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In this Issue

News and Events

The RTD Think Tank is a window into issues, lessons and new thinking, and fosters discussion on important issues in the area of Research and Technology for Development. In the coming months the Think Tank will focus on issue such as the Legon Declaration (April), Biotechnology (May), European S&T Development Policy (May), ICT (June), and Policy Dialogue in S&T (July).

The Global Conference of the International Forum on CapacityBuilding (IFCB) was held in Washington D. C., USA from 8-10 May, 2001. The aim of the event was to reflect on the future role of the Forum, to identify new activities and to decide on a new leadership. For further information on the outputs of the Global Conference: www.ifcb-ngo.org/newsletter

(More info on www.capacity.org)

Advancing the policy and practice of capacity building in international development cooperation

Capacity for Dialogue on S&T

With this edition we are celebrating the second anniversary of Capacity.org with an extra long issue. It looks into an area which has often been disconnected from mainstream development thinking: building capacity for dialogue in science and technology (S&T).

A technological divide increasingly separates rich and poor nations. Allotting higher priority to science and technology is essential in order to bridge this divide and narrow the income disparities that accompany it. This implies placing greater emphasis on S&T in economic planning. But the science policies of many developing countries are only weakly linked to broader economic goals and have often been developed without any consultation with end users or with civil society. Priorities are often determined by the funding available, which frequently emanates from Northern countries.

In this issue of Capacity.org, we have pulled together a number of the contributions to a workshop held in Accra, Ghana, in January 2001 on building capacity for dialogue to develop science and technology policies that are better able to contribute to economic and social development. A key contribution to the discussion on S&T capacity building is provided by Professor Ivan Addae-Mensah, Vice-Chancellor of the University of Legon in Ghana, who touches on issues such as impact of outside assistance on the local ownership of research, the prioritisation of research activities and the human capacity problem, a problem that is particularly acute for Ghana which has 26% of its graduates working in OECD countries.

Other contributions originate from writers in Ghana, Senegal, Dominican Republic, Uganda and Vietnam which have been summarised for this hard-copy issue. In addition, an annotated bibliography on the topic has been collected, extracts of which are compiled in this issue. A full list of resources, latest updates on capacity development events and new links to other sites discussing S&T can be found on www.capacity.org including a link to a special think-tank on research and technology for development, run by Oneworld.

We welcome opinions, suggestions and requests on Capacity.org. Contact: cb@ecdpm.org

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May 2001

The Importance of Science and Technology (S&T) in Development

In his address at the ACP-EU workshop on Research and Technology Development in Legon in January 2001, Professor Addae-Mensah noted the importance of science and technology (S&T) in development, stressed the need for policy dialogue and discussed issues that need to be included in this dialogue.

Research and technology development (RTD) is important, not only to this university, but also to the governments and people of Africa as a whole. Ghana, for example, is seeking to become a middle-income country by 2020, but this objective can never be achieved if it is not driven by science and technology. The latest Ghana Human Development Report focuses on science and technology for human development. Ghana has already produced a comprehensive science and technology policy. What is now lacking, not only in Ghana but perhaps also in other developing countries, is a well-articulated channel of communication among researchers, users of research findings and policy-makers so as to incorporate S&T policies in national development.

This policy dialogue needs to address a number of crucial questions, namely:

- What are the implications of the growing amount of direct donor support to institutions and projects in terms of research ownership?
- What issues does the ownership problem raise for research relevance?
- What are the most appropriate channels for ensuring increased public spending on RTD without placing budgets under undue pressure?
- How can one achieve public-private partnerships in RTD without sacrificing quality and enhancing utility?
- What structures can be put in place so as to encourage greater interaction between researchers and research users?
- How can research activities best be prioritised?
- How should cost-effectiveness in RTD be handled?
- How can the human capacity problems be resolved beyond the issue of remuneration?
- What role can be assigned to donor assistance and how can this best be realised?

Another issue that needs attention is the problem of indigenous knowledge and intellectual property rights in, for example, biodiversity, genetic resource management and biotechnology. The basmati rice controversy between India and the USA and the recent conflict between scientists in Kenya and Oxford (UK) over an AIDS vaccine based on the genetic make-up of Nairobi prostitutes demonstrate that policies are needed for addressing ethical, legal and economic issues. These issues also apply in Ghana, where researchers are involved in cutting-edge research in biotechnology and plant genetics, and where growing interest is being shown in indigenous knowledge of plant medicine. While there is every reason to believe that the reception given to foreign technologies in Africa is changing, there is relatively little relevant technology flowing in at the moment. Foreign technologies need to be imported since Africa cannot afford to reinvent the wheel. Development must be based on indigenous and readily acceptable knowledge, but should also be endogenous in scope, thrust and relevance. However, this should be done selectively since sometimes even applied imported technologies are not suitable. For the imported technology to be meaningful and acceptable, there should be strong institutions for attracting and adapting these foreign technologies. The fact that rural and other producers know that a certain technology exists does not necessarily imply that they will use it. S&T policies should also deal with the conditions that need to be met for local producers to adopt technologies. The latter seldom have access to information and financial services that can encourage them to adopt innovations. Other constraints include high costs and traditional values. The presence of strong institutions is crucial if local producers are to be encouraged to use appropriate external technologies in order to develop endogenous technologies.

