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New dossier and feature articles

RESEARCH COLLABORATION IN A GLOBALISED WORLD

The nature of research collaboration is changing and becoming increasingly complex as increasing attention is given to strengthening South-South and public-private research collaboration, and attention is paid to the evolution and changing dynamics in North-South partnerships. Research collaboration has clear benefits, but can be stymied by inadequate and unbalanced funding as well as ethical, trust and coordination issues, especially in cases where multiple linkages require cooperation across various disciplines and among several actors, areas of government as well as across different countries. In this new K4D dossier, two lead articles and a range of documents and links provide insights and highlight good practice for building research collaboration and strengthening networking for addressing complex challenges which confront societies in a globalized world.

Commissioned by CTA. Edited by CABI, KIT and CTA.

Click to explore the new dossier on our website.

European partnerships for demand-led agricultural research and capacity development: the case of Africa

Tim Chancellor, Michael Hauser, and Paolo Sarfatti, European Alliance on Agricultural Knowledge for Development (AGRINATURA)

Tim Chancellor, Michael Hauser, and Paolo Sarfatti describe the experience of European strategic partnerships with agricultural research and development organisations especially in sub-Saharan Africa. These partnerships have been developed to address joint research and capacity-building priorities and emerging agricultural issues. The article highlights the practicalities of effective collaborations, and the increasing role of building research partnerships with farmers' organisations in ensuring that research is focused on local needs and delivers greater impact on the ground.

Click to read the article.

Partnerships in agricultural innovation systems: an African researcher's perspective

Moses Osiru, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Bamako, Mali

Moses Osiru notes the issues governing partnership with African agricultural scientists who must engage with multiple actors, in the generation, diffusion, adoption and adaptation of knowledge. He explores the difficulties researchers in Africa have in developing and sustaining balanced partnerships given the lack of reliable sources of long-term funding. He calls on African governments and financial institutions working in collaboration with development partners to contribute to strengthening north-south and south-south partnerships through targeted programmes and favourable funding mechanisms that allow African institutions to build capacity and negotiate for greater leverage in areas where they have comparative advantage.

Click to read the article.

Research collaboration: selected resources

What avenues for enhanced Africa-EU collaboration on research and innovation?

The JAES (Joint Africa and Europe Strategy) Support Mechanism for the Africa EU Partnership suggested the following:

1. Technology and Innovation should be factored into other Africa-EU initiatives such as higher education and mobility (Pan-African University), infrastructure (i.e. Programme for Infrastructure Development in Africa), internet access (AfricaConnect) and agriculture (CAADP);
2. Encourage governments to invest in R&D and in STI: the inter-continental partnership enables governments, private sector and research institutions to identify specific interventions of mutual interest for national-level action;
3. Enhance the role of the private sector: essential for transforming STI investments into concrete gains;
4. Apply the principles of win-win: the Africa-EU partnership involves common interests and mutual obligations ;
5. Act in areas of comparative advantage: African and European actors have complementary assets that can optimise joint STI initiatives.

The 2014-2017 JAES roadmap, developed during the fourth EU-Africa Summit on 2-3 April 2014 was released recently. Five priority areas and a number of actions at inter-regional, continental or global levels were identified for implementation of the Joint Strategy. In the priority area 3 'Human Development': two of the key areas for cooperation are *inter alia* (a) Science, technology and innovation; and (b) Higher education. Agriculture, food security and food safety are identified under priority area 4, 'Sustainable and inclusive development'. Climate change and environment which include sustainable land management, and biodiversity issues (including resilient ecosystems and green growth and innovation) are captured in priority area 5, 'Global and emerging issues'.
(Africa EU Partnership, 2013)

The changing approach towards developing countries in international STI cooperation

Science, technology and innovation (STI) and international research cooperation used to be regarded as a knowledge flow from North to South. This study examined the change in the Dutch researcher and policy approach to STI cooperation with developing countries. Through his literature review and case studies, Steinz reveals a changing approach. At the Dutch policy level there is a clear tendency towards Top Sector policy, with a focus on the Dutch benefits of the cooperation and private party participation. At the researcher level the changes in approach are more dependent on developments in the partner countries. Over the years 2000-2012, Indonesia and China have gone through significant economical and scientific developments, making capacity building less relevant and flows of funding more even. As Africa remains less developed, cooperation with African partners is still characterised by inequalities in capacities, resources and funding.
(Henk Steinz, Master Thesis, University of Utrecht, Netherlands, 2012)

