

Knowledge for Development

Observatory on Science and Technology for ACP Agriculture and Rural Development

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CTA and S&T

S&T Networking

Dossiers

About

Français

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Editorial

Content

Editorial 1

By Dr Hansjörg Neun

The ASTI System 2

- CTA Continues to Build Capacity to Analyze the ASTI System
- Demand-led Research: Bridging the Gap in the ASTI System

Viewpoint 3

By Judith A. Francis

Dossiers

S&T Policy Making 4

- The EU's International S&T Cooperation by Dirk Pottier, EC/DG Research
- Increasing Impact of the EU's International S&T Cooperation, by Cornelia E. Nauen et al, EC/DG Research
- Infopoint on international S&T (INCO)

Demanding Innovation 5

- Indigenous Knowledge and Agricultural Innovation, by Floris van der Pol
- Participatory Approaches in ARD, by Willem Heemskerck
- Financing ARD through Competitive Grants by Stein Bie and Howard D. Elliott

S&T Issues in Perspective 6

- Remote Sensing: Challenges for ACP Countries, by Paul Geerders
- FAO: Locust Watch
www.fao.org/ag/locusts/en/info/info/index.html
- Remote Sensing Tutorial
<http://rst.gsfc.nasa.gov/>

Climate Change 7

- Strategies for Agricultural R&D, by Ogunlade Davidson
- Consequences of Climate Change for Agricultural R&D, by Ton Dietz
- Adaptation to Climate Change, by Monty Jones

CTA and S&T in 2005 8

- Selection of S&T activities of CTA

Supporting the ACP S&T Policy Dialogue – Building Partnerships and Demystifying Science

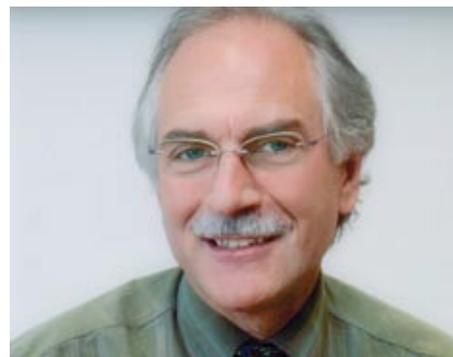
By Dr Hansjörg Neun, Director CTA

“What is needed is a true partnership of developed and developing countries: a partnership that includes S&T”
(Kofi Annan, 2004, *Science* Vol. 303:925)

Through the S&T Strategies programme, CTA supports the ACP region in placing greater emphasis on the application of science, technology and innovation (ST&I) for meeting their developmental goals. The Centre recognizes that lack of a sense of ownership of S&T policy plans and inadequate networking at the national, regional and international levels are hindering ACP countries from participating in the S&T policy dialogue and from determining appropriate strategies for transforming their agricultural sectors.

Over the past two years, CTA collaborated with national, regional and international organizations to raise awareness of the importance of S&T for development and to position agriculture within S&T initiatives. The Centre concentrated both on building ACP capacity at the national and regional levels in order to analyse agricultural ST&I systems, and on developing a platform for enhanced collaboration on S&T issues within and across the ACP regions and with the EU.

CTA supports the initiatives undertaken by the regions to revitalize tertiary education in agriculture. In addition, the Centre aims to demystify S&T in order to enhance the participation of civil society including farmers, women and youths, both male and female, and to ensure that science is communicated more effectively, to policy makers in particular. Facilitating multi-stakeholder participation in reshaping tertiary education in agriculture is a relatively easy task as the target groups are readily identifiable. However, demystifying science so that farmers and other members of civil society can participate in the S&T processes is a challenge for the ACP regions and the Centre. This requires concerted efforts, including building collaboration among scientists,



Dr Hansjörg Neun, Director CTA

community activists, farmers, communications specialists and policy makers.

