

# Knowledge for Development

Observatory on Science and Technology for ACP Agriculture and Rural Development



May 2008

CTA and S&T

S&T Networking

Dossiers

About

This email newsletter highlights the latest additions to the site Knowledge for Development.

## New dossier

### Nanotechnology - new dossier

<http://knowledge.cta.int/en/content/view/full/6736>

Science technology and innovation at the nano-scale (STI-NANO) is being positioned as the new frontier for driving industrial expansion and providing answers to societies' problems. This new dossier presents an overview of the development trends and potential of STI-NANO and examines the implications for ACP countries – more specifically with regard to agriculture and medicine. Prof. Ishenkumba Kahwa, professor of Supramolecular Chemistry and Head of the Department of Chemistry at the University of the West Indies presents the opportunities and reviews the prospects and challenges for ACP countries. He presents the market potential and global efforts to take advantage of the new technology to provide competitive advantage for several developed and developing countries. Dr. Anane-Fenin from the department of Physics at the University of Cape Coast, Ghana pleads for ACP countries to gain access to nanotechnology facilities and instrumentation for researchers both in academia and industry. Both lead articles discuss the potential of STI for ACP countries and the need for ACP countries to invest in STI-NANO research and development and build alliances; south-south, south-north and south-north-south development strategies' to ensure that they contribute to the evolving knowledge pool and using science for socio-economic development. Links to related websites and publications complement the lead articles and provide interesting background information in this challenging field of nanoscience and nanotechnology.

### Reshaping Tertiary Agricultural Education

<http://knowledge.cta.int/fr/content/view/full/6315>

The very popular dossier 'Reshaping tertiary agricultural education' is now also available in French.

## CTA

CTA, ATPS, FARA, NEPAD and Ruforum jointly organize two competitions, one for young professionals in science and one for women in science.

### Young professionals in science competition (deadline 15 August 2008)

<http://knowledge.cta.int/en/content/view/full/6929>

This competition is open to all young professionals (18-35 years) in sub-Saharan Africa (SSA). It seeks to promote scientific excellence and recognize and reward outstanding young professionals who are undertaking innovative research, technology development or agriculture related activities and communicating the outputs (knowledge, technologies and approaches) to improve agricultural performance in SSA. Entries can include any science, technology and innovation (ST&I) related activity undertaken within the last five years that shows measurable impact (potential or demonstrated) on agricultural development or rural livelihoods of African communities. Detailed guidelines are available on the website.

### Women in science competition (deadline 15 August 2008)

<http://knowledge.cta.int/en/content/view/full/6953>

This competition seeks to identify and recognize women scientists in sub-Saharan Africa (SSA) who are engaged in innovative and pioneering research and communicating the outputs (knowledge, technologies, approaches) for enhancing agricultural performance in SSA. It also targets women who are repackaging and communicating existing knowledge to improve agricultural productivity and livelihoods of rural communities and those who are advocating for policy change to optimize the benefits of scientific and technological developments are also targeted. Entries should include gender responsive strategies that incorporate a strong element of communication and outreach. Detailed guidelines are available on the website.

### CTA annual seminar 2008 (call for papers: deadline abstracts is 15 June 2008)

<http://knowledge.cta.int/en/content/view/full/6933>

CTA is organizing an international seminar on the implications of global climate change for sustainable agricultural production systems in ACP countries. The conference will bring together 200 participants from the six ACP regions, national institutions from EU countries, and regional and international organizations. The overall objective of the seminar is to contribute to improving the livelihood and food security of rural communities in the various agro-ecological zones of ACP countries. Detailed guidelines for the preparation of papers are available on the website.