S&T collaboration in developing countries: Lessons from Brazilian collaboration activities with South Korea

This paper shows how science and technology collaborations between Brazil and Korea have developed over the past two decades, stressing differences between initiation and the actual establishment of collaborative research at national and individual levels, in the focus areas of research, in resources and project planning, and the nature of collaborations. Collaborative research activities and research foci were initiated nationally before individual efforts and individual collaborations focused on different areas. Project types remained different at each level (i.e. top-down and bottom-up) or with a slightly changing mix. This study suggests appropriate policy measures that could reduce the gaps in the timing and alignment of research areas.
(*Science Technology and Innovation Policy Review* 3(2), 92-110, 2012)

Drivers of international collaboration in research

International research collaboration (IRC) is getting increased policy attention in all countries. There is a 'narrow paradigm' (stemming from the dynamics of science and research) and a 'broader paradigm' (stemming from additional policy objectives that use science, technology and innovation) to achieve wider economic and social goals through collaboration. IRC policies and programmes that combine various policy drivers usually have indistinct goals that are hard to measure. While policy makers and research funders apply many assumptions about how IRC affects policy goals, these are rarely specified. In the 'broad paradigm', the causal relationships between goals and programmes cannot be established. Given the variety of actors, drivers, and national starting position relating to IRC and the parallel use of bottom-up and more top-down strategies, a coherent evaluation and indicator framework will be difficult. However, a necessary first step would be a 'bottom-line' framework as well as 'narrow' paradigm key indicators.
(European Commission, 2009)

ERAfrica

ERAfrica is a relatively new EU project aiming at promoting a unified European approach to collaborating with Africa in the field of science and technology, research for innovation and sustainable development. Funded by the EC for an amount of almost 2 million Euros, ERAfrica unites France, Germany, Belgium, Spain, Portugal, Finland and Austria of the EU, Switzerland and Turkey, and South Africa, Kenya and Egypt from Africa in a core consortium built around a mutual recognition of the value of unifying efforts to strengthen intercontinental research collaboration and promotion.
(ERAfrica , 2014)

Find more resources in the new dossier on our website.

CTA and S&T policy

Analysis of the impact of research cooperation on food security between Europe and sub-Saharan Africa

This survey forms part of Work package 1 of the 7th framework programme CAAST-Net Plus project 'Advancing SSA-EU cooperation in research and innovation for global challenges' (www.caast-net-plus.org/). The aim of Work package 1 is to contribute to strengthening the research and innovation cooperation between Europe and Sub-Saharan Africa for addressing the global food security challenge. The main objective is to provide a knowledge base for the elaboration of a food and nutrition security platform to address Europe-Africa joint ST&I priorities for achieving improved FNS outcomes. The survey is being undertaken by the Technical Centre for Agricultural and Rural Cooperation ACP¬EU (CTA).

Find the survey on our website.

Update on the Caribbean Science and Agriculture Film and Video Competition: 'Adding Value to Local Foods'

In October 2013, CTA, in collaboration with the Caribbean Council for Science and Technology (CCST), the Caribbean Agricultural Research and Development Institute (CARDI), the University of the West Indies (UWI), Columbus Communications Trinidad Limited (FLOW Trinidad) and the Trinidad & Tobago Film Company, launched the second Caribbean Science and Agriculture Film and Video Competition '**Adding Value to Local Foods**'. This thematic focus responds to the Caribbean food and nutrition policy priorities on food availability and utilisation which emphasise promotion of the sustainable production, commercialisation and consumption of safe, affordable, nutritious quality food commodities produced in the Caribbean. The competition encourages creative, technology savvy young professionals (age 18-35 years) with a passion for communicating ideas and an interest in leveraging science and technology for agricultural and economic development to participate. Eighty-four (84) entries were received from 12 countries; Barbados, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Vincent & the Grenadines, St. Kitts, St. Lucia, Suriname, the Bahamas, and Trinidad and Tobago.

The dominant theme selected by entrants was; 'Promoting the benefits of local foods', followed by 'Processing option' and 'Consumer/market driven approaches'. Following the evaluation by an expert panel, sixty (60) teams were selected to participate in a hands-on customised training workshop in film and animation that was held in Port of Spain, Trinidad from 7 to 11 April 2014.

Next steps: Each team will be assigned two mentors; a scientist and an expert in film and video production who will oversee the final production of films and videos for showcasing during the competition finals. The deadline date for submission of videos is 1 July 2014. All of the films and videos will be broadcast online over a four week period. Winners will be chosen by online audiences as well as a jury of scientists and filmmakers.

