

## Swedish-Uruguayan research cooperation – results and lessons learned

### Background

For about ten years, from 1986-87 to 1994-95, the Swedish Agency for Research Cooperation with Developing Countries (SAREC), today the Department for Research Cooperation within Sida, gave financial support to research cooperation between Sweden and Uruguay. Initiated by the Swedish government after the restoration of democracy in Uruguay in 1985, the programme was an expression of solidarity with the new regime. It consisted of a series of research projects linking Uruguayan research institutions to counterparts in Sweden. In some of the projects, Argentinean research institutions were also involved. The idea behind the programme was that through project cooperation, Swedish institutions would be able to assist partner institutions in Uruguay in rebuilding a research capacity that had been seriously damaged during the years of military dictatorship.

Nine projects, several with two or more sub-projects, were funded: five in medicine, two in agriculture, one in technology and one in economics. The selection of projects was based on established SAREC guidelines for research cooperation with middle-income countries and the availability of competent scientists with matching research interests in Uruguay and in Sweden. SAREC policy required that (i) there would be expertise on the Swedish side from which the partner country institution could benefit; (ii) the research programme would be jointly designed by the involved institutions; (iii) salaries and some other basic expenditures in the developing country institution would be paid by the developing country; and (iv) the research objectives would be relevant to the needs of developing countries in general. Over the years the programme received approximately SEK 45 million in SAREC funding.<sup>1</sup>

### The evaluation

An evaluation of the programme was carried out in 1997-1998 by a team consisting of Prof. Osvaldo Goscinski, Uppsala University (physical sciences and

computing), Prof. Mikael Jondal, Karolinska Institute (biosciences), Prof. Claes Sandgren, Stockholm University (methodology and policy); and M. Eng. Per Johan Svenningsson, private consultant (technology). As explained in the evaluation report, entitled *Research Cooperation between Sweden and Uruguay, 1986-1995. An evaluation of some general considerations* (Sida Evaluation 99/14), the evaluation was intended to summarize the main results of the programme in Uruguay, and also to draw lessons relevant to SAREC's present concerns. The impact of the programme on Swedish and Argentinean research institutions fell outside its purview. The evaluation covers all the projects in the programme, except the one in economics.

The evaluation was originally conceived as an experiment in 'benchmarking', where SAREC's programme would be set against a programme for science and technology (S&T) in Uruguay supported by the Inter-American Development Bank (IDB), and managed by Conicyt, Uruguay's national research council. Because of the considerable differences between the two programmes, this idea had to be abandoned. As the evaluation team was simultaneously engaged to evaluate the IDB/Conicyt programme, however, this programme could serve as a useful frame of reference for the Sida-SAREC evaluation.

### Findings

In the evaluation report, the results of the programme are assessed with regard to five standard performance criteria of aid evaluation: relevance, effectiveness, efficiency, impact, and sustainability. Where possible, these criteria are applied to the programme as a whole, as well as to each individual project.

#### **Research Cooperation between Sweden and Uruguay, 1986-1995. An evaluation of some general considerations**

Osvaldo Goscinski, Mikael Jondal, Claes Sandgren,  
Per Johan Svenningsson  
Department for Evaluation and Internal Audit  
Sida Evaluations 99/14

<sup>1</sup> This figure does not include funds directed to research institutions in Argentina.

The evaluators note that the projects were selected without peer review, and that systems for project monitoring and evaluation were inadequate. Even so, the project-by-project assessments are for the most part positive. Two of the projects, concerned with parasitic diseases and respiratory infections in children respectively, are singled out as particularly successful. According to the report, the parasitic diseases project had made significant advances in basic research and had had a strong impact on local research capacity. It had also generated extra-scientific benefits in terms of commercial immunodiagnostics and potential future vaccine development. With regard to the respiratory infections project, the usefulness of research results for health care systems is emphasized.

Most of the projects led to increased research capacity in the Uruguayan institution. For the most part, the increase was generated through research training. According to the evaluation report, about 50 Ph.D. students and 25 MSc. students were funded through the programme in Uruguay and Argentina – separate figures for Uruguay are not given in the report. Many students received part of their research training in Sweden, in accordance with the SAREC model of having students alternate between this country and their own (the ‘sandwich model’). A large number of scientific publications were produced by researchers funded by the programme in Uruguay and Argentina: according to the report, about 400 publications and some 300 conference communications.

The evaluators confirm the views of project leaders and other scientists interviewed, who found the programme to be efficient and flexibly administered. They believe that the considerable degree of responsibility and independence given to the scientists in the programme did much to ensure that resources were used efficiently. They also stress the importance of good timing: the speed with which the programme was established explains much of its usefulness to the Uruguayan researchers. Most of the research groups who were recruited for SAREC’s programme have since then also received financial support from the EU, IDB/Conicyt and other funding agencies.

