

Towards Freedom from Poverty

Research Cooperation 2001

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Department for Research
Cooperation, SAREC

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Towards Freedom from Poverty

In 2001, Sida strengthened its orientation towards freedom from poverty. The Swedish government decided to concentrate development co-operation. One of the implications for Sida has been a renewed interest in social sciences, further underpinned by global developments this year.

The need for analytical instruments to unveil and understand the factors driving underdevelopment prompted the establishment of a special agency for research, as part of Swedish development co-operation back in 1975. Social sciences were prominent in the early research funding. Among the most significant contributions was the support for independent analyses in Latin America, which became the lifeline for social science institutes during the era of political oppression. In African countries, where teaching in social sciences was important for the training of civil servants, independent and critical research was controversial and had to resort to regional organisations. Swedish funding has also played a significant role here.

With the economic and political changes during the 80s and 90s, the social sciences were seen as less threatening. However, the very limited R&D efforts in the least developed countries had been directed primarily to natural sciences and technology, which were expected to bring about progress in economic terms.

Today, countries are expected to formulate and implement strategies for poverty reduction. Economic growth remains an important part of such strategies. However, increasing attention is now being directed to the social context. In order to assess

opportunities and develop appropriate strategies, countries must analyse the complex causes and multi-dimensional expressions of poverty.

Against this background, Sida decided to support a series of self assessments undertaken by Social Science Faculties in Mozambique, Tanzania, Uganda and Zimbabwe. The studies illustrated that the African social science faculties, which were expected to supply relevant analytical research, were in a problematic situation. Academic research activities were limited due to heavy teaching loads. A culture of consultancy gave little time for independent research. Furthermore, the limited recruitment of young researchers was worrying in view of the ageing academic staff.

We concluded that finding ways of strengthening research in social science faculties is an important challenge for universities and governments as well as for development agencies. We consulted some Sida-supported regional associations for their assessments. The African Association of Political Science, AAPS, the Council for Development of Social Science Research in Africa, CODESRIA, the Organisation for Social Science Research in Eastern and Southern Africa, OSSREA, and the Union for African Population Studies UAPS, mobilise researchers in their network for common research agendas. These organisations expressed their concern about weak academic faculties, in particular the failure to foster a new generation of critical scientists.

The challenge for Sida is to include social sciences in the broad-based support for national capacity building. Sida supports efforts to develop at least one research university in partner countries. Support for research management has improved

research development and a broad range of disciplines are being supported. In 2001, efforts were made to shift from – and build on – staff research training towards support for research training in developing an academic environment.

In our support for international research, a “South perspective” is being promoted in terms of the research agenda and in terms of ensuring proper representation from “the South” in decision-making structures. This influences not only the orientation of the research. It contributes as well to situated perspectives on global issues.

In 2001 the United Nations Research Institute for Social Development, UNRISD, initiated a special programme for research addressing how social welfare systems may be constructed in harmony with demands for economic development and poverty reduction.

Sida has promoted the inclusion of social research elements also in other international research programmes. The CGIAR-system for agricultural research has, for example, pointed to the effects of HIV/AIDS on African agriculture, production, agricultural labour loss, availability of expertise, land ownership, gender roles etc.

Similarly, WHO in its research programmes addresses issues like the social dimension of certain diseases, the limited access to medicines and remedies due to commercial interests, the importance of preventive health care, cultural factors influencing disease patterns, etc.

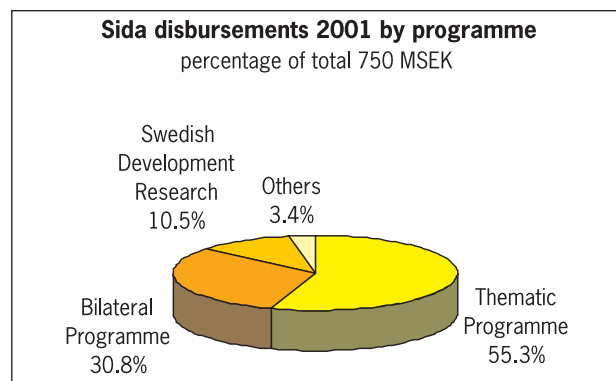
In Sida support for Swedish development research and a need to strengthen social analysis have been demonstrated. As obvious from the brief overview of supported projects presented in this report, a broad range of issues are being covered. However the interest in development theory and debate was not prominent.