Click this link to browse through the photos of the latest training workshop. Find more information on our website, the competition's website and the competition's Facebook page.

CTA Top 20 Agricultural Innovations for Smallholder Farmers – First expert meeting

In December 2013, CTA launched the call for the 'CTA Top 20 innovations for smallholder farmers' and received 251 submissions. Key statistics based on pre-screening of submissions received are as follows: 49 countries; five intervention categories – production (123; 49%), extension (45; 18%), post harvest (27; 11%), expanding market options/ new products (24; 9%), land and water management (14; 6%) and miscellaneous (18; 7%). According to the types of innovation (social, technological, institutional, process) submissions received; 79 were farmer-led, 70 were research-led; 42 were university-led; 19 were private-sector led; 6 were government / ministry-led and three were from private persons. 75 submissions made it past the initial screening which was undertaken by CTA in consultation with a independent consultant.
During the first expert meeting on 28-30 April, CTA staff in consultation with an team of experts from Africa, Caribbean and the Pacific representing research, academia, extension and farmers, selected 30-40 innovations which will be further evaluated by farmers from across the ACP region. The final Top 20 will be endorsed by a high-level panel of international experts (scientists/academicians, extension agents and farmers) and published in various formats for wide-scale dissemination.

Find more information on our website.

Focus on extension policy

Extension is a key service in supporting countries to respond to the challenges of food insecurity, building resilience in agricultural systems under a changing climate and improving prosperity in the agricultural and rural sectors. In this issue, we feature selected policy papers that were published on the recently released Extension CD-ROM Proceedings. These papers authored by H.B. Corrêa da Silva, Brazil; V. Hoffmann, Germany; N. Roling and D. Hounkonnou, the Netherlands and

Benin and O.I. Oladele, Nigeria, provide useful insights for charting future extension policy in developing countries.

Innovations In Extension And Advisory Services For Alleviating Poverty And Hunger: Lessons From Brazil

H.B. Corrêa da Silva, Brazil

After being neglected for over a decade, in 2003, the Brazilian rural extension services were once again included among the national government's priorities. The introduction of a national policy and increased public funding contributed to reviving these services for addressing family farming and sustainable rural development. Partnership between national and state governments, and family-farmer organisations and social movements became the pillars of a decentralised and pluralistic extension system, which includes participatory governance and governmental and non-governmental organisations. This was consolidated by a new federal law, which introduced a demand-orientated funding mechanism for extension services. The remarkable growth of policies fostering social inclusion, food and nutritional security, and income generation stretched the extension services far beyond their capacity. New links between extension and research facilitated extension agents' and family farmers' access to technological innovations. In addition, the training of extension agents emphasises vanguard concepts and approaches – such as participatory methods, capacity-building, sustainable agriculture, the value chain and non-farming activities – tailored to the diversity of family farming. Rural extension in Brazil faces the challenge of increasing its capacity to respond to the demand of public policies and family farmers, while evaluating its quality, cost-effectiveness, sustainability and impact.

Governmental Extension Services, their Generic Problems and Potential Solutions

V. Hoffmann, Germany

Governments should not directly engage in production or services, which are better performed by private agencies. Sometimes it may be appropriate for a government to own or hold shares in private companies. In extension, government responsibilities should focus, in the long-term, on issues of public interest, with public funding and private implementation. Advisory work for private clients should be implemented by the private agencies and paid for by their clients.
Governments should create an enabling environment for private sector initiatives, for instance provide and maintain the necessary infrastructure, support knowledge systems, and establish and maintain political stability and continuity and legal and physical security. The core business of governments is to develop beneficial policies and to implement them through an efficient and reliable administration.

Innovation Systems and Institutional Change

N. Roling and D. Hounkonnou

Moderate intensification of African smallholder farming would improve food security and reduce rural poverty on the continent. It would mobilize the substantial underutilized human and natural resources under smallholder management for global food security. The pathways are controversial, which has its roots in the history of the phenomenal productivity growth in industrial agriculture, especially the US since the 1940s. This growth has commonly been attributed to investment in science-based technology and its promotion through extension. However, careful analysis shows that a system of interlocking institutions that enabled farm development was in place well before the growth took off. Based on international literature, preliminary experiences in research programme in three West African countries, and on the disappointing impact of agricultural research on African farm innovation, Röling and Houngkonnou argue that institutional change demands rethinking the pathways to innovation so as to acknowledge the role of rules, distribution of power and wealth, interaction and positions. The time is opportune: climate change, food insecurity, high food prices and concomitant riots are turning national food production into a political issue for many African leaders.
Röling and Houngkonnou present innovation systems as an approach to institutional change based on learning, new patterns of interaction and new configurations of key actors. They argue that institutions should be embedded in local history and contexts and must emerge from them and that extension could more usefully be deployed to facilitate innovation system dynamics that accompany investment in stakeholder interaction than for promoting technology only.

