMA project since its mission, vision and values are important to the country. He went on to say 'as one of the key players in the project, we are interested in developing agriculture in ways that will raise productivity.'

Hon Kidawa Saleh, the Vice-chair of the Tanzania Parliamentary Committee on Agriculture, Livestock and Water, pledged her support in mobilising and sensitising other legislators and committees on the WEMA project and on the need to enact biosafety laws. 'Legislators have been

empowered to lobby government,' she said, pointing out that poverty and low productivity of smallholder farmers due to drought should present an opportunity for legislators to act.

### Visit to Bt maize farmer

The WEMA regional stakeholders meeting participants visited Mr Molatsi Musi's Bt maize farm in Johannesburg. Mr Musi shared his experiences and challenged the stakeholders to advocate for a conducive biosafety environment in their countries to enable their own farmers plant high yielding maize varieties produced from biotechnology so that Africa can feed itself.

The President and Chief Executive Officer of the Agricultural Research Council (ARC), Dr Shadrack Moephuli, officially opened the meeting. He lauded the focus of WEMA on drought tolerance saying South Africa was prone to periodic drought and 'water use efficient varieties are a matter of national priority'. He however noted that the goals of the project cannot be achieved without the appropriate policy and regulatory environment and an implementation platform. He said collaboration with diverse sets of partners provides an ideal environment for success with limited resources.

### Attendance

The WEMA regional stakeholders meeting was organised by the African Agricultural Technology Foundation (AATF) in collaboration with the ARC, South Africa. It was attended by representatives of national biosafety institutions; government officials from ministries of agriculture, media representatives, farmer groups, seed companies and biotechnology communication organisations. It will be held every two years and will complement the annual country stakeholder meetings.

For more information, contact Grace Wachoro (g.wachoro@aatf-africa.org)

## Herbicide Resistant Sorghum to Control *Striga* in Sub-Saharan Africa

AATF is exploring a partnership project with DuPont, Kansas State University, Purdue and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) to develop herbicide resistant (HR) sorghum for *Striga* weed control in sorghum. The project will build on existing knowledge on *Striga* control to increase cereal production in the arid and semi-arid areas where sorghum is the flagship cereal crop in Sub-Saharan Africa (SSA).

Sorghum is Africa's second most important cereal. The continent produces about 20 million tonnes of sorghum per annum, about one-third of the world crop. The potential for sorghum to be the driver of economic development in Africa is enormous.

However, sorghum yields in SSA remain low because of factors such as poor agronomic practices, lack of commercialisation of the crop resulting in low use of productivity enhancing technologies, and *Striga* which affects most sorghum growing areas of SSA.

There are two *Striga* species that attack sorghum, *Striga hermonthica* and *Striga aspera* with *hermonthica* being the most widespread and most damaging to sorghum.

Studies have shown that sorghum is the major host for *Striga* reproduction, thus perpetuating the spread of the parasite in the farming systems. The weed is widespread and destroys 40%–100% of a season's crop in Africa.

A recent feasibility study carried out by AATF on the potential benefits of developing HR sorghum shows an estimated loss of US\$7 billion per annum caused by *Striga*.

There is overwhelming evidence that despite advances in *Striga* control methods in sorghum, the weed continues to contribute to high levels of production losses. Herbicide (imidazolinone)-resistant maize varieties have recently been found to be successful in combating *Striga* infestations in maize. The technology has been shown to have potential for



A sorghum farmer in western Kenya where *Striga* is a challenge for cereal farmers

application in sorghum. Coating sorghum seeds with herbicide could therefore be used as part of an integrated approach to prevent damage from parasitic *Striga hermonthica*.

Proof of concept has shown that HR sorghum has potential to protect sorghum against *Striga*, reduce *Striga* seed colony in the soil and improve sorghum yields. The feasibility study carried out by AATF on the project in Ethiopia, Mali and Nigeria indicates potential benefits include higher yield gains and farm incomes from use of HR sorghum varieties that will range from US\$11 million to US\$83 million. Its success will depend on a well networked partnership for effective technology development and deployment.

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## Sir Prof. Gordon Conway Launches New Book on Science and Innovation in Nairobi



Sir Gordon Conway launched his latest book, *Science and Innovation for Development* which he co-authored with Jeff Waage, in Nairobi in April.

The book demonstrates how science and innovation can be harnessed to tackle today's biggest challenges in poor countries.