CTA recognizes the rapid rate at which farmers spread useful information and successful technologies among themselves. As a result, CTA has taken the bold step of facilitating the training of ACP professionals to identify, analyse and evaluate farmer experimentation and innovation and to bring the results to the attention of policy makers and other stakeholders. The lessons learned from this approach can help in developing an effective communications strategy for demystifying science in the agricultural sector. In seeking to build on this initiative, the Centre and its international partners are supporting the ACP regions to:

- Invest in building indigenous science capabilities at the national and regional levels in order to ensure the quality of ST&I policy advice, good governance and agro-industrial development.
- Strengthen tertiary education in agriculture, expand training outreach on S&T to include farmers and demystify science to enhance participation in ST&I policy processes and programmes.
- Bridge the gap within and across the ACP region and between the ACP region and the EU in order to enhance experiential sharing and information and knowledge flows, support the development of S&T infrastructure in the ACP region, and increase participation in the global knowledge economy.

>>>Read more...

The ASTI System

About the website

CTA's website **Knowledge for Development** supports the policy dialogue on S&T for agricultural and rural development in African, Caribbean and Pacific (ACP) countries. It enables the ACP scientific community – primarily agricultural research and development scientists and technologists, policy makers, farmers and other stakeholders – to share and review the results of national and regional efforts and collaborate in harnessing S&T for the development of agriculture in their countries.

The website offers access to information:

- to promote dialogue and facilitate exchange among ACP stakeholders, and between the ACP and the EU, on S&T issues in order to enhance the processes of policy formulation and implementation;
- to raise awareness of relevant S&T developments and their implications for ACP agriculture, to enable policy makers set priorities, prepare and execute demand-led research agendas; and
- to support ACP countries in their efforts to develop indigenous knowledge systems, enhance research capacity and transform technological innovation systems for attaining sustainable and competitive agricultural production.

Visitors to the website can:

- find extensive information on S&T issues, programmes and institutions;
- network with others; and
- subscribe to the email newsletter.

For more information, or to comment on the website, please send an email to **S&T Strategies, CTA, Wageningen, the Netherlands: knowledge@cta.int**

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CTA Continues to Build Capacity to Analyze the ASTI System

Four regional training workshops were conducted by CTA in collaboration with the Royal Tropical Institute (KIT) and ACP partners: Bunda College, Malawi; Abia State University, Nigeria; National Commission on Science and Technology (NCST), Jamaica; and Secretariat for the Pacific Community (SPC), Fiji. Between June and September, 2005, over one hundred professionals representing universities, national and regional research organizations, ministries, public and private sector organizations and civil society were trained to analyze the agricultural, science, technology and innovation (ASTI) systems in Africa (2 workshops), the Caribbean (1 workshop) and Pacific (1 workshop).

The workshops were the second phase of a process of competence building in a number of ACP countries for applying the innovation systems framework to the agricultural sector. The main objectives were to assist ACP professionals and policy makers to understand the innovation systems framework, processes of technology development, management for improving economic performance and, more specifically, the agricultural innovation systems in developing countries. Biotechnology, biodiversity, science and governance, remote sensing and intellectual property rights and their implications for ACP agricultural and rural development were integrated into the training workshops. Stimulating the interface between scientists, policy makers and civil society to improve science, technology and innovation policy formulation is an important aspect of the competence building strategy.

Demand-led Research: Bridging the Gap in the ASTI System

CTA, in collaboration with CABI Kenya, ATPS Network and IRAD Cameroon, hosted national training workshops for actors in the floriculture industry in Kenya and the cassava subsector in Cameroon. The overall objective was to build ACP capacity to develop demand-led research agendas in collaboration with key actors as a strategy for strengthening the agricultural, science, technology and innovation (ASTI)



systems in ACP countries. The training was followed by case studies to identify demand-led agricultural research priorities within the given subsectors and bring the results to the attention of policy makers. The goal was to improve the interface between scientists/researchers, farmers, other agri-entrepreneurs, policy makers and other actors in the ASTI system. The lead institution in each country was responsible for coordinating the activities and preparing and disseminating the reports. International organizations provided technical backup.

<http://knowledge.cta.int>

Readers are encouraged to visit the CTA Knowledge for Development website, to participate in the process of knowledge development and sharing, to provide inputs for the policy dialogue and to subscribe to the Knowledge email newsletter.