Turning from the individual projects to the programme level, the evaluators become more critical. One of their main criticisms is that the programme was set up without a preceding study of Uruguay’s societal needs and the more specific needs of the S&T sector in Uruguay. Had such a study been made, the evaluators suggest, a larger share of the funds might have been spent on agricultural research and technological/industrial R&D. In the event, 70 per cent of the funds went to medical research, and only 30 per cent to other research areas. Thus, although all the individual projects were relevant in their own contexts and produced valuable results, the programme as a whole was not fully relevant to Uruguay’s societal and S&T needs.

A second major criticism is that the programme was not integrated with Uruguay’s national system for S&T, and therefore had no positive impact on that system. It is here that the contrast between SAREC’s programme and the IDB/Conicyt programme is most apparent. Where IDB funds were channelled through national

research authorities, SAREC largely bypassed the national authorities. A “go-ahead” was given by the Foreign Minister, but the participation of the ministries in charge, the Ministry of Education and the Office of Budget and Planning, was marginal. As a result, SAREC not only missed an opportunity of lending needed support to central organs of the national research system. By failing to encourage a sense of ownership towards the programme at higher levels of the system, it may also have endangered the future of the projects within the programme.

According to the evaluation, the projects or components of projects that were most likely to be sustained after the withdrawal of SAREC support were those with a commercial potential, such as vaccine development in parasitic diseases, production of immunodiagnostics, and research related to agricultural areas (potatoes and nitrogen fixation). For projects concerned with basic research the future seemed more uncertain.

## Recommendations

The evaluators present a number of general recommendations for future SAREC programmes, based on their review of the design and implementation of the Uruguay programme. The following are some of the most important:

- A *country analysis* that identifies national needs and priorities and outlines information relevant for organizing science support should always be commissioned before a programme for bilateral research cooperation is designed and set afloat. Such an analysis should not only be concerned with the traditions and needs of the local research community; economic and social factors in the partner country should be regarded as equally important.
- Project selection should be as *demand-driven* as possible. Judging from the Uruguayan case, SAREC’s present approach is, generally speaking, supply-driven and linear. No interactive mechanisms are foreseen, and no funding is directed towards the demand side to increase and improve the demand for research and thus reinforce the quality of public sector research. In a system based on demand a wide range of local interests must be involved.
- SAREC should work in close *collaboration with national research organizations* in the partner countries, and involve them as much as possible in programmes. Training in research management at all levels, from ministry to project groups, should be offered. “Efficiency” is normally not a good reason for bypassing national research organisations.
- SAREC should consider the option of supporting projects that are well integrated with local industry. By supporting research programmes that address *the industrial development needs* of partner countries, SAREC might contribute to economic growth and at the same time ensure the sustainability of research projects and research results. SAREC’s policy should be a policy for science and technology, not just a science policy. ■

# Regional networking for energy policy research in Africa

## Background

From the early 1970s onwards, the energy sector of countries in Sub-Saharan Africa have been beset with growing problems, leading to a state of persistent energy crisis. The problems are legion: the inability to supply electricity and modern cooking fuel to the rural and urban poor who make up the vast majority of the population; the gross inadequacy and unreliability of electricity supply, even to the small minority who are connected to the grid (e.g. higher income urban households and industrial and service enterprises); the prohibitive cost of petroleum imports, which consume substantial amounts of export income in foreign exchange; the lack of advancement in sustainable use of traditional energy (e.g. wood fuel and other biomass); the extremely poor performance of energy departments in government and energy companies in the public sector, which is intimately linked to the question of vested interests, tariffs, subsidies, management, technical skills and investment; etc.

Faced with these problems, African governments have become ever more dependent on the international donor community for keeping their energy sectors afloat. This dependence on external actors is comprehensive, stretching from financial and technical assistance to the realms of policy and strategy.

This was the context in which a group of African energy professionals from Eastern and Southern Africa (ESA) got together in the late 1980s to launch the African Energy Policy Research Network (AFREPREN). Their aim was to create indigenous energy policy research capacity, which they considered essential for generating energy policies specific to the circumstances in their own countries. They recognized that the energy problems indicated above displayed a number of regional commonalities that permit a *regional* approach for arriving at energy policies that would apply at the individual national level.

The three central objectives of AFREPREN are :

- to produce policy research studies dealing with the energy problems sketched above;
- to build up and strengthen policy research capacity in the ESA countries;
- to get policy-makers in the ESA countries to use the network's research output and policy recommendations in policy-making at the national level.

AFREPREN's approach is to bring together academically-based researchers and policy-professionals from government and public sector energy organizations into research teams. The purpose is to get academic researchers and policy makers to collaborate to jointly identify, plan and conduct research projects, and to ensure the relevance, practicality and applicability of the research output. Research capacity at the individual level (i.e. research competence) is built up by active participation of the research teams in well-defined research projects (i.e. learning-by-doing), complemented by short-term specialist courses.

Over the period 1989–1998, AFREPREN has received close to SEK 62 million in core support from Sida, which accounts for almost all of AFREPREN's

budget, supplemented by small contributions by a few other donor agencies. The network is coordinated and administered by a secretariat based in Nairobi.