It considers why science is important, how science and innovation can contribute to the Millennium Development Goals (MDGs) of reducing hunger, improving health and protecting the environment and why new advances in science and technology will be essential to understanding and adapting to climate change.

During the Nairobi launch, Sir Conway, who is an AATF Board member, said that to be successful, agricultural systems need to produce efficiently and cheaply.

'Countries can draw technologies from a wide range of sources, including the traditional and the advanced such as modern biotechnology,' said Prof Conway.

The launch was facilitated by AATF and UK Collaborative on Development Sciences (UKCDS).

The book can be downloaded from [www.ukcds.org.uk/publication-Science and Innovation\\_for\\_Development-172.html](http://www.ukcds.org.uk/publication-Science%20and%20Innovation_for_Development-172.html)

## Rural transformation in emerging economies presents agricultural challenges

Alternative technologies for smallholder agriculture and food security in Africa will play a key role in addressing challenges posed by the dynamics of rural transformation in emerging economies. This was said by the AATF Business Development Manager, George Marechera, at the International Conference on Dynamics of Rural Transformation in emerging economies held in New Delhi, India, 14 to 16 April 2010.

George also highlighted the stagnating agricultural productivity in Sub-Saharan Africa which he said required both an understanding of the key constraints and access to new solutions for use by smallholder farmers.

The conference was organised by the International Steering Committee on Dynamics of Rural Transformation in Emerging Economies and hosted by Planning Commission of India and

Institute for Human Development, New Delhi.

The meeting brought together policy makers and public sector administrators, academia and civil society from Africa, Asia, Europe, North and South America. The participants shared models, experiences, and innovations including new and flexible approaches that leverage the forces of globalisation for the benefit of rural populations. (<http://www.ruraltransformation.in/International-Committee.html>)

For more information contact George Marechera ([g.marechera@aatf-africa.org](mailto:g.marechera@aatf-africa.org))

## Taiwan and AATF Host Banana Tissue Culture Training for Great Lakes Region

A training workshop to build capacity of tissue culture practitioners for efficient and effective mass micro-propagation of disease free and cheaper banana plantlets in the Great Lakes region of Africa was held in Nairobi in April. The use of clean tissue culture material is key to reducing the spread of the *Banana Xanthomonas* wilt disease which is threatening the livelihood of millions of African farmers.

However, the costs of the plantlets, at US\$ 1, are high and unaffordable for most farmers. This cost could be reduced through production techniques which the Taiwan Banana Research Institute shared with participants.

The training workshop aimed at enhancing regional capacity on commercial micro propagation of bananas through tissue culture. It was organised by Academia Sinica in collaboration with AATF and drew participants from public research institutes, institutions of higher learning and private companies from Kenya, Uganda and Tanzania.

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*Some workshop participants during a demonstration*

## Banana Bacterial Wilt Project holds Inaugural Advisory Committee Meeting

A two-day meeting of experts in the project to improve Banana for resistance to banana *Xanthomonas* wilt (BXW) disease in Africa was held in Uganda in May. This was the inaugural meeting of experts who will provide advisory support to the project. The meeting reviewed progress in product development, preparedness for confined field trials, resource mobilisation and management of key project components.

The 12 experts will form the Project Advisory Committee (PAC) which will provide the project with leadership in breeding, agronomy, molecular biology, plant pathology, seed systems, regulatory, intellectual property and communications.

The PAC visited the laboratory where the BXW work is being carried out and field trials of the biofortified banana project in Kawanda, Uganda.



*Biofortified banana on a trial field at Kawanda, Uganda*

Banana *Xanthomonas* wilt disease threatens the livelihood of millions of farmers in the Great Lakes region of Africa. The disease was first reported in the highlands of Ethiopia and has spread to major banana producing districts of Uganda since it was identified there in 2001. The disease has also been reported in eastern Democratic Republic of Congo, Rwanda, Tanzania, Burundi and Kenya. The economic impact of the disease is potentially disastrous as it reduces yields significantly.

Adopting resistant varieties would be the most sustainable method of managing the disease. However, prospects of developing banana varieties with resistance to BXW through conventional breeding are limited, as no source of germplasm exhibiting resistance against the disease has been identified.

Transgenic technologies for banana may provide a timely and cost-effective solution to the BXW pandemic. The project therefore aims to develop *Xanthomonas* wilt resistant transgenic bananas from east African preferred germplasm. The project is a partnership between AATF, IITA, Uganda National Agricultural Research Organisation, Academia Sinica (Taiwan), and national agricultural systems of Kenya, Tanzania, Burundi and Rwanda.