Agricultural Extension Policy: The Missing Link In Innovations In Extension And Advisory Services

O.I. Oladele, Nigeria

In this paper Oladele analyses the features of agricultural extension models and policies in 27 sub-Saharan African (SSA) countries. He bases his analysis on the premise that extension policy in SSA cannot be isolated from the extension models that are used in these countries and argues that a major problem in organising agricultural extension in developing countries is the absence of legal and policy frameworks for providing these services. Putting such frameworks in place is a basic and indispensable way of supporting extension in developing countries. It will help streamline the confusion currently existing around the effort to transfer agricultural knowledge to farmers, particularly in the areas of service provision, programme development and funding. Results from Oladele's analysis show that pluralistic extension systems dominate the extension and advisory landscape of many SSA countries. Of the 27 countries covered in his study, only two have a legislated extension policy and such policies tend to favour well-organised and financially stable extension systems that have sustained effectiveness and a cumulative impact. Oladele recommends that SSA countries adopt the legislated extension policies option to improve extension service delivery and to reduce contradictions in extension models.

Browse through the publications of the Extension Conference.

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Evidence for improving policy and practice

Towards a globalized diet: more food, less diversity, more associated risks

knowledge.cta.int/en/content/view/full/22478

This comprehensive study by Colin Khoury of the International Center for Tropical Agriculture (CIAT) and co-authors from related research institutes provides evidence of change in the relative importance of different crop plants in national food supplies worldwide over the past 50 years. This study of the global food supply thoroughly documents and confirms for the first time what experts have long suspected: over the last five decades, human diets around the world have grown ever more similar – by a global average of 36 % – and the trend shows no signs of slowing, with major consequences for human nutrition and global food security. The study suggests that growing reliance on a few food crops may also accelerate the worldwide rise in obesity, heart disease and diabetes, which are strongly affected by dietary change and have become major health problems. Many crops of considerable regional importance – including cereals like sorghum, millets and rye, as well as root crops such as sweet potato, cassava and yam – have lost ground. Many other locally significant grain and vegetable crops – for which globally comparable data are not available – have suffered the same fate. Another danger of a more homogeneous global food basket is that it makes agriculture more vulnerable to major threats like drought, insect pests and diseases, which are likely to become worse in many parts of the world as a result of climate change.

Editor's note – Can the research and policy communities afford not to consider the globalisation of diets and the reliance on fewer crops in more depth? The implications for the future of food and nutrition security are far reaching, both for the economies and natural environment. Similar research effort should be extended to livestock – see for example Patterson's article. A few weeks ago I read that Chinese researchers have begun to consider the implications for food and farming of the loss of indigenous genetic resources which are more resilient.
Press release; CIAT; Round-up; Article.
(CIAT, 29/01/2014)

Sorghum and finger millet agricultural innovations

knowledge.cta.int/en/content/view/full/22472

Bio-Innovate Africa launched a multi-national research consortium aiming to develop more productive sorghum and finger millet cultivars. The project proposes an approach that will employ both upstream and downstream technologies to enable development of new tools for improvement of sorghum and finger millet productivity leading to the adoption of improved, disease- and drought- tolerant sorghum and finger millet varieties by the smallholder famers. The project will employ diverse research approaches ranging from comparative genomic tools to field experiments and participatory on-farm activities.
(Bio-Innovate, 2014)

What difference has CAADP made to Tanzanian agriculture?

knowledge.cta.int/en/content/view/full/22463

Brian Cooksey of the Future Agricultures Consortium (secretariat at IDS, Sussex, UK) examined the impact of the Comprehensive African Agriculture Development Programme (CAADP) on Tanzania's agricultural sector. In this paper he discusses how CAADP relates to national and regional policy initiatives (including the country's Agriculture and Food Security Investment Plan, the Southern Agricultural Growth Corridor of Tanzania, and the New Alliance for Food Security and Nutrition) and their governance; the possible impacts of CAADP on spending on agriculture in the country; and the extent of the influence and inclusion of civil society organisations on agricultural policy processes. The author concludes that CAADP-related agricultural expenditure was minimal, regressed after recent elections, and left out agricultural research activities in the country.
(Future Agricultures Consortium, 11/2013)

