STAKES AND NEW PROSPECTS FOR NORTH-SOUTH SCIENTIFIC COOPERATION POLICIES

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Summary

Although North-South scientific cooperation is as timely as it was thirty, twenty or ten years ago, the context and the terms of the debate have changed considerably. Before critically reviewing the different models and approaches, this paper discusses the legitimacy of North-South scientific cooperation. It goes on to analyze the extent to which the increasing privatization of scientific activities will impact North-South scientific cooperation policies in the near future. The emergence of a global worldwide system and the specific role of Europe is also discussed. In the conclusion, the adoption of a new paradigm of North-South interactive interdependence is advocated.

1. Introduction

In the South, more and more countries are benefiting from the (foreign and national) investments to develop their higher education and research systems. North-South scientific cooperation policies have contributed to this development. But too many countries are still marginalized or so completely out of the running that their national

higher education and their research facilities are going downhill. The large majority of the later countries are to be found on the African continent. Yet it is not at all for lack of qualified scientists, quite the contrary, for their numbers and educational level rose significantly during the 1970s and the 1980s. In the South (and also in the North) there is a too broadly spread feeling that higher education and research are useless luxuries for the least developed countries and that there are faster roads to development. This feeling can often be traced to the technicist theories that consider it adequate to train technicians to use technologies and knowledge designed elsewhere. But experience proves that nothing can replace a local scientific community.

While North-South scientific cooperation remains a relevant approach to strengthen the emergence and sustainable development of local scientific communities in the South, issues surrounding the research field have changed. Among them, accountability is clearly on the rise. In the past, research scientists in many countries were marvelously free of political interference and were granted generous research budgets by the North (and sometimes also the South). Conditions were especially generous since the scientists could choose themes and make budgetary decisions on their own. Nowadays, these budgets are often allocated as part of program plans and target-driven contracts negotiated with the State that, more often than not, requires results that can serve economic development. At the same time the State 'encourages' their scientists to negotiate research or consultancy contracts with the private sector in order to round out the budget. Thus regardless of the limits and the contradictions found in these new requirements, scientists, be they from the North or the South, have to struggle to maintain a balance between research and expertise because without new strides in scientific knowledge and know-how, competent and competitive expertise cannot exist.

Thus, although North-South scientific cooperation is as timely as it was thirty, twenty or ten years ago, the context and the terms of the debate have changed considerably. In response, fresh thought must be given to the basis of scientific cooperation and research support policies, fields of intervention, organizational models, and the terms and conditions of 'aid' and cooperation. Before critically reviewing the different models and approaches, this paper discusses the legitimacy of North-South scientific cooperation and the possible consequences of the increasing privatization of scientific activities for North-South scientific cooperation policies.

2. Scientific Interference: Legitimacy and Duty

'The colonial enterprise', says Petitjean in his reference book on colonial sciences, used science to establish the legitimacy of a scenario in which science played the main role. The self-proclaimed superiority of the West, since the 19th century was accompanied by a hierarchical ranking of civilization and the altruistic obligation to spread Western civilization with all its benefits. Even though the colonial period belongs to the past, the world is still divided, schematically, into two 'poles'. The second pole is subsidiary to the first pole, Western civilization, whose superiority, whether we like it or not, comes from its growth-inducing scientific and technological capacities, its downstream innovation-generating techno-sciences, and a social organization designed to serve scientific and technical development. Although the demarcation line between these two axis of civilization is not unalterable, as long as the second pole countries lack a solid

scientific and technological base of their own, they are obliged to more or less passively accept scientific knowledge and technical innovations from the West without being able to derive full benefits from them.

Does this dichotomy, and the 'superiority' of one civilization or model over another justify having 'development-oriented scientific research' for the South conducted by scientists sent from the North? The fact that the South has recurring problems, viz. disease, malnutrition, undernourishment, environmental degradation, marginalization, poverty, megapole management, etc. that could be solved through scientific research is often used as an argument to explain why scientific intervention is a sort of duty. The 'development-oriented research' formula implies a close relationship between the results expected from this research and the development recommended by the societies involved. Hence, there are new foundations for justifying the presence of scientists from the North working in the South. However, this approach is only acceptable and, ultimately, legitimate if the scientific communities of the South make a request for this scientific cooperation, and if the scientists from the North give due heed to the local representations and reference systems so that local social and cultural values conveyed by colleagues from the South are properly incorporated in the knowledge construction systems. Thus, this development-oriented research requires shared partnership and common epistemological thought. Because of the dominating character of Western science and discrepant starting points, this is easier to say than to do. These inequalities can only be overcome if both sides revise their practices and methods.

Certain countries in the North, in an attempt to rebalance North-South cooperation in favor of the South and to ensure that values of the societies of the South are fully accommodated, recently decided to radically overhaul the policy governing their scientific cooperation with the South. This is the case in the Netherlands where a new policy adopted by the Ministry of Cooperation (DGIS) enables for resources from Dutch institutions to be transferred to their partners in the South and, going even further, allows the partners in the South, almost unilaterally, to determine research priorities for joint implementation. This new policy may jeopardize the active participation of the Dutch scientists, in particular as concerns their role in defining research priorities, and, in so doing, has partly challenged the legitimacy of the Dutch scientific community's work in the field of development-oriented research. To work in the South, scientists from the North do not only have to justify their presence in the South. They also, and increasingly, have to demonstrate the value of their research for the development of the country of the South and also for their home country, to public opinion, their colleagues, the political decision-makers and the public budget administrators of their home country. This is especially true in the United States where there is a strong communications flow to both Congress and the American people to show that the programs that were funded in the past have been well repaid and that, whilst contributing to finding solutions to development problems in the South, current programs are scientifically and economically profitable to the U.S. and open new markets. IDRC (Canada), on the other hand, during the first two decades of its work mainly tried to respond to requests from the South but did not work hard enough on its national image. It was, at least partly, to make up for this visibility gap and, ultimately, insufficient legitimacy that IDRC tried to rally round the Canadian scientific community

and, more recently, other Canadian partners by involving them more extensively. This question of legitimacy concerns all the countries of the North.