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## AATF Staff Hold In-house Discussions on Regulatory Issues

AATF staff members held an in-depth discussion of regulatory principles and related science issues at the Nairobi offices in April. The discussion was facilitated by two members of the Board of Trustees, Mr Robert Harness and Prof Adrienne Massey.

Discussions revolved around the stages of a product commercialisation plan, an overview of the current climate in Africa for agricultural biotechnology, introduction to the risk-reduction role of regulatory systems, regulation of transgenic crops and a brief on the similarities and differences in creating new crop varieties using various methodologies. The discussions covered the role of AATF in the development of regulatory structures policies and procedures in Sub-Saharan Africa, and in acquiring regulatory approvals for its products.

Key steps in bringing a new product to market were highlighted. These included defining a product concept, preparing a product development plan, developing a regulatory plan and conducting field trials to validate selection and collect data, preparing and submitting the risk assessment and the regulatory package, developing a communication plan and materials and product deregulation and commercial launch.

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## Meet New AATF Board Members

The AATF Board of Trustees welcomed new members during its April 2010 meeting held in Nairobi. The new members bring to the Foundation a wealth of experience drawn from the private and public sectors both in Africa and abroad and a variety of expertise that will build and support AATF in the fulfillment of its mandate. They will each serve an initial three-year term.



### Robert L. Harness

Robert Harness is an independent consultant specialising in biotechnology policy, product regulatory approval and public acceptance programs. He has advised technology companies and research institutions engaged in applications of biotechnology in plant and animal agriculture. Rob has been closely involved in the development and implementation of the Cartagena Protocol on Biosafety and throughout his career has worked on regulatory programs applied to agricultural products in every world region. ([http://www.aatf-africa.org/about\\_aatf/board\\_of\\_trustees/Harness\\_Profile](http://www.aatf-africa.org/about_aatf/board_of_trustees/Harness_Profile))

### Prof. Sir Gordon Conway

Gordon Conway is Professor of International Development at Imperial College London. From 1998-2004 Gordon was President of the Rockefeller Foundation and from 2004 – June 2009 he was the Chief Scientific Adviser to the UK Department for International Development (DFID) and President of the Royal Geographical Society. He is a KCMG, Deputy Lieutenant of East Sussex, Hon Fell RAEng and FRS. He holds five honorary degrees and fellowships. ([http://www.aatf-africa.org/aboutaatf/board\\_of\\_trustees/Conway\\_Profile](http://www.aatf-africa.org/aboutaatf/board_of_trustees/Conway_Profile))



### Dr Peter Matlon

Dr Peter Matlon is an adjunct professor in the Department of Applied Economics and Management, Cornell University. In November, 2007, Matlon retired from the position of Managing Director, Africa Regional Office, The Rockefeller Foundation, Nairobi (2004-2007). He also served for two years as the founding President for Programs for a Green Revolution in Africa, an organisation established by The Rockefeller and Bill and Melinda Gates foundations aimed at revitalising African agriculture. ([http://www.aatf-africa.org/about\\_aatf/board\\_of\\_trustees/Matlon\\_Profile](http://www.aatf-africa.org/about_aatf/board_of_trustees/Matlon_Profile))

### Ms Mariame

#### Maiga

Mariame Maiga is a rural development sociologist, development policy and project analyst, gender specialist. Mariame has worked with national and international institutions for conception, implementation, monitoring and evaluation of development projects, with interest on gender issues. ([http://www.aatf-africa.org/board\\_of\\_trustees/Maiga\\_profile](http://www.aatf-africa.org/board_of_trustees/Maiga_profile))



## Staff Appointments

### New Staff Members



**Abu Umaru** joined the AATF's office in Abuja, Nigeria, as the Administration and Project Communications Officer on

1 February 2010. He supports communication efforts and provides general administration in the Abuja office.



**Caroline Thande** joined AATF on 1 February 2010 as the Administrative Assistant for the Water Efficient Maize for Africa (WEMA) project.

### Short Term Assistants



**Nana Ouko** has been engaged on a short term contract in the Legal Counsel's office to support documents organisation.



**William Mburu** has been engaged on a short term contract as an Accounts Assistant to support the Accounts office.

## AATF Donors to Have Observer Status at Board Meetings

AATF donors will have observer status during AATF's Board meetings in the future. This was one of the key resolutions of the Board's April meeting held in Nairobi. During that meeting, the donor representative was Luke Makubvu of the UK Department for International Development.