



Global Knowledge and Development Project

International Advisory Meeting

Lima and Urubamba, Peru

September 30 – October 4, 2002

Purpose - New Directions for S&T Cooperation

Foro Nacional/Internacional (FORO) and the Centre for Global Studies (CFGs), University of Victoria, convened a meeting of international science and technology (S&T) policy experts in Lima and Cusco, Peru, September 30- October 4, 2002. The purpose of the meeting was to gather input and advice on the Global Knowledge and Development (GKD) Project, a joint one-year initiative of FORO and the CFGs aimed at identifying new directions for strengthening S&T capacity in developing countries. In particular, participants were asked to review and provide comment on the project's three major elements

“T-7” - was formed, each one charged with the task of 1) identifying niches or gaps in the existing global architecture, and 2) conceptualizing the institutional mandate and structure that could best respond to these needs. Funding to conduct

their level of S&T capacity; and a discussion of the types of policies that are most appropriate for consolidating S&T capacity in the context of the current shift toward a “post-Baconian” techno-economic paradigm. This shift is characterized by the transition from oil to the microchip as the primary driver of techno-economic activities, and in the emergence of new scientific fields like bionics, materials science, genotyping, etc., all of which demonstrate a high degree of technological convergence. The paper argues compellingly for the necessity of an “endogenous S&T capability” – in which there is strong integration among knowledge, technology, and production systems within a society – as a pre-requisite for sustainable development. It touches on the different ways indigenous and traditional forms of knowledge can be deployed toward achieving this objective.

The paper emphasizes two principles for the design of S&T development strategies: the importance of a long-term approach (endogenous R& D capacities take more than fifteen years to create, but can be wiped out in less than two years by misguided policies); and the central role of the state as facilitator of scientific knowledge generation and innovation capabilities. The latter point reflects a change away from the orthodoxy of liberalization and de-regulation in development, since there seems to be growing recognition that knowledge can not be simply imported or taken “off the shelf” from developed countries. There must be local S&T capability to be able to identify, select, adapt and effectively utilize imported technologies and knowledge. The countries that succeed in development are those that have a national effort in science and technology. Finally, the paper discusses the role of international cooperation in the future of S&T development, and introduces the idea of a GKD facility, proposing a number of suggestions for potential roles and functions.

Summary of the Inventory of International S&T Cooperation Programs

In this component of the project, the research team at CFGS has compiled an inventory of approximately 275 programs engaged in the delivery of various forms of S&T cooperation activities with developing countries. Funding sources for the programs are derived from a total of 119 multilateral, bilateral, national, regional, non-governmental and private industry sources. The entries are contained in a searchable database, which is available on the Web at <http://139.142.245.96>. Entries in the database are searchable by name, country, region, sector, budget, eligibility criteria, source of funding, and type of funding mechanism (technical assistance, loans, grants, fellowships, donations in kind, etc.). The database provides information on Agencies and Programs, but does not extend to descriptions of individual projects.

In the course of conducting this research, many issues have arisen which are still outstanding. Decisions on whether to include or exclude a program in the inventory were judged on the basis of four major criteria: primary focus on developing countries; direct as opposed to indirect focus on S&T; current, continuing or future programs; North-South or South-South lines of cooperation. In practise, however, the criteria proved difficult to apply in an even way, resulting in some inconsistencies. With regard to methodology, Internet searches provided the major source of information, along with literature reviews and document searches (program publications, annual reports, etc.). In cases where the Website contained incomplete information, efforts were made to contact agency staff directly. This highlights issues of transparency, since certain agencies were found to be much more accessible and forthcoming with information than others. In general, the UN Agencies were most problematic in this regard.

One area that has yet to be fully addressed in the database is the matter of evaluation. The entries are not evaluative, though ideally the preference is to move the research in this direction. In the interim, the entries have been assigned a rating of one to three stars, in which rankings are assigned according to the following three criteria:

- degree to which S&T capacity-building and transfer of knowledge are a direct, rather than indirect, focus of the program;
- degree to which the program reflects southern priorities and a participatory partnership structure between donor and recipient organizations;
- degree to which the program explicitly promotes development of indigenous knowledge.