## The evaluation

In 1998, Sida commissioned an external evaluation of AFREPREN to assess the extent to which AFREPREN has succeeded in fulfilling its three central objectives, and to obtain an independent assessment before taking a decision on AFREPREN's application for continued support. This has since been granted for the period July 1999 – December 2002.

The evaluation was carried out by Professor Frede Hvelplund of Aalborg University, Denmark, and Dr Ernst Worrell of the Lawrence Berkeley National Laboratory in California, USA, and the report, published in early 1999, is entitled *Sida-Supported Programme within the African Energy Policy Research Network, AFREPREN* (Sida Evaluation 99/5). The methods and tools used in conducting the evaluation were conventional: questionnaires, interviews and documentary reviews.

## Principal findings and recommendations

During its first ten years, AFREPREN tripled its membership to some 90 members, with a fairly even distribution between the research and policy communities. Through this, the network has managed to develop what the evaluators denote as substantial capacity in energy policy research within universities, governmental departments and public sector energy companies in twelve ESA countries.

The report finds that the network has managed to produce an impressive number of country and regional studies, many of high quality, dealing with the gamut of energy problems cited above. Over 200 research studies, 12 books and 50 information dossiers have, through AFREPREN, been published and disseminated to relevant stakeholders and communities.

The network has also established Africa's single largest data base. Through its publications, seminars, e.g. on various policy scenarios and recommendations, as well as directly through its members, AFREPREN has, the report holds, provided valuable inputs into national policy-making on energy issues.

AFREPREN suffers from two key shortcomings according to the evaluators. First, the lack of a methodological framework that is common to its several thematic research projects. This is necessary to ensure a more systematic and integrated analysis of issues, and coherence among the various themes that make up the core research programme. The evaluators therefore recommend the development of such a framework.

### **Sida-Supported Programme within the African Energy Policy Research Network, AFREPREN**

Frede Hvelplund, Ernst Worrell  
Department for Research Cooperation  
Sida Evaluation 99/5

## Posttidning B

Avsändare: Infocenter  
Swedish International Development  
Cooperation Agency (Sida)  
S-105 25 Stockholm, Sweden

Secondly, the evaluators point to an absence of important stakeholder groups in the process of designing AFREPREN activities: energy customers, representatives of entrepreneurs, local communities and local government officials. These should be brought into AFREPREN's consultations in an effort to broaden the societal relevance of the network's activities.

### Lessons learned

In the context of the grave shortages in financial resources and research personnel prevailing in Sub-Saha-

ran Africa, a regional networking model like AFREPREN offers a quicker and more resource-effective option for creating policy research capacity for use at national level.

At the same time, given the infrastructural, logistical and managerial hurdles in Sub-Saharan Africa, creating and sustaining regional networks in this region is a difficult and demanding task. According to the evaluators, long-term financial commitment and pro-active involvement by a principal donor are indispensable for sustaining the course. ■

## University support - the Mondlane university in Mozambique

When the Swedish government agency for research cooperation with developing countries, SAREC (incorporated with Sida in 1995), began its support in 1978 to the Eduardo Mondlane University (UEM) in Maputo, Mozambique, there was hardly any indigenous research capacity at the university. Of about 80 teaching staff then, 75 were expatriate and 5 were Mozambican; none of the latter had a research degree. The main purpose of SAREC's support was to develop research capacity, which was later broadened to include institutional capacity, focusing on agriculture, natural and engineering sciences, and African studies. The approach adopted was long-term cooperation between UEM and Swedish university departments for research training leading to doctorate degrees awarded by Swedish universities.

Over the twenty-year period 1978-1997, SAREC and several other Sida departments have together provided UEM with close on SEK 170 million. Of this, nearly SEK 126 million has been devoted to research and institutional capacity building. The rest of the funding has been spent on student lodgings and boarding, student stipends, academic staff training, and equipment. As of 1999, Sida was UEM's leading donor at 34 per cent, followed by Netherlands (29).

A number of external evaluations covering specific areas of support have attested to the positive achievements of the support in building up research and institutional capacity, and to the need of donor support for

UEM's development. In 1997, SAREC commissioned a more comprehensive evaluation. The main objectives were (i) to assess the impact of SAREC's support to research capacity, institutional development, and the university's overall management and administration; and (ii) to discuss how continued support from Sida as a whole (including SAREC) could contribute to faculty and university level development.

The evaluation was conducted by an international team of four professionals, led by Dr David Wield of the Open University, UK. The report, published in 1998, is entitled *Swedish Support to University of Eduardo Mondlane in Mozambique* (Sida Evaluation 98/38).

The team found that by 1997 considerable research capacity had been built up, with about 40 Mozambican teaching staff acquiring doctorate degrees and with research laboratories and libraries being equipped. But management at the faculty and university levels is still weak. The evaluation notes with approval that Sida's general core funding, not least through its flexibility, has made a major contribution to programmes prioritized in UEM's development strategy.

Based on a principal recommendation in this evaluation, all Sida support has now been integrated into a coherent three year agreement (1998-2000) based on UEM's strategic plan. Flexible core funding is still a central feature, and support continues to focus on research and capacity building as well as on further development of the overall management of UEM. ■



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