African Science, Technology and Innovation Indicators (ASTII) Initiative series, Policy Brief No. 3, December 2013

knowledge.cta.int/en/content/view/full/22249

The African Science, Technology and Innovation Indicators (ASTII) Initiative was launched in 2007 by the New Partnership for Africa's Development (NEPAD) as one of the programme areas of Africa's Science and Technology Consolidated Plan of Action (CPA). The ASTII Initiative supports both evidence-based STI policy formulation and review; enhances regional cooperation and collaboration on S&T and innovation activities or programmes; strengthens Africa's human and institutional capacities for STI indicators and related surveys; contributes to the production of reliable African STI indicators and related data sets available and in use. Under ASTII participating countries undertake R&D and Innovation surveys to produce the data needed to compile indicators on the status of STI.
This Policy Brief shows that ASTII has stimulated AU member states to start conducting R&D and innovation surveys and to build national capacities to inform STI policy formulation and review. However, AU members states are hampered by a number of challenges in their efforts to transition their economies, and these include the limited resources of the responsible bodies to collect and analyse data from R & D and Innovation surveys at national level.
Find the ASTII and AOSTI policy briefs on our website. Also available is the latest (March 2014) issue of the '*African Innovation Outlook*' gives an assessment of the scientific productivity (2005 – 2010) of African countries participating in the ASTII project.

New Pathways to Innovation

knowledge.cta.int/en/content/view/full/22457

This publication by Convergence of Sciences (CoS) documents some of the outcomes of its programme Strengthening agricultural innovations systems (SIS) in Benin, Ghana and Mali and its approaches and methods in enabling successful sustainable business opportunities for smallholders. Rather than focusing on technical innovations, CoS-SIS helps national, sub-regional and African agricultural research organisations, NGOs, universities and other public and private sector agencies, to strengthen and harmonise their programmes by identifying 'scientific' synergies. Most notably, CoS-SIS supports university curriculum development and informs decision makers at district and national levels about ways to encourage smallholder innovation. The bilingual booklet details such efforts in sectors like cotton, rice, shea butter, palm oil, cocoa, crop-livestock systems, and water management.

(CoS-SIS, 2013)

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Climate Change 2014: Impacts, Adaptation, and Vulnerability

knowledge.cta.int/en/content/view/full/22451

The IPCC published its Fifth Assessment Report (AR5) on 31 March 2014. The Panel's scientists have revised estimates, pointing to significant losses with a temperature rise of just two degrees Celsius in food producing regions. In previous reports, only a rise by three to four degrees Celsius was thought to have a significant impact on agricultural production. The changes in scientists' estimates of how climate change will affect agriculture are some of the most remarkable in the report. AR5, looking at the major food crops of corn, wheat, and rice, says that yields are likely to start decreasing by 2030 and decline up to 2% a decade (climate change seems to be affecting crops already, but so far this has been offset by improvements in crop yield). Sections of the report relevant to agriculture can be found under the section 'Global and sectoral aspects' and there is a special chapter (Chapter 7) on food security and food production systems.
(IPCC, 31/03/2014)

The Economics of Climate Change in the Pacific

knowledge.cta.int/en/content/view/full/22445

The Asian Development Bank identifies in this comprehensive report the effects and quantifies the costs of the adverse outcomes of climate change to the Pacific island economies, with details provided for selected key sectors including agriculture, fisheries, tourism, coral reefs, and human health. It presents policy recommendations and action steps for the countries to minimise or mitigate these impacts. Some of the report's findings include the following: the combination and interaction of geographic, economic, environmental, and demographic factors are expected to make the Pacific region particularly sensitive to climate change; mainstreaming climate change actions in development planning is crucial to minimise the impacts of climate change; an adaptation strategy is key to addressing the multitude of climate change impacts. This publication is available for a fee as well as free download.
(ADB, 11/2013)