By Professor Ivan Addae-Mensah, Vice-Chancellor of the University of Ghana
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(This article is a summary of Prof. Addae-Mensah's address to the workshop on RTD, Legon, Ghana, January 2001)

Bridging the Technological Divide

A technological divide increasingly separates rich and poor nations. Most developed nations devote 2.5-4 per cent of their GNP to research and development. In the developing world generally and in countries in Africa, the Caribbean and the Pacific (ACP) particularly, the average is only 0.5 per cent. This huge investment gap is illustrated by several indices such as the number of scientists and engineers in research and development.

These aspects were discussed during the ACP-EU Policy Workshop on RTD, Legon, Ghana, 29-31 January 2001. The workshop acknowledged the crucial role that S&T plays in economic development and asked policy makers to accord higher priority to S&T on their national and regional development policy agendas. It was stressed that policy dialogues involving different stakeholders are crucial in the development of such policy agendas. The **Legon Statement on Science and Technology for Development in ACP Countries**, comprising the recommendations of the workshop was formulate and can be referred to at: http://www.capacity.org/9/Ghana-LegonStatementRTD.htm

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S&T Policy Dialogue in Uganda: Involving Public and Private Sector

A recent evaluation of the RTD policy dialogue in Uganda found that Uganda was a typical, poor ACP country in which there is not much RTD, not much RTD policy, and not much dialogue about that policy. Yet at the same time, it is also a country in which the little RTD policy that is happening is channelled through highly unconventional mechanisms, with a few flashes of brilliance. These could offer pointers towards an innovative model for RTD policy dialogue in an ACP context, involving both public and private sectors.

The main strengths and driving forces for the dialogue are essentially political, in the sense that the Ugandan political system of the past 15 years has evolved as an open learning, consultative innovative process in all spheres of Ugandan life, including RTD policy-making.

Public-sector RTD dialogue

In the public sector, the process has focused on the revitalisation of the key pillars of the RTD system, which had collapsed along with the rest of Ugandan society following two decades of political turmoil unleashed by dictator Idi Amin in the early 1970s. The key pillars of the RTD system are currently made up of the following 'Big Five' institutes:

The Uganda National Council for Science and Technology (UNCST), which is responsible for RTD policy, regulation and coordination in Uganda.

The National Environment Management Authority (NEMA).

The National Agricultural Research Organisation (NARO), which comprises eight institutes.

The Uganda National Bureau of Standards (UNBS) and the Uganda Industrial Research Institute (UIRI).

Makerere University in Kampala, which leads academic research and technology development in Uganda.

The findings of the evaluation study indicate that this public-sector RTD system is fragmented and compartmentalised, with some very weak basic building blocks and little meaningful RTD policy dialogue. Many of the institutions have weak institutional capacity, inadequate human resources and poorly defined mandates. There have also been instances of unhealthy inter-organisational rivalry, artificial barriers and duplication of effort, notably in the food research sector and in policy development.

The problems are illustrated by the ban that the European Union recently imposed on imports of Ugandan fish in 1999, which were found to be contaminated with toxic substances. This exposed all the weaknesses in the RTD system described above, especially with regard to standards and quality assurance. It has taken more than two years of dialogue among groups within the sector to re-establish standards and recover markets. Happily, access to the lucrative European market has been restored, and the country's RTD system has also improved considerably.

Private-sector involvement

The case of the fish ban also illustrates the need to involve the private sector in the RTD policy-making dialogue. In this case, it may have been relatively easy because the fish processing industry has many sophisticated foreign operators at the pro-cessing and export end. Yet the fishing industry in Uganda is also densely populated with thousands of small-scale, indigenous fisherfolk. The biggest innovations in RTD policy dialogue have resulted from greater understanding on the part of government of the role, problems, needs and constraints of these fisherfolk, whose unconventional fishing methods (i.e. poison) had actually resulted in the ban in the first place. The whole fish handling system has been improved by a mixture of raised standards, better hygiene at landing sites and self-policing by fishing communities.

Museveni aimed to modernise and transform Uganda into a medium-sized industrial power within one generation. The country's former industrialists, most of whom were of Asian origin, were invited back and protected by the regime. These have re-established most of the industrial goods and services that are needed by a growing economy. Other foreign investors have been attracted to the country and local industrialists have also been encouraged and nurtured. Various government RTD bodies have taken the cue to involve the private sector in RTD dialogue. NEMA, UIRI, UNCST and Makerere University have all launched programmes in this field.

Conclusions

The Ugandan case shows that the main force that is capable of drawing the public and private sectors into RTD policy dialogue is the political leadership. It is the political leaders who are the prime managers, movers and transformers of society. It is they who supply the vision and resources. In turn, they need the assistance of the civil service. In Uganda, however, this has been the main weakness of the RTD policy dialogue system and is in critical need of strengthening.

The study also shows that the private sector and grass-roots communities can get involved in RTD policy dialogue provided that they are properly motivated and the dialogue is innovatively managed. Where RTD policy dialogue has been good, so has policy-making.

The way forward

There is a need for a concerted effort to improve the coherence and coordination of the 'Big Five', and to strengthen all the basic building blocks of the RTD system.