## Developments

### Education 'top priority' for new AU commissioner

<http://knowledge.cta.int/en/content/view/full/6962>

The new African Union (AU) commissioner for science and technology, Jean-Pierre Onvéhoun Ezin, has put education firmly at the top of his agenda. In an interview with SciDev.Net, Ezin said he plans to implement a controversial decision — made at the African Ministerial Conference on Science and Technology (AMCOST) in Kenya last November — to include education in the proposed intergovernmental African Science and Innovation Fund (ASIF). Source: Scidev, 22 May 2008

### **Food crisis: political will needed for scientific solutions to reach African farmers**

<http://knowledge.cta.int/en/content/view/full/6961>

Political will, more than genetically modified (GM) crops, is now needed to move available scientific and technological solutions to African farmers' fields, said Papa Abdoulaye Seck, director general of the Africa Rice Center (WARDA) in a recent press interview. He commented that it is possible to increase African crop yields significantly, without high costs. Studies by the Africa Rice Center and its partners have shown that yield gains from 1–2 tonnes per hectare can be obtained in irrigated systems and lowlands thanks to the use of integrated crop management practices without any significant increase in production costs. Source: African Science News Service, 8 May 2008.

### **Global food crisis increases investor interest in African agriculture**

<http://knowledge.cta.int/en/content/view/full/6960>

As the prices of raw materials soar – from the barley used to make beer or the cocoa used to make chocolate – leading brewers and food manufacturers from Cadbury Schweppes to Diageo are increasingly recognising their businesses will benefit from investment in agriculture in Africa. Mark Lundy of CGIAR claims food producers can no longer afford to ignore farmers. Last month, Barry Callebaut, the Swiss group that claims to be the world's biggest maker of chocolate, bought a 49% stake in Biolands, an exporter of organic cocoa based in Tanzania. Biolands runs a smallholder programme involving 20,000 farmers, paying farmers for delivering beans. It also trains them and gives them seeds. Source: Financial Times, 8 May 2008.

### **World Bank Climbs Down On Markets**

<http://knowledge.cta.int/en/content/view/full/6959>

The World Bank has admitted that its push for a market-oriented approach to agricultural development in the developing world has failed, and is now calling for renewed state intervention. This admission marks a radical abandonment of the Bank's 25-year campaign of foisting the deeply controversial and unpopular structural adjustment programmes (SAPs) on African countries that are blamed for entrenchment of massive poverty in most of these nations. Source: John Mbaria, The East African (Nairobi), 5 May 2008.

### **Climate change and biofuels to cause further hunger in Africa say IIASA experts**

<http://knowledge.cta.int/en/content/view/full/6658>

Climate change is expected to cause significant declines in crop and pasture production in over a third of the countries in Sub-Saharan Africa according to new research from the International Institute for Applied Systems Analysis (IIASA) presented at the UN Commission on Sustainable Development in New York. Many of the affected countries are already food insecure and poor, with low capacity to finance food imports, and their situation has been worsened substantially by inadequate and uncoordinated policies toward tackling climate change, namely using crop land to grow biofuels with environmental risks and only modest greenhouse gas benefits. The current biofuel policies have put many developing countries on the brink of a food crisis. And the tragedy is that the worst of food insecurity is yet to come due to climate change in the 21st century. Source: Checkbiotech, 9 May 2008.

### **Biofuels are no threat to African food security**

<http://knowledge.cta.int/en/content/view/full/6957>

Senegalese experts say that biofuel production in Africa is not a threat to their country's food security, echoing a call for more jatropha production from Nigeria. The global food crisis is directly linked to maize, sugarcane, cassava and to some extent sorghum conversion to ethanol for biofuel because these are direct food items to a large number of the world population. However, Jatropha can grow in areas of both low and high rainfall and on poor soils and has a life span of 30–50 years. In Nigeria, experts insist jatropha does not endanger food crops because it does not compete with food crops for arable land. Source: African News Network, 8 May 2008.

### **Affordable biofuels impossible without plant genetic engineering**

<http://knowledge.cta.int/en/content/view/full/6956>

Our only chance to make biofuel production affordable is to use plant genetic engineering, according to an article in Nature Reviews Genetics. Biofuels are generated by releasing the energy stored in plant cell walls. Unfortunately, this process involves enzymes that are produced from microbes at great expense in energy-hungry bioreactors. Genetic engineering promises to cut out this cost by getting plants to produce these enzymes within their cells, using sunlight as the source of energy. An even more important and promising route to cheaper biofuels is to genetically manipulate plants to produce more cell wall material and to make it easier to break down. Source: Checkbiotech, 12 May, 2008.