Managing drought risk in a changing climate: The role of national drought policy

knowledge.cta.int/en/content/view/full/22433

In this open-access article in *Weather and Climate Extremes*, Donald A. Wilhite, at the School of Natural Resources, University of Nebraska, USA, and colleagues address the growing worldwide concern about the ineffectiveness of current drought management practices. Most in-country policy and practices related to drought management are based on the principles of crisis management, resulting in the 'reactive' treatment of the 'symptoms' of drought. The authors argue that a comprehensive drought management plan must address the causes for the vulnerabilities associated with this type of extreme climatic event. They further show that through the adoption of national drought policies that are focused on risk reduction and complemented by drought mitigation or preparedness plans at various levels of government, the coping capacity of nations to manage droughts can be improved. In their paper they discuss the underlying concepts of drought, the principles and objectives of national drought policies and a drought planning process that has been effective in the preparation of drought mitigation plans.
(*Weather and Climate Extremes*, 18/03/2014)

Farming system evolution and adaptive capacity: insights for adaptation support

knowledge.cta.int/en/content/view/full/22427

Jami Dixon and colleagues at the School of Earth and Environment (University of Leeds, UK) investigate how historical (climatic, economic) trends have influenced farming system adaptive capacity in Uganda. By comparing two farming systems, they note three major findings: (1) similar trends in farming system evolution have had different impacts on the diversity of farming systems; (2) trends have contributed to the erosion of informal social and cultural institutions and an increasing dependence on formal institutions; and (3) trade-offs between components of adaptive capacity are made at

the farm-scale, thus influencing farming system adaptive capacity. To identify the actual impacts of future climate change and variability, the authors highlight the importance to recognise the dynamic nature of adaptation. In practice, areas identified for further adaptation support include: shift away from one-size-fits-all approach; the identification and integration of appropriate modern farming method; a greater focus on building inclusive formal and informal institutions; and a more nuanced understanding regarding the roles and decision-making processes of influential, but external, actors. More research is needed to understand farm-scale trade-offs and the resulting impacts across spatial and temporal scales.
(*Resources*, 27/02/2014)

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Indigenous perceptions of soil erosion, adaptations and livelihood implications: the case of maize farmers in Northern Ghana

knowledge.cta.int/en/content/view/full/22418

Francis Issahaku Malongza Bukari, at the University of Development Studies in Ghana, investigated the nature of soil erosion on maize farms, the effects of soil erosion on maize crop farmers and the effectiveness of local control measures on output levels and the livelihoods of the farmers. The study revealed that the major effects of soil erosion were found to be the loss of fertile soils, reduction in the cultivable land area, the reduction in the crop yield and a fall in the living standards of farmers' households. Adaptive strategies to reduce the effects of soil erosion included shifting cultivation, ridging across slopes, planting on raised mounds and avoidance of deep ploughing. Farmers who successfully applied traditional soil protection methods improved their output levels per land area and the standards of living of their families. The author recommends that modern agricultural extension services should complement, and not replace, the local knowledge systems in order to ensure sustainability in this farming region.
(*Journal of Natural Resources and Development*, 07/10/2013)

The use of indigenous ecological resources for pest control in Africa

knowledge.cta.int/en/content/view/full/22406

David Grzywacz of the Natural Resource Institute (University of Greenwich, UK) and colleagues investigated two examples of crop protection practices in Africa that harness locally available biological resources. The researchers examined the use of the pesticidal plant *Tephrosia vogelii*, and the harvesting of the endemic insect virus *Spodoptera exempta* (SpexNPV). Both of these can be produced locally and have shown promise in trials as inexpensive and effective tools for pest control. Their use is currently being scaled up and evaluated by researchers on the continent. This focus on these unconventional crop protection systems illustrates the need to explore further the potential of locally-available natural resources to replace expensive imported agricultural inputs. The authors of the paper argue that the countries' regulatory environment must evolve to facilitate the registration of new products and the establishment of supply chains that benefit the local producers and help them improve upon the production methods.
(*Food Security*, 02/2014)

Knowledge management for improving policy and practice

Towards improved soil information for quantification of environmental, societal and economic sustainability

knowledge.cta.int/en/content/view/full/22400

International Soil Reference and Information Centre (ISRIC – World Soil Information, Wageningen) has recently published this large report in which information needs for soil data at an increasingly fine spatial resolution are being discussed. The need for appropriately scaled, consistent and quality assessed soil information in support of studies of food productivity, soil and water management, soil carbon dynamics and greenhouse gas emissions, and the reduction or avoidance of land degradation are first discussed. Soil variables considered most critical for current and likely future model-based assessments are identified and new cost effective measurement methods that may reduce the need for conventional laboratory methods are evaluated. The status and prospects for improving the accuracy of soil property maps

and tabular information at increasingly detailed scales (finer resolution) for the world is addressed. The scope for collecting large amounts of site specific and project specific soil information, possibly through crowd-sourcing and consistently storing screening and analysing such data are discussed within the context of ISRCI's emerging Global Soil Information Facility (GSIF), together with the possible institutional implications.
GSIF-related activities are currently being embedded in global initiatives Such as the FAO-led Global Soil Partnership (GSP), GlobalSoilMap.net, the ICSU World Data System, and the Global Earth Observation System of Systems (GEOSS) that promote participatory approaches to data sharing. In order to consolidate its world information services, ISRIC is collaborating with national institutes and international organisation with a mandate for soil resource inventories.
(ISRIC, 05/2013)