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There is a growing realisation, particularly within the scientific community, that Uganda needs a Ministry of Science and Technology to provide the necessary coordination and linkage mechanisms, as well as committed political championship to push RTD issues at operational levels of government. It would operationalise the vision which already exists in the person of the President. The lack of a ministry of science and technology is an important hiatus in the support system for RTD policy dialogue.

There is also a realisation that the dialogue needs to be broadened beyond ministers and civil servants to include parliament, the media, civil society and NGOs.

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Capacity.org Celebrates Second Anniversary

Published since April 1999, we are celebrating the second anniversary of Capacity.org with the publication of this extra long issue. We are pleased to announce that the readership has increased dramatically. The web-version of Capacity.org now reaches more than 20,000 hits per month and a growing number of persons submit requests for the hard-copy newsletter. We will put all efforts into the regular production of the quarterly web and hard copy magazine and will continue to act as a platform for the capacity community to meet and exchange ideas and provide updates on the latest developments. Based on feed-back and requests received, we expect to focus in future editions also on the ACP-EU Partnership Agreement, signed in Cotonou in June 2000 as well as on the work of other organisations being active in the area of capacity development.

The newly created theme pages on the Capacity.org web-version reflect this new focus. One of them is a section created to highlight key capacity issues relating to the implementation of the ACP-EU Partnership Agreement which is a unique form of North-South cooperation. A major element of the Agreement is the emphasis on capacity development and institutional strengthening. The thematic page on **Capacity and Cotonou** aims to support the process of developing capacity under 'Cotonou' by providing information on pertinent activities, highlighting material relevant to the topic and providing links to other organisations working in this area (www.capacity.org/cotonou/index.html).

The other theme page is produced by the International Institute for Communication and Development (IICD) and focuses on **ICT and Capacity Development**, a rapidly-emerging issue in development - the challenge posed to individuals and organisations by new information and communication technologies (ICTs). The focus is not just on the technologies themselves, but on the institutional and personal capacities needed to make effective use of them (http://www.capacity.org/ict/index.html).

With this issue we also would like to thank our readers for acknowledging the value of our approach taken so far, which aims to highlight in particular contributions to the capacity debate from the South in a concise and to-the-point manner. We solicit your suggestions on how to improve the site and the newsletter as well as contributions and comments to ongoing discussions. Please contact us by e-mail to cb@ecdpm.org, or by fax to (31)-43-350.29.02

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The Relationship between Policy-Making and Policy Dialogue in Vietnam

Although Vietnam remains a poor developing country based largely on agriculture, it has long regarded science and technology (S&T) as the cornerstone of its future socio-economic development. As early as in the late 1950s, a national agency for S&T was established to coordinate and promote S&T.

Policy-making in Vietnam is highly institutionalised. The government has created an elaborate system for policy-making, and increasingly for promoting interaction between policy-making and policy dialogue. An elaborate and highly formalised bureaucratic structure has been put in place to ensure that a national policy dialogue is promoted at appropriate moments in the policy-making process so as to gather the opinions, suggestions and recommendations of relevant organisations and individual experts (through seminars and workshops, or the circulation of draft policy documents or position papers).

The Ministry of Science, Technology and the Environment (MOSTE) is normally responsible for coordinating policy-making and dialogue in relation to S&T. However, officials from related ministries such as the ministries of Education and Training, Finance, Planning and Investment, as well as representatives of the National Assembly, unions of S&T associations, etc. often also sit on 'steering committees' chaired by the MOSTE for the purpose of drafting a particular S&T policy document. These committees of high-level policy-makers and politicians are assisted by 'working groups' or 'task forces' consisting mainly of professionals, researchers and middle-level government officials who actually do the work of drafting policy and organising a dialogue.

There are typically two ways in which a policy is initiated. The first possibility is that it forms part of the agenda of a policy-making body, which means that there is not really much dialogue in a broad sense. The alternative is where a prolonged debate takes place before the policy in question actually surfaces on an official agenda. Here, the policy dialogue starts long before the policy-making process itself actually gets under way.

One of the key aspects of policy dialogue is the way in which arguments, decisions and results of the policy process are recorded. Among the means used are feedback systems that allow 'old' information to be processed faster and 'new' information to be internalised. The opinions of the MOSTE, other relevant ministries and the government are normally prepared and communicated in writing. Delegates attending seminars are also requested to submit written papers, if necessary after the event. Policy dialogue is a flexible process. Often, policy goals and priorities are not fixed at the outset, but are amenable to revision and even radical change.

The strengths of this type of policy-making process are that:

- wide support is generated among stakeholders through a largenumber of seminars and round-table conferences;
- a collective consensus can be built through cross-ministerial discussion exercises;
- it is clear which government agency is responsible for coordinating policy dialogue and policy-making;
- there is room for feed-back in the dialogue process, as well as for interaction between policy dialogue and policy-making;
- issues and initiatives arising from the policy dialogue can be translated into a policy agenda.

However, it also has certain weaknesses:

- insufficient attention is paid to people from outside government and professional circles, e.g. from social segments such as the private sector, the mass media, end users, NGOs, etc.. It is often difficult for those who are not directly approached by the 'steering committees' or 'working groups' to express their opinions and comment on policy drafts;
- there are no follow-up activities and there is no opportunity to adjust policies during the gap between announcement and implementation. At present, there is no formal mechanism for undertaking an extensive survey of views on the appropriateness of the policies adopted.