### **Through IAEA partnerships, scientists and farmers pioneer hardier, healthier wheat**

<http://knowledge.cta.int/en/content/view/full/6955>

Scientists and crop researchers at Kenya's Agricultural Research Institute (KARI) with the help of IAEA developed new wheat seeds through a process called "mutation plant breeding". Using the same process, in the past five years, in Africa alone, six new varieties of crops have been officially released - plants with higher yield, improved nutrition, and more hardy characteristics for harsh

environments. This includes new varieties of sesame in Egypt, cassava in Ghana, wheat in Kenya, banana in Sudan and finger millet and cotton in Zambia. Source: IAEA Staff Report, 29 April 2008.

### **UN Biosafety Conference agrees in principle on liability deal**

<http://knowledge.cta.int/en/content/view/full/6954>

Delegates at the Fourth Meeting of the Conference of the Parties to the Cartagena Protocol on Biosafety (COP-MOP 4) have reached a preliminary agreement on liability for environmental damage arising from the use of genetically modified (GM) crops. The accord initially provides for countries to claim compensation from those directly responsible for environmental damage or from the manufacturers of genetically modified organisms (GMOs) that cause damage. The conference, however, was unable to finalize an international legally binding agreement that identifies those who should be held liable and who should pay compensation. Source: Earth Times, 16 May 2008.

### **Events**

#### **First scientific meeting of the Global Cassava Partnership (GCP-I)**

<http://knowledge.cta.int/en/content/view/full/6963>

Dates: 21-25 July 2008

Location: Gent, Belgium

G CP-I was formed unanimously in 2003, by 45 institutions from all over the world, under the umbrella of the Global Cassava Development Strategy of IFAD/FAO. Its goals is to improve cassava productivity around the world through science and development. A short list of technologies and research themes to promote and focus research investment on cassava has been developed and forms the basis for active ongoing R&D activities on the crop worldwide.

#### **10th International symposium on the biosafety of genetically modified organisms**

<http://knowledge.cta.int/en/content/view/full/6964>

Dates: 16-21 November 2008

Location: Wellington, New Zealand

Organised by the International Society for Biosafety Research, this is a biennial event established in 1990 to showcase environmental biosafety research. The programme includes a 1-day plenary session on 'Risk assessment - state of the art', organised jointly with the Organisation for Economic Co-operation and Development (OECD).

#### **Overcoming challenges to developing sustainable agr-food systems in the tropics (call for papers)**

<http://knowledge.cta.int/en/content/view/full/6701>

Dates: 30 November 2008 - 04 December 2008

Location: Trinidad

The University of the West Indies (UWI), Faculty of Science and Agriculture (St. Augustine Campus, Trinidad) organizes an international congress on 'Overcoming challenges to developing sustainable agr-food systems in the tropics', from 30 November till 5 December 2008.

The UWI invites papers on any topic under the general theme of the Conference within the following sub themes: 'Innovation in production and post production technologies', 'Innovation in marketing and globalization issues' and 'Innovation in research education and extension'.

#### **2009 World Congress: World Agricultural Forum**

<http://knowledge.cta.int/en/content/view/full/6965>

Dates: 24-27 February 2009

Location: Kampala, Uganda

For the first time in history, the World Agricultural Forum's (WAF) 2009 World Congress will take place outside of the United States and will be hosted by the Republic of Uganda. The 2009 World Congress will conclude with the introduction of the WAF Task Force on Strategic Partnerships for Higher Education in Africa – Entrepreneurship and Community Development on February 27, 2009.

### **Selected publications**

#### **Gender and Equity Issues in Liquid Biofuels Production: Minimizing the Risks to Maximize the Opportunities**

<http://knowledge.cta.int/en/content/view/full/6968>

This paper discusses the potential gender-differentiated risks of liquid biofuels production and identify research and policy strategies to better understand and address them. The potential environmental and socio-economic risks that may arise from the establishment and operation of large-scale plantations for the production of biofuels are considered. The paper provides some specific recommendations for future research, such as conducting field-assessments to generate sex-disaggregated data for testing the hypotheses discussed in this paper. (by Andrea Rossi and Yianna Lambrou, FAO 2008).