Viewpoint

Agricultural Science, Technology and Innovation Systems

By Judith A. Francis, Senior Programme Coordinator, S&T Strategies, CTA

The agricultural enterprise - the farm, processing plant, service providers of agricultural inputs, machinery, packaging etc. - is the nexus of the agricultural innovation system. For innovation, defined as the continuous application of knowledge, to take place, cooperation is needed among the key actors in the system: enterprises, universities and other centres of learning, research and development institutes, extension and other providers of information (technical or marketing), financial institutions, regulatory agencies and policy makers. The level of cooperation determines the flow of information and knowledge available for enterprises to use for developing new products, processes, institutional arrangements and markets or bringing about improvements in existing ones. As in any dynamic or living system, the intensity of the linkages among the various elements and actors varies, and this has significance for the efficiency and effectiveness of the system. With respect to innovation systems and especially agricultural innovation systems, in which the roles and responsibilities of actors are not clear-cut, the types and intensities of the linkages forged among actors impact on the ability of the system to foster innovation.

In 2004, CTA supported the training of five ACP nationals to develop their capacity to analyze agricultural, science, technology and innovation systems. As a follow up, technical and financial resources were provided to their institutions to allow a system-wide analysis of selected subsectors and provide information on the agricultural innovation system to guide the policy process. The Institute for Research and Development in Cameroon undertook a study on the cassava and cocoa subsectors in that country. The African Technology Policy Studies Network (ATPS) undertook a study of the floriculture industry in Kenya. The National Commission on Science and Technology, Jamaica, analysed the ginger and mango subsectors. The National Agricultural Research Institute (NARI) in Papua New Guinea and the Institute for Agricultural Research (ISRA) in Senegal examined the rice subsectors in their respective countries. The results were revealing.

In all cases, the researchers found that the ASTI system was not functioning effectively due to weak linkages between and among the actors, despite the fact that individual actors had the capacity to generate, diffuse and/or apply knowledge. Where there were examples of active linkages, these had resulted because of threats to the industry such as disease outbreaks, searches for new markets or the need to ensure workers' social welfare. Linkages did not exist merely to support the development or emergence of the subsector based on a shared vision. The weak linkages had negative impacts on the various subsectors and their ability to contribute to food security and/or respond to changing market dynamics. The studies further noted that policies governing the agricultural sector were strong but the link between policy and implementation was weak, mainly because of financial constraints.

The floriculture case study in Kenya demonstrated that a favourable institutional environment (policies, laws, rules and regulations) and access to knowledge and technology were critical conditions for competitiveness and growth in the industry. The study also identified certain organizational cultures (public



Judith A. Francis with Ralph von Kaufmann (FARA) and Agnes Mwang'ombe, University of Nairobi, Kenya.

versus private) and operating procedures (bureaucracy) as key impediments to strong and effective linkages within the sector. Negative attitudes and perceptions from both the research and farming communities had undermined trust and confidence resulting in very weak interactions between the enterprises and the local research system. The study highlighted examples of small farmers who had gone out of business because they were unable to solve relatively minor problems, which access to information could have resolved. The weak linkages between the flower growers and the local research systems led to strong linkages being forged between the growers and the international research system and underutilization of the existing research capacity in Kenya.

Since undertaking the studies, the national institutions have coordinated follow-up actions to improve the performance of the ASTI system. In Jamaica, a Ginger ASTI Working Group was set up to develop specific recommendations for the revitalization of the Jamaican ginger industry. The WG is led by the professional who coordinated the ASTI study in 2004. Strategies have been identified for competitively positioning the industry and a supply chain approach has been adopted to map the flow of material from the source to the final consumer. Among the key areas identified for further intervention are funding, marketing and research. A research committee was set up to harmonize and coordinate ginger research activities. Establishment of a commercial tissue culture facility is also under consideration. The Minister of Agriculture is very supportive and the Prime Minister of Jamaica has mandated the Ministry of Agriculture to coordinate and develop recommendations for revitalizing the Jamaican ginger industry.

* The author wishes to acknowledge the contributions of Maurice Bolo, ASTI Coordinator, Kenya and Marcia Blair, ASTI Coordinator, Jamaica.

S&T Policy Making

About this dossier

This dossier is intended to enable the ACP community of scientists, policy makers and other stakeholders in the agricultural and related sectors and disciplines to share their knowledge and experiences in order to enhance national and regional policy dialogue to support informed policy formulation and implementation. It is hoped that the two lead discussion papers in this dossier, supported by material available through the links to related documents and websites, will stimulate feedback and debate.