3. Is Research for Development a Public Property?

The international scientific community operates according to standards that have accustomed us to considering scientific knowledge as a universally available and universal asset. This state-supported public science is increasingly locking horns with market-driven private or privatized science. In today's globalized economy the tendency is to consider the capacity to create science as a commercial tool. Science was (and still essentially is) a public asset, although it is being turned into a private asset that may not be so readily shared, because private investment in research goes hand in glove with the demand for regulations that ensure property rights to the resulting scientific knowledge and technological innovation.

The world context pushes the search for competitiveness and tends to favor scientific production modes that generate immediate profit. The scientists' sense of professionalization is also altered, with a threat looming over the traditional values of professionalism, e.g. communalism (sharing results with one's peers) and selflessness (seeking academic notoriety rather than personal economic gain). Research is being increasingly viewed as a short-term activity, and the obligation to publish, i.e. make one's work public, is gradually being replaced by the obligation to achieve appreciable and marketable results. Standards for the communication and publication of scientific output have also undergone substantial change: more and more Ph.D. theses are defended behind closed doors, information circulates in confidential networks that connect private electronic boxes, many scientific discoveries are patented and presented to the media before specialized journals have reviewed them.

The globalized economy has relegated concerns for national interests, culture, and the need to share progress to a lesser position. Many developmental goals that are unrelated to commercial interests, such as the search for equity, good living conditions and poverty control may be excluded from the worldwide scientific research agenda which henceforth will be in private hands. The structural adjustment plans, which are also based on the same predominant logic of globalization and privatization, have already forced many countries of the South, during their debt renegotiations, to agree to reducing public funding for work deemed not directly productive; this often includes education (especially higher education) and research. Furthermore, institutions in the South (especially India, Mexico, Brazil, and many countries in Africa) frequently lose their senior technicians and scientists to private institutions (often multinational companies) where they hope to enjoy a higher status and a better job.

But can private science exist and survive without public science? Private companies will probably not want to shoulder the cost of basic research since results are uncertain. On the other hand, confirmed results are essential to innovative companies. Moreover, as Callon wrote in 1996 'without public science, without this source of diversity, the market, which has a natural tendency to transform scientific knowledge into merchandise, will be condemned to even more self-penalizing convergence and irreversibility'. Because of its ultimate goal and its very nature, private science cannot

create conditions propitious to generating the diversity and originality needed for scientific advancement and innovation. Callon concluded that science is a public asset that, as a source of variety, must be protected at all cost. This means that maintaining national public science is vitally important to both the private sector and the state for it alone can secure the level of autonomy which research groups and scientific communities need. The more numerous and heterogeneous these groups are, the more diversity they can generate. Public and private science have to be complementary. How the alliances that bring together public and private science are, and will be structured depends on the proposals and the negotiating capacity of the people involved, i.e. research scientists, science policy officials, managers of private companies, etc.

This observation will impact the future scientific policies in both the North and the South; it will also affect the reorganization of institutions (North) involved in implementing or assisting with development-oriented research. Several countries of the North, e.g. USA, Canada, Japan and United Kingdom, while decreasing their budgets for research cooperation with countries in the South have increased technological cooperation agreements. This is particularly true for USA and Japan. The European Union has drawn up new strategies to strengthen scientific/technological cooperation with emerging countries in order to help European business firms penetrate fast-growing markets. These cooperation agreements usually involve countries with strong techno-scientific potential. Development support policies should not overlook this turn of events. New types of agreements have paved the way for private companies to work with the best public laboratories in the emerging countries of the South. Since the middle of the 1980s, specialized institutions of the North, such as the Royal Institute for the Tropics (KIT) in the Netherlands, have revised their strategy and adopted a clearly commercial, client-oriented approach. In the United Kingdom, the Natural Resources Institute (NRI), which was privatised in 1996, has created two separate legal units, one for research activities and the other for consultancies. NRI staff can steer their careers between the two. The gradual decrease in direct funding for their activities is part of the reason for the change in strategy and status, and for staff reductions at both KIT and NRI. Although competition may sometimes be unfair, both institutions are ready to stand up to the challenge and feel they have certain comparative advantages, in particular through their capacity to provide limited term contracts, when need be, to specialists and experts drawn from the national scientific community or from abroad, and in particular, from the countries of the South.

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Biographical Sketch

Jacques Gaillard is presently Acting Director of the International Foundation for Science (IFS) in Stockholm, on secondment from the French Research Institute for Development (IRD, formerly ORSTOM). A trained agricultural engineer with a Doctorate in Science, Technology and Society (STS), he published over 30 papers, 6 books as author and 6 books as editor in the field of Science, Technology and Society. His recent books include: *Scientific Communities in the Developing World*, co-edited with V.V. Krishna and R. Waast (New Delhi: Sage, 1997), *International Migration of the Highly Qualified: a Bibliographic and Conceptual Itinerary*, co-authored with Anne Marie Gaillard (New York: Center for Migration Studies, 1998), *La coopération scientifique et technique avec les Pays du Sud. Peut-on partager la science?* (Paris: Karthala, 1999) and *Les enjeux des migrations scientifiques internationales. De la quête du savoir à la circulation des compétences*, co-authored with Anne Marie Gaillard (Paris: L'Harmattan, 1999).