Based on past experience, the relationship between policy-making and policy dialogue could be improved by taking the following measures:

Political and media support for the national S&T policy dialogue needs to be raised and incentives need to be introduced to encourage the private sector to start contributing to the dialogue process, and subsequently to national S&T systems. Discussions with economists, the business community and NGOs (especially those working at a grass-roots level) should be given greater priority, so that scientific and technological priorities can be integrated more closely with the country's socio-economic development.

International agencies and foreign institutions should be involved in a more pro-active manner, for example by inviting them to participate in policy discussion meetings rather than only seeking to obtain reference material from them.

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The Ghana National Policy Dialogue as a Learning Process

In Ghana, discussions on a policy dialogue on Research and Technology Development (RTD) have gained considerable momentum for a number of reasons. The first is the National Human Development Report 2000 that focuses on 'Science, Technology and Human Development'. This has sparked off a debate among human development experts about how S&T could be used to accelerate the process of building human capital. The second is the importance attached to RTD in the Development Policy Framework (2001-2005) under Ghana-Vision 2020. Also, a diagnostic study commissioned by the EC has encouraged open discussion among stakeholders about RTD policy processes. Building on this growing interest, we recently completed a study of the policy dialogue as an open learning process.

Focus of recent study

The aim of the study was to describe the RTD policy dialogue. To measure how open the policy dialogue had been, we examined the varied backgrounds of the participants. We considered the extent to which their views represented the positions of the participating institutions, and whether they had been formed as a result of a participatory process. In terms of openness, the study examined the capacity of the stakeholders to grant the wishes of those who were expected to use the outcomes of RTD. Regarding policy dialogue as a learning process, the focus was on how widely known the processes and outcomes of the dialogue were.

The nature of the policy dialogue

In order to produce the current national science and technology policy document, a series of activities took place, from 1986 to 1998. The policy dialogue went through the following stages.

A group of experts compiled a compendium of S&T initiatives going back to the 1970s. A consultative group was assembled, representing major RTD stakeholders, for broad consultations on the future of S&T. Sector consultations took place on the contents of the policy document. These involved discussions with all the key ministries, departments and agencies that were to be responsible for implementing a national S&T policy. The experts got together to 'set out the issues' for the policy document. A one-day national stakeholders' forum was held in August 1998, with 170 participants drawn from all the major RTD institutions including the universities, key ministries, departments and agencies, industry and the press. Following the national forum, a final document was prepared, which led to a cabinet memorandum being issued. The process is currently in its seventh stage, which involves the drawing up of an implementation plan.

The final stage will involve setting up a consultative group for monitoring the implementation of the policy, while allowing necessary modifications.

The policy dialogue had the following features:

A large number of representatives of the S&T community were mobilised to work on developing the various options, so as to ensure that the resulting plan would be successfully implemented. Opening up participation was seen as a means of ensuring ownership of the plan.

The policy dialogue was dominated by researchers and technocrats from the Council for Industrial and Scientific Research, who consulted with other stakeholders on behalf of the Ministry of the Environment, Science and Technology. While significant openness was achieved compared with the earlier attempt, it remains the case that only a limited range of 'stakeholders' participated in the process.

There was a thorough review of past initiatives in the area of science and technology development.

While stakeholders acknowledged the benefits of the emergent policy dialogue, they also expressed dissatisfaction with type of interaction that took place. Users of research complained that they had not been consulted by researchers, while researchers complained about the absence of effective structures for linking up with end users. Indeed, the private sector has played only a very minor role in the policy dialogue and in RTD activity in general.

Outcomes of the policy dialogue

A science and technology policy document for the new Ministry of the Environment, Science and Technology was produced in 1998. Due to the relatively narrow definition of the term 'stakeholders' employed in the document, however, the areas of RTD covered in the draft S&T policy document were also relatively narrow. The document did not address the vital issue of Information and Communications Technology (ICT). Biotechnology was mentioned only in passing, and the discussion of agriculture and other sectors was limited to traditional approaches to developing S&T in those areas. No mention was made of marine and biomedical technologies even though the document claimed there was a need to conduct biomedical research. The draft S&T policy document centred almost entirely on the need to support research activities promoting agriculture, health, education, energy, industry, commerce, environmental protection, human settlements, natural resources (land, minerals, water, etc.), communications (information and mass media), construction, military science and technology, and basic research. There was a marked focus on the traditional areas of scientific enquiry.

Did the policy dialogue facilitate learning?

The process of learning is assumed to ensue from a feedback system that allows for new information to be internalised during the course of the process. The S&T policy document took into

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account reports on over 100 different initiatives to develop an S&T framework. The learning outcome was reflected by the publication of a new Medium-Term Development Policy Framework acknowledging the need to provide adequate resources for RTD and making concrete proposals to this end. Despite the opportunities for discussion and learning that have characterised the process of developing S&T policy, little publicity has been given to the activities and hardly any assessment has been conducted, except by those directly responsible for preparing the document. Indeed, the main constraint on learning from the development of S&T has been the rather limited discussion of the policy, which has been restricted to the 'experts' without the participation of a wider segment of Ghanaian society.