European Union S&T

A guide to European S&T and ARD policies and programmes for the ACP community of scientists, policy makers and other stakeholders in the agricultural and related sectors and disciplines.

Annotated links to websites and resources

- Strategies and Policies
- International Programmes
- EU-ACP Cooperation
- Information Networks
- S&T in Belgium
- S&T in Denmark
- S&T in Finland
- S&T in France
- S&T in Germany
- S&T in Italy
- S&T in the Netherlands
- S&T in Norway
- S&T in Spain
- S&T in Sweden
- S&T in the UK

S&T Policy Dialogue

Annotated links to background documents regarding ACP-EU S&T policy frameworks and the ongoing ACP-EU policy dialogue.

- Cotonou Agreement /EDF
- ACP-EU/EC Policies on S&T
- ACP-EU Ministers' Forum 2002
- Review of S&T Policies 2001
- RTD Policy Dialogue 2000

The EU's International S&T Cooperation

by Dirk Pottier, 2005, EC/DG Research, Brussels

Europe has a unique position in the world stemming from its long-standing global interactions, adherence to universal humanistic values and its will as well as capacity to mobilise knowledge for sustainable development, economic growth and competitiveness. The European Research Area (ERA) and its international dimension provide a powerful opportunity to define Europe's role in S&T with regard to sustainable development in Europe and its partner regions as well as at the global level.

The EU's pioneering experience in promoting North-South and South-South partnerships of mutual interest in science and technology and human and institutional capacity building is a valuable asset upon which to build future relationships with partners in the developing world. Recognizing that knowledge cannot be reduced to the status of a commodity that must be produced to remove a development bottleneck, the international S&T cooperation programme (INCO) seeks to include the knowledge systems of developing countries in the generation and use of development relevant knowledge. This is the preferred approach for INCO research efforts, reflecting a philosophy of promoting active partnerships in RTD.

[>>>Read further](#)

Increasing Impact of the EU's International S&T Cooperation for the Transition towards Sustainable Development

By Cornelia E. Nauen (Editor) 2005, EC/DG Research, International Scientific Cooperation, Brussels.
<ftp://ftp.cordis.lu/pub/inco2/docs/impactofinternationalstcoo.pdf>

Over the last more than 20 years this international S&T cooperation programme has evolved into a constituent part of the EC's research Framework Programmes (FPs). International S&T cooperation throughout focused on mobilizing scientific capacity in Europe and partner countries and regions foremost around solutions to basic needs such as health and public health, rational use of natural resources and environmental protection and food security. It has been firmly based on the principle of partnership

among equals seeking mutual benefits. The experience has shown over time, that project approaches targeting new technologies are insufficient to produce broad-based societal impact. Moreover, as a result of the paradigm shifts arising from the debates surrounding the Rio Earth Summit and Agenda 21, increasing emphasis has been placed on systems approaches and policy. In tune with the subsidiarity principle, European support to international S&T cooperation is pitched at problems of regional importance in partner countries.

Research priorities for international S&T cooperation sponsored by the Union are identified through bi-regional dialogue or through reference to commitments of the EU at international negotiations, e.g. the Kyoto Protocol, the Convention on Biological Diversity, the Millennium Development Goals and the Johannesburg Plan of Implementation adopted at the World Summit on Sustainable Development in 2002. Overall, recognition of the continuum between education, life-long learning, research and innovation as a core factor for sustainable development is rising and informing policy formulation in Europe and elsewhere. With weak policies influencing basic and higher education and innovation, the ability to make use of research results and translate them into organisational, process or product improvements is also expected to be weak. According to e.g. official estimates of the CGIAR in 1999, of the more than US\$ 3 billion invested during the previous 10 years in agricultural research through its research centres, 40% were destined to Africa. As a result of underdeveloped linkages with national research systems and policy, the CGIAR estimates that the impact of that investment is low. Many questions arise from such past experience and its interpretation.

[>>>Read this influential report...](#)

Infopoint on International S&T Co-operation (INCO)

<http://www.cordis.lu/fp6/inco.htm>

The INCO Information point provides general information on the international S&T co-operation activities within the Sixth Framework Programme (FP6). INCO documents and related news and events are available through the Community Research and Development Information Service (CORDIS).