Regional survey of inland fisheries in the UEMOA

knowledge.cta.int/en/content/view/full/22394

UEMOA (Union économique et monétaire ouest-africaine; West African Economic and Monetary Union) with the help of the consortium led by the IRD, France, has compiled the results of a regional survey on inland fisheries in eight member states and made them accessible via an online web atlas. This portal offers up-to-date documentation and statistics on inland fisheries capacity, exploitation, services and value chains for each one of the countries. Reviews, data and national and regional analysis on the topic of inland fisheries and aquaculture can also be downloaded from the website. Statistical data especially is useful for decision makers looking to compare and learn from the fisheries and aquaculture sectors in neighbouring countries.
(UEMOA, 2013)

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The Grenadines Marine Resource and Space-use Information System (MarSIS)

knowledge.cta.int/en/content/view/full/22388

The Grenadines Marine Resource Space-use Information System (MarSIS) is a project of the Centre for resource management and environmental studies of the University of the West Indies, Barbados. MarSIS brings together a variety of social, economic and environmental information drawn from both scientific and local knowledge into a single information system. The system has been created to integrate a wide range of marine-based knowledge and provide people with a more complete information base for coastal marine planning and management. MarSIS will be used to identify critical fishery habitats (essential fish habitats, nursery areas, endangered species); areas of high biodiversity; important marine ecosystems (mangrove, sea grass, coral reefs); areas of high cultural and recreational importance; areas important for fishing, marine-based tourism, yachting and shipping; areas of land-based sources of pollution, human threat and potential space-use conflict.
(MarSIS, 2014)

WECAFC issues recommendations on grouper, snapper and queen conch

knowledge.cta.int/en/content/view/full/22382

The Western Central Atlantic Fishery Commission (WECAFC) adopted management recommendations on queen conch (large-sized sea snails) and spawning aggregations of grouper and snapper at its 15th biennial session in March 2014. To address the decline or disappearance of spawning aggregations of grouper and snapper in the Caribbean, the Commission recommended a regional seasonal closure for all commercial and recreational fishing activities of Nassau grouper (*Epinephelus striatus*). All identified spawning areas in the region will be closed between 1 December and 31 March, beginning in December 2014. The Commission recommended WECAFC develop a regional plan for the conservation and management of queen conch (*Strombus gigas*), for adoption by the WECAFC in 2016. The resolutions adopted by the Commission addressed illegal, unreported and unregulated fishing, invasive lionfish control, and voluntary guidelines on small-scale fisheries, among others.
(IISD, 31/04/2014)

Global network combats food contamination

knowledge.cta.int/en/content/view/full/22376

The EU-funded MycoRed research project set out to develop a range of production and handling methods which will reduce both pre- and post-harvest contamination in the cereal feed and food chains. MycoRed covers issues ranging from the optimisation of plant resistance and fungicide use, to novel post-harvest and storage practices and the design and application of new food processing technologies. In addition to cereals, specific technologies have been designed to be integrated along the food/feed chains associated to wheat, maize, grape, nuts and dried fruits. Relevant documentation can be found on the project's website.
(MycoRed project, 03/2014)

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Near real-time frost mapping system for tea plantations in Kenya

knowledge.cta.int/en/content/view/full/22367

RCMRD/SERVIR-Africa and the Tea Research Foundation of Kenya (TRFK) have developed and installed Wireless Sensor Networks (WSNs) in Kenya to support an automated frost mapping system to alert plantation managers of notable upcoming temperature changes. The near real-time frost mapping system identifies and displays frost-impacted areas by analysing night-time land surface temperature data from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) aboard the Terra and Aqua satellites. Each morning, within a few hours of data collection, the system emails user-friendly maps identifying areas with high potential for frost to the Kenya Meteorological Service (KMS), TRFK, and agricultural insurance companies. In addition to the satellite data-derived products, the system will soon incorporate numerical prediction model forecasts to help map areas of potential frost up to 3 days in advance.
(SERVIR, 28/01/2014)