Is the policy dialogue a continuing process?

The development of the S&T policy document suggests that each stage was built on the outcomes of consultations with specific groups. While this was certainly positive for the policy dialogue, the committee of experts did not actually go back to the groups they had consulted to discuss how earlier positions had worked in practice. However, the lack of clarity in generating feedback was definitely not indicative of a lack of transparency in the processes by which the policy dialogue has evolved.

By Professo. Ernest Aryeetey, Deputy. Director of the Institute of Statistical, Social and Economic Research (ISSER) of the University of Ghana. e-mail: aryeetey@ghana.com

Additional Resources

AERC. The African Economic Research Consortium's research and training programmes aim to strengthen national research institutions in Africa. http://www.aercafrica.org

CODESRIA. The council for the Development of Social Science Research in Africa (often difficult to access).
http://www.afrst.uisc.edu/codesria/codesria.htm

Completing the Circle: Bringing Research into Development. February 28, 2001. First edition of an online newsletter of the Tanzanian EssentialHealth Interventions Project.
http://www.idrc.ca/ehip/TehipNews/tehipnews1-3/
Tehipnews1 (3).html

Harvard University has courses, a seminar and fellowships (in 2002) on S&T policy making.
http://www.ksg.harvard.edu/cmo/courseintro.htm
http://www.cid.harvard.edu/cidbiotech/
globalgovconf/index.htm
http://www.cid.harvard.edu/cidbiotech/felllowships.htm

Innovation Policy Review. (formerly the Science and Technology Policy Journal) is the Bimonthly Newsletter for Innovation, Science and Technology published by The British Library.
http://www.bl.uk/services/stb/ipr.html

OSSREA. The Organisation for Social Science Research in Eastern and Southern Africa aims to encourage and promote interest in the study of and research in the social sciences in the region. http://www.ossrea.org/

SISERA. The Secretariat for Institutional Support for Economic Research in Africa aims to reinforce African Centres capacity in research and management. http://idrc.ca/sisera

SAPES aims to make research more accessible, link research to pertinent policy issues, translate theoretical policy research into actual policy making and create fora where academia meet with the wider society. http://www.sapes.co.zw

SPRU - Science and Technology Policy Research - is active in policy research on science, technology and innovation (STI) and its wider economic, social and environmental implications.
http://www.sussex.ac.uk/spru

UNU-INTECH. Within the UNU family, INTECH conducts research and policy-oriented analysis and undertakes capacity building in the area of new technologies. http://www.intech.unu.edu

(More info on www.capacity.org)

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Policy Dialogue for Creative Potential for Technological Innovation in the Dominican Republic

Several decades ago, the Dominican Republic adopted a number of initiatives for promoting technological development in both the farming and the industrial sectors. Unfortunately, these sectoral initiatives were not a satisfactory response to the need for technological innovation, as they were not supported by a coherent set of policies allowing research and development programmes to be implemented in a regular and sustainable manner. Broadly speaking, the government of the Dominican Republic has attached a low priority to research and technological development. Not only is there no culture of innovation, but very few human, material and financial resources have been devoted to RTD. The country compares badly both with developed countries and with other developing countries and countries in the Caribbean region.

The lack of a technological infrastructure that is capable of bringing about the changes required to boost productivity and competitiveness in agricultural, industrial and service enterprises is a serious obstacle that is preventing the country from successfully meeting the challenges of today's market-opening process.

At the same time, market globalisation has been stimulating the demand for innovation and technological improvements, and this has generated interest in promoting a stronger RTD infrastructure and establishing proper links between technology users and providers at the different stages (i.e. dissemination, transfer, adaptation, improvement and research). Evidence of this interest is provided by a set of proposals recently drawn up under the auspices of various players in the country's RTD community, from government, business and academic circles.

To start with, the Presidential Commission for Reforming and Modernising the State (CPRyME) has proposed creating a National Science and Technology System. In parallel with this, the Interinstitutional Innovation and Technological Development Committee (CIDET) has suggested creating and developing a Dominican Innovation System via 'Dominicana Innova', the Dominican innovation project. Thirdly, the National Higher Education Council (CONES) has proposed creating a national higher education system for science and technology. To this end, it has drafted a bill on science and technology in higher education which the President of the Republic presented to the National Congress last year. A fourth proposal, for a national competitiveness plan sponsored by the Ministry for Commerce and Industry, seeks to establish a strategic framework for promoting international competitiveness in the Dominican economy.

More recently, a group of businessmen have promoted a 'National Competitiveness Strategy', and the agricultural and forestry development centre (CEDAF) has presented a new plan to the government authorities for driving RTD in the agricultural and forestry sector.

These well-formulated proposals provide a good basis for designing a general policy, programmes and projects for promoting RTD in the country. However, developing a national RTD project that is capable of producing the necessary changes will mean harmonising all sorts of divergent viewpoints and interests and taking more coordinated action. Key players have suggested that the time is now ripe for promoting dialogue so as to evaluate the various proposals and jointly define an RTD policy.

In short, opportunities are now being created in the country for supporting RTD initiatives. Cooperation could be geared to strengthening institutions, ensuring that some of the more successful programmes continue in operation, supporting any new civil-society initiatives that may emerge, as well as any alliances or joint ventures between the private and public sectors, boosting creativity and coordinating donors' activities.