[>>>Visit this website...](#)

Demanding innovation

Indigenous Knowledge Systems

Indigenous knowledge encompasses 'the sum total of the knowledge and skills which people in a particular geographic area possess and which enable them to get the most out of their environment' (IK Monitor 6(2) July 1998). In indigenous communities, these knowledge and skills are usually passed down from generation to generation. However, due to changing circumstances and environmental conditions, individual women or men may modify or change the body of knowledge before passing it on to the next generation. Indigenous knowledge is constantly evolving in response to changing conditions, including exposure to more formal knowledge systems. This process highlights the importance of integrating farmers' knowledge and survival strategies into wider knowledge systems.

Annotated links & Documents

- IKS General
- IKS in ACP countries
- IKS Worldwide

Participatory Approaches in ARD

This resource explores some of the methodologies and approaches in PARD and presents several strategies to actively involve farmers in agricultural research and development. It provides useful information about the experiences of researchers in enhancing the involvement of farmers and other stakeholders in the prioritization and execution of agricultural research and development projects.

Annotated links & Documents

- PARD General
- PARD in ACP countries
- PARD Worldwide

ACP Policy Brief on Biotechnology

This policy brief highlights the importance of harnessing biotechnology for wealth creation and improvement of quality of life in the ACP countries and calls on governments and other key stakeholders to take the necessary policy and legislative action to advance the development of biotechnology in its widest sense.

<http://knowledge.cta.int/en/content/view/full/1970>

Indigenous Knowledge and Agricultural Innovation

by Floris van der Pol , KIT, Amsterdam

Innovations in agriculture go hand in hand with privatisation, decentralisation and globalization. During the colonial era, innovation was managed by public institutions or public-private partnerships in response to the needs of the private sector. After independence, new approaches were developed to achieve developmental goals such as enhancing food production and reducing reliance on imported food. However, technical innovations developed at research stations did not take into account the diversity of conditions faced by local farmers.

[>>>Read more...](#)

Participatory Approaches in Agricultural Research and Development

by Willem Heemskerk, KIT, Amsterdam

Farmers innovate to sustain, expand and improve their production systems. Agricultural innovation is a product of social negotiation among stakeholders and the diffusion of innovations occurs through effective social organisation and communication at the community level. However, funding for agricultural innovation has fluctuated over the past decades. During the nineties, in response to the negative impacts of Structural Adjustment Programmes (SAPs), the attention of policy makers and international donors shifted to supporting Sector Wide Programmes (SWAPs) and Poverty Reduction Strategy Papers (PRSP), which emphasised social sectors and programmes.

[>>>Read more...](#)

Financing ARD through Competitive Grants

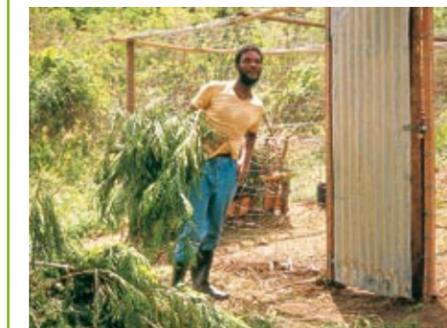
by Stein Bie and Howard D. Elliott

A competitive grant scheme (CGS) is a tendering process in which providers of research resources bid for research contracts within the parameters of pre-defined programmes or specific calls for proposals. The CGS may be open for global competition, have national or regional limitations, or require particular combinations of partners in a bidding consortium (e.g. private sector, NGOs,

universities or partners from several countries).

A competitive grant scheme differs from ad hoc invitations for individual research proposals. The goal of CGS is to bring about lasting changes in the research structures of developing and developed countries. The assumption is that there is research talent outside government research institutions, universities, commercial firms and consultancies. This talent can introduce new ideas, efficiencies and alliances, and can provide inspiration for the traditional research sector. By de-linking research funding from research execution by specific institutes, the way is opened for new research arrangements, with short or longer-term perspectives, and with enabling conditions that minimize the effects of bureaucracies.

[>>>Read more...](#)



Financing ARD

A resource with over 200 annotated links to information on innovative funding strategies and organizations that provide funding for agricultural research in ACP countries. These links are intended for policy makers and managers of research institutes who are confronted with restrained budgets and need to reorganize the institutional frameworks through which their research can be funded.