#### **The maize seed system in Ethiopia: challenges and opportunities in drought prone areas**

<http://knowledge.cta.int/en/content/view/full/6967>

This study examines how the performance of the maize seed system in Ethiopia affects small-scale farmers' access to and use of improved maize varieties. Findings show that despite extensive varietal development by the public research system, dissemination of improved varieties to farmers remains limited. The result is a seed market characterized by limited competition, insufficient supply of seed relative to demand, limited choice in the few varieties that are available, and excessively high costs of maize seed production. (by Dawit Alemu, Wilfred Mwangi, Mandefro Nigussie and David

### **Poverty and Water: Explorations of the Reciprocal Relationship**

<http://knowledge.cta.int/en/content/view/full/6966>

This book uses a global spread of case studies to illustrate that water is not simply an issue of physical scarcity, but rather a complex and politically driven issue with profound future implications, both in the developing world and outside it. The book argues that for the international community to achieve the MDGs, governments must step in to protect the rights of the poor. Here, the links between poverty and access to clean water are explored with an eye to political reform that can end the exploitative policies of big business and help to shape a more equitable world for all. (Eds David Hemson, Kassim Kulindwa, Haakon Lein, Adolfo Mascarenhas, Zed Books, 2008)

### **Fellowships & grants**

#### **Small Grants Fund to address Gender Issues in Information and Communication Technologies for Agricultural and Rural Development in ACP Countries**

<http://knowledge.cta.int/en/content/view/full/6971>

CTA, IDRC, Hivos, IICD, and APC are inviting applications for the third round of the GenARDIS small grants programme. The third phase of GenARDIS grants involves a deeper focus on capacity-building, knowledge-sharing and policy outputs. It aims to sustain and deepen the integration of gender perspectives into rural development and ICT4D initiatives, taking into account developments such as web 2.0 in agriculture and rural development and Free and Open Source Software solutions (FOSS). The deadline for receipt of applications is 2 June 2008. Proposals can be submitted in English and French. 15 grants @ Euro 7,000 each.

#### **Rothamsted international fellowship scheme: African fellows program**

<http://knowledge.cta.int/en/content/view/full/6970>

The purpose of the programme is to assist in capacity building, institutional strengthening and knowledge transfer in order to find relevant solutions to the problems of achieving sustainable agricultural production, as well as improving rural development and conservation of biodiversity. The development of effective partnerships is fundamental to ensuring the success of the programme in order to build long-term strategic alliances. The deadline for pre-proposals is 5pm Wednesday 6th August 2008.

#### **Open Society Fellowships**

<http://knowledge.cta.int/en/content/view/full/6969>

The Open Society Fellowship supports outstanding individuals from around the world. The fellowship enables innovative professionals – including journalists, activists, academics, and practitioners – to work on projects that inspire meaningful public debate, shape public policy, and generate intellectual ferment within the Open Society Institute.

### **S&T organizations and initiatives highlighted**

#### **Climate Change Adaptation in Africa (CCAA)**

<http://knowledge.cta.int/en/content/view/full/6647>

The Climate Change Adaptation in Africa (CCAA) research and capacity development program aims to improve the capacity of African countries to adapt to climate change in ways that benefit the most vulnerable. Building on existing initiatives and past experience, the CCAA program works to establish a self-sustained skilled body of expertise in Africa to enhance the ability of African countries to adapt.

#### **Caribbean Community Climate Change Centre**

<http://knowledge.cta.int/en/content/view/full/6972>

The Caribbean Community Climate Change Centre coordinates the Caribbean region's response to climate change. Officially opened in August 2005, the Centre is the key node for information on climate change issues and on the region's response to managing and adapting to climate change in the Caribbean.

#### **AP-Net**

<http://knowledge.cta.int/en/content/view/full/2645>

AP-Net is a knowledge-based on-line clearing house for Asia-Pacific region on climate change issues; provides platform for policy dialogues and consultation within the region and access to latest information and data on climate change issues and developments focusing on the Asia-Pacific; and supports capacity building for developing countries in the region.

#### **Pacific Institute: Climate impacts and adaptation initiative**

<http://knowledge.cta.int/en/content/view/full/6974>

The Climate impacts and adaptation initiative addresses the challenge of understanding and adapting to unavoidable impacts of climate change. Research is focused on water supply and the impacts of climate change; water and climate change bibliography; and climate and international security.

leave-cta-news@xxx.com

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