By Dr. Francisco Checo, Director of the Centro de Investigación Económica para el Caribe, e-mail: fr.checo@codetel.net.do

Announcement: Review on Reforming Technical Cooperation

The UNDP is undertaking a major review entitled "Reforming Technical Cooperation and Capacity Development for a New Century". It is a follow-up to the 1993 Berg report entitled 'Rethinking Technical Cooperation - Reforms for Capacity Building in Africa'. The review, initiated and funded by the Dutch government, will include a series of technical studies analysing key development issues from a capacity development perspective. The aim is to highlight good practice and to make policy recommendations for improved technical cooperation and donor coordination. The results from these studies along with inputs from a variety of consultative mechanisms (an interactive web-site, country and regional consultations, two round tables and country case studies) will feed into a state-of-the-art book to be published in February 2002. Capacity.org will follow the proceedings of this review and will host and moderate two e-conferences prior to the round table meetings, with the first starting mid-June 2001. For further information: http://www.undp.org/capacity

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Efficiency of the Political Dialogue on RTD in Senegal

This article is based on a case study on Senegal that was performed on behalf of the ECDPM as part of a project for supporting the ACP-EU political dialogue on RTD. The article examines why political dialogue has had only a limited impact on RTD in Senegal. It also discusses the expectations of various actors involved in the process and presents a number of proposals for improving the political dialogue and increasing its efficiency.

Introduction

The process of building national RTD systems in ACP countries has been underpinned by consultations and debates in each country bringing together a range of actors operating. These nationwide consultations and debates are part of a process of political dialogue that has two basic aims: firstly, to help the national RTD system to plan research activities, and secondly, to respond to researchers' concerns.

The experiences of Ghana, Uganda, Senegal and Vietnam illustrate that the situation varies from one country to another, depending on local conditions. Despite all these differences, however, it remains true that each country's RTD performance is determined largely by the efficiency of the dialogue process.

In Senegal, political dialogue has always been an essential component of the system of managing research. The establishment of an executive body for scientific and technical policy (known as the ODRST) and of an interdepartmental research council, as well as the organisation of national debates on science and technology, are all evidence of the authorities' willingness to institutionalise political dialogue. These events have provided an opportunity for all sorts of research actors (i.e. decision-makers, researchers, private-sector players, development structures and NGOs) to exchange ideas in an attempt to strengthen the national RTD system. Several key themes have been debated, such as the institutional framework for research, research funding, the status of researchers and the validation of research findings. In addition, a system of planning, budgeting and evaluating RTD has been set up, based on sectoral programmes.

Despite these efforts the results thus far have been very modest and research has remained extremely fragile. It is not clear whether this process of consultation has had any real impact, and whether recommendations made have been properly followed through. In other words, we need to:

examine why the dialogue process has had only a limited impact,
identify the main expectations of the actors involved, and
define an effective evaluation system.

Why did the political dialogue on RTD have only a limited impact?

In most countries, political dialogue is an ad hoc process that is intended to make it easier to define research priorities and research programmes and prepare research budgets. It does not always play a part in the national planning process or in the formulation of development priorities. The trend seen in Senegal is for political dialogue to be assimilated with events that are designed to remove certain constraints on the development of RTD. From this perspective, short-term concerns take priority over long-term needs and the objective remains to accommodate the grievances of various actors, in particular those of researchers.

This trend points to the absence of a coherent programme of political dialogue with clear-cut objectives, carefully planned activities, a list of anticipated outcomes and principal actors, as well as a predetermined monitoring and evaluation mechanism and a fixed budget. The political dialogue in Senegal is conducted only on an irregular basis, even though a regular dialogue would improve institutional collaboration and maintain sustained relationships with the public authorities.

Numerous actors with different expectations

RTD is a cross-cutting and multidimensional sector whose management implies coordination and consultation between different actors. In this regard, the political dialogue process should be a process of continuous, open and organised consultation, involving a range of different actors and taking place on a permanent basis. This concern is only taken into account in terms of participation, and no account is taken of the need for reconciling the expectations of the various actors. The large number of actors leads to a whole range of expectations which need to be analysed in order to improve the efficiency of the process. Amongst the groups of actors are political decision-makers, researchers, the private sector, cooperation agencies and donors, NGOs, local communities and associations.

The expectations of political decision-makers remain dominated by the impact of research on the complex problems of development, in particular the growth of agricultural output and productivity, as well as the development of appropriate and effective technologies. Putting short-term concerns first, their expectations certainly go beyond the research framework.

The expectations of the research community include the attainment of improvements in the way in which research institutions operate, better working conditions for researchers and the allocation of more resources to research activities.

The expectations of the private sector are geared principally towards four aspects: firstly, promoting a framework that is

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favourable to the business climate by developing a partnership with the research sector; secondly, opening up access to technologies that are both suitable and effective; thirdly, technical backstopping; and fourthly, obtaining facilities and financial support to enable the results of research to be put to productive use.

In addition to funding research and scientific events, cooperation agencies and donors continue to play a vital and indeed indispensable role. Their main expectations are geared towards opening up a market that is conducive to investment and the transfer of technologies, obtaining information about RTD and investment opportunities, sharing research results and strengthening the capacities of cooperation institutions.