Annotated links to websites and resources

- New funding approaches
- PPPs
- Competitive schemes
- EU funding sources
- ACP initiatives
- Multi and bilateral sources
- Foundations and NGOs
- Writing proposals

Climate change

About this dossier

Investments in science, technology and innovation are essential for economic development. The rapid changes that are taking place due to advances in biotechnology and information and communication technologies (ICTs) support this view. Although new scientific discoveries and technologies could provide ACP countries with a competitive advantage and address some major problems (such as improved varieties of plants resistant to pests and diseases), their adoption is frequently not without controversy due to differing viewpoints and perceptions of the potential risks involved. This dossier offers a wide range of information relating to biotechnology/biosafety and IP and various applications of ICTs in areas such as Agricultural Management Information Systems for environmental monitoring, Remote Sensing and Climate Change.

MIS for Environmental Monitoring

Timely quality information is critical for sound decision making and knowledge development. This resource has been prepared to raise awareness of ACP countries of the need to develop systems for systematic acquisition, analysis and storing data and information from a variety of sources. An integrated management information system (MIS) is a powerful tool for planning and decision-making. They are consistent, modular and flexible tools and when socio-economic data are included, MIS can become even more powerful tools for planning and decision-making for agricultural and rural development in ACP countries.

Annotated links to sites and resources

- MIS General
- MIS in ACP
- MIS in Europe
- MIS Worldwide
- Library

New dossiers soon to be published

- Biodiversity, science and governance
- ICM strategies for S&T policy development
- Differentiated S&T strategies for ACP farming systems
- S&T Strategies for sugar, coffee, bananas, cassava

Remote Sensing - Challenges for ACP Countries

by Paul Geerders

The independent application and operation of remote sensing technology requires an ACP country to implement a chain of technology infrastructure, from acquisition of remote sensing data, through processing and generation of information products, to distributing the information products to specific users. These information products must meet the requirements of the users. International initiatives have been launched to build capacity for applying remote sensing technology in selected ACP countries. However, the focus now needs to shift to building capacity in the ACP countries for developing policies with respect to remote sensing technology. Exchange and cooperation between ACP and European countries can contribute to capacity building and position the ACP countries to participate in future developments of this technology.

For this technology to meet the future needs of ACP countries, an important first step would be to review the status of existing infrastructure and policies, raise awareness and provide training for policy makers, general users and experts in this field. Well-trained ACP experts can play an important role at the international level by influencing the choice of satellites and sensors for future remote sensing space systems and ensuring that the requirements of the ACP countries are adequately met.

>>>Read more...

FAO – Locust Watch

www.fao.org/ag/locusts/en/info/info/index.html

Locusts form a serious problem for many of the ACP countries, and timely information is of critical importance. FAO has set up several web based information services in relation to locust prevention. Remote Sensing contributes important information on areas where locust outbreaks can occur, and on the areas likely to be hit. A more detailed description can be found at these sites. >>>Visit this website...

Remote Sensing Tutorial

<http://rst.gsfc.nasa.gov/>

This Remote Sensing Tutorial uses a format that explains the technology through numerous questions and several quizzes exposing the student to fundamental

principles and numerous applications. The Tutorial “current” as new material and information gleaned from other sources across the Internet are searched for on a daily basis and, if pertinent, added immediately to its active website.

>>>Visit this website...

Remote Sensing

Remote sensing presents enormous opportunities for agriculture (weather forecasts, harvest estimates, precision agriculture, pest prediction s, etc.), geology (possible presence of oil and gas) and management of natural resources (forests, watersheds, etc). This resource provides access to a wealth of information that is available on the web and that gives a comprehensive overview of the technology and its potential uses for ACP agricultural and rural development.

Annotated links to sites and resources

- Links
- General
- RS policy instruments
- RS in agriculture
- RS in ACP
- RS in Europe
- RS worldwide



S&T Issues in Perspective

About this resource

ACP countries consume very little fossil fuel but bear the brunt of the consequences of huge emissions of greenhouse gasses by industrialized countries. They suffer the most adverse effects due to their inability to respond adequately to projected climate changes caused by these emissions. This dossier investigates the consequences of climate change for ACP countries and explores S&T strategies for agricultural and rural development required to mitigate them.