Comments on the Paper

Discussion of the two project components occurred during multiple GKD and joint sessions with the RoKS group over the five-day period. A summary of the major themes of feedback is provided below:

Concepts and definitions

A number of points were raised in this regard. There is an impression that the paper shifts too quickly between abstract and empirical styles. Some effort is needed to tidy up terminology. Having said that, the paper is very strong on both accounts. On the conceptual side – these are big ideas that could be extremely useful for policy makers. They show clearly how S&T capacity impacts level of development. The indexes are also very useful and should be strengthened.

The definition of “development” is of inter

Audience

There is a need to question who the readership will be. There may eventually need to be two or more versions of the paper. One that offers a historical overview; one that focuses on the policy issues (preferred?); one aimed at a more critical audience that takes bold and provocative positions. Whether it currently has the right balance between all of these is not clear.

Institutional base.

The paper could be more explicit in describing the settings in which transformation is more likely to take place. There is a whole set of national constraints – funding, teaching, infrastructure. Need to show how the different activities are integrated. This can include a discussion of the delivery mechanisms and administrative capacity that are required for executing policies.

Indigenous knowledge

In general, this theme is not developed enough. More particularly, the claims about the emerging importance of indigenous knowledge could be better supported. What are the empirical references? Indigenous knowledge can mean something much broader than the traditional native culture. It can mean different actors, stakeholders, industries. Overall, this angle is important but problematic. In the example of Korea, it did not play a role. On the other hand, there is a small but important literature focusing on the value of traditional technologies for enabling non-market, more environmentally sound forms of social relationships. The paper tried to strike a middle ground, advocating for a strategy of “technological pluralism” for a period of time, involving

Comments on the Inventory

Gaps and coverage

There is a sense that the Inventory has made a good start. It has identified over three times the number of programs listed in the best example that exists so far. But it has not captured all dimensions of the S&T landscape. There remain many gaps. Some specific suggestions for enhancing the coverage include:

- Check the inventory of Scientific Institutions prepared by *Nature* magazine.
- There will inevitably be gaps – but they will look different depending on the classification used. How they can be addressed will also depend on the size of your resources.
- There is not enough on the private sector. This has never been done, and would be very useful. Could start by approaching the World Business Council for Sustainable Development.
- Needs more emphasis on north to north, south to south or triangular relationships. For example, SAREC conceived a triangular program

incorporates follow-up interviews with selected organizations to verify that they are doing what they say they are doing. For Rockefeller, the challenge is to know whether there are mechanisms or policies that can better serve poorer countries. Not that we would necessarily make grant-making decisions about this, but it is useful to learn more about what approaches are needed or not needed.

It won't be po

different opinions about it, but at the end of the day what is essential is that the exercise should lead to a massive quantitative increase over a short period of time in the amount of resources available for pursuing an effective global S&T agenda. This will require innovative financial mechanisms and new institutional structures to raise, administer, and effectively channel a significant magnitude of funds (at a minimum in the billions of dollars range). Beyond that, the facility must provide ideas; it must promote diversity, differentiation, and spread of best practise; and it must model effective governance. There is a severe governance deficit within the existing global institutions, and an urgent need for old structures to give way to new principles and practices that reflect the best elements of the new knowledge paradigm.

Responses generated from the discussions are grouped according to the following themes:

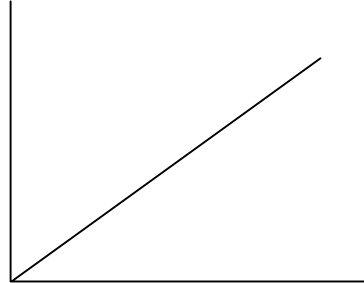
Funding / Role of Private Sector

A first order of concern is the issue of financing. How will such an ambitious agenda be funded over both the

concern that due to major breakdowns in infrastructure affecting the delivery and follow-up of treatments, the effort is likely not only to create risk, but to result in new drug-resistant strains of the HIV virus. Is it worthwhile providing S&T inputs if these basic infrastructures are not in place? On the other side of the coin is the argument that S&T investments *must* be targeted toward solving the immediate problems of the poor. Many poor countries are years away from the most basic conditions necessary to support an endogenous capability. A more ethical approach – and one that will generate broader public supports - is to tie S&T investments to missions that bring tangible results for poor people in the short term.

100% Problem Solving

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The inventory has shown that there is a large number of relatively small and largely disconnected initiatives to build S&T capacities in developing countries, although the research is still incomplete. There is need for a significant expansion of cooperation in this field and for much better coordina

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Participants

GKD Advisory Group

IDRC/RoKS Workshop Participants