Another category of actors are NGOs, local communities and associations. Their expectations are focused primarily on improving the living conditions of basic groups by taking account of their needs and requirements, raising their productivity and incomes, giving them access to appropriate and low-cost technologies, improving local technologies and enhancing local knowledge.

An evaluation system that has closer links with the political dialogue process

The efficiency of the dialogue process depends mainly on the flexibility of evaluation mechanisms which encourage both the participation of actors and institutional synergies.

The establishment of an evaluation system should take into account a certain number of prerequisites, such as a research policy that takes its lead more directly from national priorities, an integrated national research plan based on a sectoral and network approach, the incorporation of regional and international viewpoints into research programmes, the cooperation and involvement of research users and other actors involved in the formulation and implementation of research programmes, the allocation of long-term funding to the RTD plan, the definition of a national implementation strategy and the establishment of a national programme for political dialogue.

It therefore follows that the evaluation strategy should be managed by a high-level body with the requisite authority to coordinate and evaluate the political dialogue process. The impact of political dialogue should be evaluated on a systematic and independent basis. The evaluation and follow-up reports should be communicated to all actors in the process, so as to enable the goals and the action plan for implementation to be adjusted where necessary.

Conclusion

The political dialogue on RTD is an essential element for mobilising the various parties involved in the process and securing their support, for defining research priorities and for guaranteeing the concerted implementation of research programmes. It is also important to bear in mind that, as far as political dialogue is concerned, the process is just as important as the goals set. For ACP countries, especially those with a limited scientific culture, political dialogue should be a dynamic learning process that is adapted to developments in the national and international context. This process should be monitored and evaluated so that its impact is subjected to a systematic appraisal and any necessary adjustments can be made.

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Annotations

Bijker, W.E. et al 2000. EU-ACP policy dialogue on Research and Technology for Development (RTD), methodology for RTD diagnostic studies in ACP countries. Reviewed by Capacity.org, April 2001

This methodological report has been prepared by the University of Maastricht as part of a programme for assisting ACP countries to enhance their capacities in the field of research and technology. The report presents a methodology for carrying out RTD diagnostic studies, as a basis for engaging in dialogue with key stakeholders on RTD policy. This paper provides a brief review of the proposed methodology.

Context and rationale

In 1999, the European Commission launched an initiative to stimulate a policy dialogue on the reform of research, technology and development (RTD) policy within the African, Caribbean and Pacific (ACP) group of countries. The initiative was part of a new policy of supporting policy reform and capacity-building in RTD, with special emphasis on creating a facilitating environment and strengthening research collaboration between Europe and developing countries.

This initiative needs to be seen in a wider context, and the report briefly signals a number of recent trends. It notes, for example, that many developing countries have recently been actively seeking to define (or, as the case may be, redefine) the role of RTD in the development process. This has been due to the emergence of new theoretical concepts surrounding the relationship between science, technology and development, and to the recognition of the profound impact that the 'new' technologies have had on Western societies. The latter has also underscored the need for developing countries to come up with locally-driven responses to the technology revolution. Finally, recent strategic policy studies prepared by the UN and others have paved the way for a shift in thinking on the role played by technology in the development process.

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In order to take this policy forward, the Commission has emphasised the need for engaging in a policy dialogue with a broad range of stakeholders from the North and South. The aim of this policy dialogue is to clarify thinking on:

developing and reforming national RTD policies;
formulating strategies for supporting institutional reform;
intensifying scientific cooperation;
identifying innovative funding mechanisms;
improving the coordination of the EU's position vis-à-vis relevant international fora.

The Commission has encouraged the adoption of an inclusive approach to dialogue that would embrace the public authorities of ACP countries, the EU and donor agencies, universities, research intitutes and networks (referred to collectively as 'RTD communities'), as well as NGOs and private-sector organisations. The Commission's initiative envisages the organisation of dialogues at international, regional and national levels.

It is within this context of engaging in policy dialogue that RTD country diagnostic studies are to be commissioned. Their aim will be to describe the RTD situation in a given country and that country's RTD potential, and to take account of any factors that may either help or hinder an open dialogue.

Methodology of RTD diagnostic studies

The main part of the report presents guidelines for conducting the diagnostic studies. The methodology advanced in the paper is informed by a theoretical and conceptual discussion of the role and relationship between science and technology on the one hand and development on the other.

The theoretical basis for the methodology is provided by recent work in the field of 'science, technology and society studies'. These analyses support the allocation of a pivotal role to policy dialogue in setting up RTD policies, and indeed in stimulating research and innovation. An analysis of the role of science and technology in developing countries highlights specific issues that have been incorporated in the methodology: the complex, non-linear relationship between science and technology; the key role for indigenous knowledge alongside 'Western' scientific knowledge; the importance of local 'ownership' of research and innovation plans; and the role of state intervention and regulation in controlling the relations between multinational corporations and local institutions.

The methodology serves two purposes:

1 to provide guidelines for researchers carrying out diagnostic studies, and
2 to provide criteria that the EU and national agencies can use to evaluate such studies.