Annotated links to sites and documents

- Policy
- Agriculture
- Mitigation & adaptation
- Predicting

Annotated links

The Kyoto Protocol – any benefits for the poor?

http://europa.eu.int/comm/development/body/publications/courier/courier189/en/en_042_ni.pdf

Issues of poverty eradication and reversing climate changes which are among the biggest global challenges of the 21st century. What is the connection between the two? Does a reduction in poverty and more economic growth mean more climate change? What do recent efforts to reverse climate trends under the Kyoto Protocol mean for the poor? Are they being asked to pay a price for other people's mistakes?

IRIN.new: Climate change becoming a matter of life and death

www.irinnews.org/report.asp?ReportID=46445&SelectRegion=Southern_Africa

Mount Kilimanjaro is drying up. Climate change, coupled with widespread deforestation of the slopes, is melting the ice and snow that has crowned Africa's highest peak for more than 11,000 years, dramatically altering the surrounding ecosystem. Shifts in the world's climate can often have dramatic results. Scientists have already started seeing a decrease in the amount of water supply to the remote lowland areas around Kilimanjaro, which will likely generate a whole range of impacts on rural communities.

Climate Change and Strategies for Agricultural R&D in ACP Countries

by Ogunlade Davidson, Director Energy and Development. Research Centre, University of Cape Town, S-Africa

There is now a sufficient amount of convincing scientific evidence from direct surface, air and ocean temperatures, increases in average global sea levels and retreating glaciers to know that the global climate is warming, and that most of this warming can be attributed to human activities. Though greenhouse gases (GHGs) are crucial for maintaining life in the atmosphere, the concentration of GHGs, especially carbon dioxide, methane and nitrous oxide, is rising well above pre-industrial levels. It has been reliably predicted that by 2010, if current trends continue, the average global surface temperature will have increased between 1.4 and 5.8 °C above 1990 levels, causing major economic and ecological disruptions.

ACP countries, like other developing countries with low fossil fuel consumption, contribute very little to these emissions but they will bear the brunt of the consequences of climate change due to their inability to respond adequately to projected changes. Most ACP countries are lagging behind other developing regions and are expected to suffer the most adverse effects. The situation in ACP countries can be improved and GHG emissions can be managed by using more environmentally sound options, but these may prove to be expensive.

>>>Read further...

Consequences of Climate Change for Agricultural R&D in ACP countries

by Ton Dietz, Professor Social Geography, Director Amsterdam Research Institute for Global Issues and Development Studies, Amsterdam

Agricultural production in the ACP countries is influenced by climate change in three major ways:

- Shifts in geographical and temporal production zones;
- Greater climatic variability, and hence greater potential vulnerability as a result of extreme events; and
- Pressure to mitigate agriculture-based emissions of greenhouse gases.

A direct impact of climate change perceptions and policies on agriculture is the



urge to reduce greenhouse gas emissions and support more sustainable production, distribution and consumption processes. A certain amount of attention is given to those land use activities which play a role in generating emissions (rice and cows as methane enhancers), in reducing emissions (forests as CO2 sinks), and in potentially reducing emissions (e.g. sugarcane as a source of energy). However, the major focus is on the energy requirements of agricultural production-consumption chains, with emphasis on changes in energy use (efficiency and type of energy), and distributional changes (support for short-distance production-consumption chains to counter the ever growing global commodity circulation). In Environment and Human Well-being: a practical strategy, the Task Force on Environmental Sustainability of the Millennium Project makes a strong plea for mainstreaming climate-change responses in national agricultural and water resources planning, and supporting the scaling-up of renewable energy technologies in these domains.

>>>Read further...

Adaptation to Climate Change

by Dr Monty Jones, Executive Secretary of the Forum for Agricultural Research in Africa (FARA), Ghana

www.ifpri.org/pubs/ib/ib25.pdf

Adaptation to climate change is one of the eight specific themes for collaborative programs agreed on by the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the centers of the Consultative Group on International Agricultural Research (CGIAR) in the region. (Strengthening Agricultural Research in Africa, IFPRI, 2004).