Launch of global land cover SHARE database (GLC-SHARE)

knowledge.cta.int/en/content/view/full/22361

The FAO has launched a comprehensive geospatial database that standardises the information from numerous sources all over the world, using internationally accepted definitions. The harmonised land cover datasets cover most of the globe and provide information on eleven different types of land cover which have been gathered by different countries and organisations. The new database, the most-reliable global view of planetary land cover assembled to-date, could be used for land use forecast and climate change impact monitoring, for example.
(FAO, 17/03/2014)

Sugar cane industry: environmental threats, prospects for bioeconomy

knowledge.cta.int/en/content/view/full/22355

Stockholm Environment Institute (SEI) senior research fellow Francis Johnson talks to *Engineering News* about the contrasting management practices of the sugar cane industry in developing countries. Most countries with sugar cane farms face similar environmental problems: water shortage, nutrient run-off, biodiversity loss, chemical leach, air pollution, and so on. Johnson argues that the ways countries draft and enforce legislation associated with the growing of sugar cane will decide upon the sustainability of the industry. In South Africa for example, the widespread practice of burning sugar cane prior to harvest causes air pollution and loss of biomass (cane trash) while post-harvest cane residues could otherwise be burned to generate electricity and heat. In the much smaller country Mauritius however, the adoption of modern cane farming practices and standards have helped mitigate negative environmental impacts of the industry. Ideas for public-private partnerships to improve the industry abound and most are self-evident: grow sugar cane where the land naturally allows it, help the industry attain standards, enable reporting and enforcement, associate liability for environmental damage, develop and market by-products with added value, etc.
(*Engineering News* via SIANI, 28/03/2014)

Tomato skin – a natural lining for metal cans

knowledge.cta.int/en/content/view/full/22346

The European BIOCOPAC project developed a novel bio-lacquer for metal food packaging designed to meet current demand for sustainable production and safety. The natural lacquer was developed from tomato skins, a by-product that food processors often treat as waste. The lacquer can be applied to the internal and external surfaces of cans used for foodstuffs. Researchers started by analysing tomato waste, and continued with the development of an experimental method of extracting cutin (a waxy 'polymer') from tomato peel and create lacquer sheets. The innovation is expected to provide can manufacturers with an environmentally friendly solution they can offer to food processors worldwide. (BIOCOPAC project, 03/2014)

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Africa-EU university boost: Commission backs plan to double size of partnership scheme

knowledge.cta.int/en/content/view/full/22337

The African Higher Education Harmonisation and Tuning event, jointly organised by the European Commission and African Union Commission on 27 March 2014, focused on student mobility, recognition of qualifications and credits, as well as the development of new and joint degree programmes. Over the next seven years, it is envisaged that the new 'Erasmus+' programme will provide grants for 25,000 African students and academics to study or train in Europe, and around 2,750 African researchers will receive support. One of the aims of the meeting was to double the scope of the initiative from 60 African universities and 130 000 undergraduate students to 120 universities by 2015. Overall, it seeks to improve institutional evaluation and to implement a framework for quality assurance and accreditation. (EU-Africa Chamber of Commerce, 25/03/2014)

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6th World Congress of Conservation Agriculture

Dates: 22-26 June 2014
Venue: Winnipeg, Canada
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Agroecology and Sustainability of Tropical Rainfed Cropping Systems(AfA2014)

Dates: 3-7 November 2014
Venue: Antananrivo, Madagascar
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Call for papers: *Journal of the South Pacific Agriculture* (JOSPA)

Deadline: 30 June 2014
knowledge.cta.int/en/content/view/full/22328

Transferable skills training for successful doctoral students: 'Innovative Doctoral Training for Global Food Security'

Dates: 2-20 June 2014
Venue: Makerere University, Kampala, Uganda
knowledge.cta.int/en/content/view/full/22325

Improving and internationalising university courses: Workshop for experienced lecturers

Dates: 10-12 June 2014

Venue: Makerere University, Kampala, Uganda

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Jobs | RSS

Senior posts at RUFORUM

Deadline: 02 June 2014

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is looking to recruit qualified and competent staff for its Secretariat based in Kampala, Uganda. Specifically, RUFORUM is looking to hire (i) one Finance Manager, (ii) one Manager, Partnership & Business Management, and (iii) one Manager, Planning Monitoring & Evaluation.

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