The guidelines take the form of a 19-point check list that is subdivided into seven parts. The first four focus on the general con-text of policy-making and policy dialogue in a particular country, whilst the following three focus more specifically on the subject matter of science and technology. The objectives and rationale for the guidelines are described in relation to each part. The key points are:

What concepts of policy and development should be used?
RTD policy dialogue must be set in a context, so as to avoid a situation in which RTD policy is seen as inward-looking and isolated. This means taking account of the wider policy and institutional environment, and identifying not only linkages and relationships, but also opportunities and threats.

What concept of policy dialogue should be used?
Are the right conditions in place for engaging in a policy dialogue process as described above, and how much progress is being made in conducting the dialogue? Is the dialogue 'open' and inclusive of a broad range of stakeholders, and oriented towards 'learning'? To what extent is emphasis placed on the 'process' itself? The report suggests qualitative indicators for assisting this part of the diagnosis.

What does the RTD landscape look like?
The RTD landscape is the institutional environment for RTD. The key institutional players involved in RTD policy and implementation should be mapped out.

How should the relevant power relations in the RTD landscape be analysed?
Beyond the mapping of actors as described above, the roles and relationships of the various institutional actors and stakeholders should be analysed, and special attention paid to organisational relationships and provisions, especially those pertaining to international property rights and patents.

What concepts of science and technology should be used?
All forms of science and technology activity carried out over the past two years should be documented. This review should not be limited to conventional (i.e. 'Western') work carried out by scientists and engineers, but should embrace the work of other social groups, including indigenous forms of knowledge and practice.

What fields of science and technology should be covered?
The review should cover all 'new developments' in science and technology that may potentially be relevant to a country's scientific and technological capacity. Researchers are warned not to fall into the trap of focusing exclusively on new technologies, nor of overlooking those technologies which may be of relevance to local development as opposed to national needs.

How should account be taken of the implementation of science and technology policies and of scientific and technological work?
The issue here is the factors that affect the way in which science and technology findings and innovation are translated into the development process, e.g. marketing, demonstration, funding and implementation.

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Tabor, S.R. and D.C. Faber. 1998 Closing the Loop: From research on natural resources to policy change. (Policy Management Report No. 8). European Centre for Development Policy Management. Maastricht.

Policy makers and researchers working on natural resource topics operate in very separate worlds. Bringing the two groups together can contribute to scientifically-sound resource management policy decisions and to research that is better focused on society's needs. But developing an effective interface between science and public policy is a difficult and often elusive part of the institutional development puzzle. In this first part of the book, the authors frame a set of concepts and propositions about the interface between science and public policy change.

Chapter 1 summarises the main findings of an expert consultation held on the interface between agricultural research and natural resource policy making organised by the International Service for National Agricultural Research (ISNAR) and the European Centre for Development Policy Management (ECDPM) in Maastricht in 1997.

The second and third chapters distil what is known about the link between research and policy in the natural resource management area. The second chapter, entitled 'the research-policy interface', finds ample support in the literature for an effective interface, but also reveals many reasons why 'good' interfaces rarely exist in practice.

Chapter 3, entitled 'loops of a spiral', finds that the process of building a science-policy interface can be conceived as one of internalising increasingly complex agendas. In practice, agricultural research institutions are able to tackle more complex objectives, such as environmental risk and uncertainty, after they have developed capacities to tackle more basic production and farm income concerns.

The fourth chapter by a policy practitioner shows that the policy process is rarely understood by the scientific community and that a better understanding of the process of policy change should be a first step in integrating scientific information into the policy change process. From a policy maker's vantage point, improving communication is the best way to close the loop between science and public policy making.

The chapters 5 to 14 in this book represent the contributions of people attending the meeting from Ghana, Kenya, Brazil, the Eastern Pacific, Mali, the Philippines, the European Union and Germany.

Honig, C. Science and Technology Policy. 1995. An International Perspective. London. The British Library.
Reviewed by Capacity.org, April 2001

This book is a resource for anyone interested in comparing and contrasting government approaches to developing science and technology policy. The book begins with an introductory overview, which is followed by 22 articles each of which focuses on how science and technology policy has been developed in a particular country, and discusses the impact that science policy has had in that country.

See: http://www.capacity.org/9/annotated.htm

Capacity.org was set up by the European Centre for Development Policy Management (ECDPM) as a tool for development researchers, practitioners and decision-makers. As both a web site and a newsletter, *Capacity.org* brings together information, ideas, and viewpoints on capacity building policy and practice within international development cooperation. It acts as a platform for dialogue and provides a channel for informed review and synthesis of the complex issues faced by development practitioners and policy makers.

Focusing on both the 'why' and the 'how' of capacity building - debating policy questions and learning from practical experiences - *Capacity.org* seeks to 'unbundle' the complex of ideas and practices that we call capacity building. In doing this, the editors particularly encourage the exchange of perspectives and experiences from the South, to ensure that the discussions are rooted in reality.

Developed by ECDPM, it is our aim to make *Capacity.org* a joint effort in which all of our various capacities and expertise are mobilised and shared. Interested individuals and organisations can help make *Capacity.org* an effective communication tool for people who seek to alleviate poverty through capacity building. Join us by contributing information, lessons, ideas and opinions, and feedback. Offers to co-finance parts of the initiative or to link related initiatives are very welcome.

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