>>>Visit this webpage...

CTA and S&T

CTA Brings Youths into the S&T Policy Dialogue

CTA in collaboration with the African Technology Policy Studies Network (ATPS) convened a youth congress on "Youth and Employment / Wealth Creation: Opportunities in Agriculture Science and Technology" in Nairobi, Kenya from June 20 - 23, 2005. The congress brought together over 70 youth leaders and representatives from research institutions and universities, the private sector and civil society across Africa (21 countries) who are committed to the promotion and application of ST&I in meeting social and economic development goals in sub-Saharan Africa and more specifically for tapping the potential in agri-food chains for creating opportunities for wealth and employment creation for African youths. The congress benefited from the imagination, creativity and innovativeness of youth dovetailed with the experience, guidance and mentorship of senior resource persons in seeking solutions to the persistent challenges of employment and wealth creation in Africa.

The youths grouped the major challenges preventing them from realizing their potential in four categories; political, education and infrastructure, financial and socio-cultural. The lack of policies and institutional framework to support ST&I; limited access to education and lack of investments in developing a knowledge society; outdated and poorly equipped schools, universities and research facilities and industrial plants and financial and socio-economic problems were identified as preventing Africa and its youths from harnessing science, technology and innovation for development.

They called on: national, regional and international organizations to contribute to their empowerment; institutions of higher learning to provide a platform for supporting youths to get their voices heard and government to implement policies and enact relevant legislation to facilitate greater application of science, technology and innovation for socio economic development.

The congress was preceded by an Africa-wide essay competition. The winners of the competition were: Winnie Alum, NARO, Uganda - 1st place; Muthoka Christine Ndunge, University of Nairobi, Kenya - 2nd place; and Phillip Mutuma Munyua, KARI, Kenya - 3rd place.

Farmer Experimentation & Innovation

CTA, in collaboration with the Centre for International Cooperation, Vrije University, Amsterdam, and national and regional agricultural research institutions in Jamaica (CARDI), Papua New Guinea (NARI), and Senegal (ISRA), hosted national multi-stakeholder workshops on "Identifying and Analyzing Farmer Experimentation and Innovation: Bridging the Gap in the Agricultural, Science, Technology and Innovation (ASTI) System". The international and national partners recognized that farmer innovation had been effective in the past and could be stimulated again to contribute to agricultural growth and development. Case studies followed the workshop in order to reinforce in-country capacity to identify, analyze and evaluate farmer experimentation, document the findings, and bring them to the attention of policy makers. This is another strategy being piloted to bridge the gap in the ASTI system and improve the farmer-scientist-policy maker linkages.

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Bridging the Gap between Scientists & Policymakers

In April 2005, CTA hosted a training workshop for ACP experts to develop their skills in writing policy briefs for decision makers. As part of the workshop, the experts prepared two policy briefs: one on biotechnology and the other on biodiversity - science and governance. At first, the experts believed that this was an ambitious goal, but by the end of the training, they had produced draft policy briefs, which were presented to CTA staff and then widely disseminated for additional comments prior to finalization.

>>> [Read the briefs...](#)

National Consultations on the Caribbean ST&I Policy Document

CTA, in collaboration with the Caribbean Council for Science and Technology (CCST), launched a series of one-day national consultations on the revised draft of the Science, Technology and Innovation Framework for the Caribbean in each of the thirteen CCST member countries. These stakeholder consultations were coordinated by the national focal points. The recommendations emanating from the national consultations are to be incorporated into the revised regional ST&I policy framework prior to its finalization and submission to the Ministers of ST&I for ratification in 2006. The Centre recognizes that national pillars must be constructed in order for a regional policy framework to be adopted as a model for national and/or regional development.

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4th Annual Meeting of the Advisory Committee on S&T

The fourth annual meeting of the Advisory Committee on S&T for ACP Agricultural and Rural Development took place in November 2005. The issues discussed included S&T development, the revised methodology for analyzing the ASTI system and lessons learned from the strategies employed for bridging the GAP in the ASTI system.

The meeting also reviewed the ACP policy briefs and strategies for strengthening tertiary education in agriculture in the ACP region. The outcomes of the deliberations guided the preparation of the CTA's S&T work programme for 2006.

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