In the coming years Sida will seek ways to enhance analysis of the theoretical basis for development efforts. Alternate and situated perspectives must be stronger in order to have a voice in the international debate. Social analysis is essential for making Freedom from Poverty a reality.

Stockholm, June 2002

Berit Olsson

Director, Department for Research Cooperation, SAREC





Latin America 2001. Voices were raised to claim rights to land, work and participation.

National Capacity for Research and Research Training

Knowledge is crucial to development and for poverty alleviation. Sida considers national universities essential for the local production and dissemination of knowledge, and hence, for development. The Swedish bilateral research co-operation aims at strengthening national capacities for research, research training and higher education in co-operating countries.

Priorities for research and higher education are inadequately low in national budgets: One reason may be that the effects of knowledge production are only measurable in the long term. Sida's support to reform programmes helps countries make strategic plans for research and higher education. Comprehensive support programmes are designed to assist the implementation of reform plans in key universities.

Support for research training of young academic staff encourages a new generation to engage in the sciences. Support to laboratories and scientific equipment provides researchers with necessary tools. Financial and technical support to research funds provides mechanisms for researchers to compete for grants. Support to information and communication technologies provides universities with links to the global academic community and with access to international scientific information.

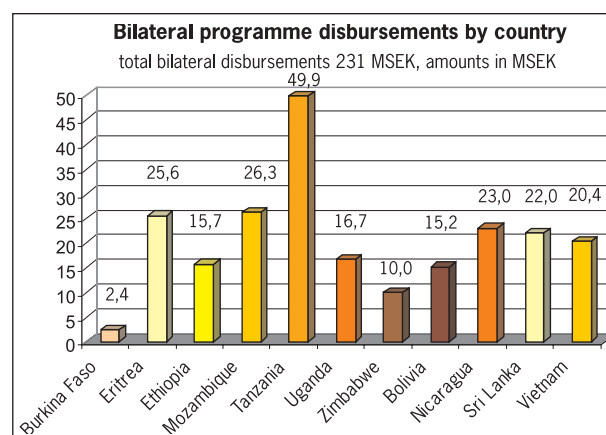
Besides giving the formal qualifications for research, the staff research training also provides opportunities to base higher education on locally valid science. In an initial phase of the co-operation, Ph.D. candidates are trained in a "sandwich model" with degrees given at Swedish universities but with local co-supervisors to ensure relevance to the local situation. As a critical mass of researchers are trained, focus shifts to train them as supervisors for programmes where degrees can be given locally.

Events in bilateral research co-operation in 2001 include the initiation of co-operation with Burkina

Faso (see page 7). Overviews of national systems for higher education and research have been carried out in Honduras and Laos, where Sida plans for new programmes for research support. National workshops have discussed how engineering faculties could be developed at the Makerere University in Uganda, University of Dar es Salaam and Eduardo Mondlane University in Mozambique.

Self-assessments and analysis of research and research training at social science faculties in East Africa demonstrated the high demand among authorities and organisations for consultancies from social scientists providing possibilities to engage in national development processes. These studies concluded that such commissioned studies may hamper the long-term evolution of the social sciences. They emphasised a need for support for independent and curiosity driven research.

Another exciting event was the inauguration of ICT networks at three universities (Colombo, Peradeniya and Ruhuna) and one research institute (NARA) in Sri Lanka. Besides improved access to common Internet services, these universities can now share teaching resources through video conferences.



Burkina Faso

Managing natural resources in the Sahel Region

Burkina Faso is a multi-ethnic and landlocked country with 12 million inhabitants mainly dependent on self-subsistence agriculture. Owing to a very dry climate, there are great challenges in terms of food security, land degradation and natural resource management. Sweden earlier supported research on tropical dry forests in the country as part of a regional programme. Research in the country has so far mainly been conducted at research institutes, of which the most important are French organisations. The national system for higher education and research consists of two universities and the National Research Institute.

In September 2001, a bilateral co-operation programme was launched with the overall aim to strengthen the research capacity at Burkina Faso's two universities and the National Research Institute. A workshop was held in Ouagadougou where Burkinabée and Swedish researchers agreed on a joint programme focusing on the environmental problems of dry areas.

The overall aim of the collaboration is to strengthen the research capacity at the two main universities, l'Université de Ouagadougou and l'Université Polytechnique de Bobo-Dioulasso and the links to the Centre National de Recherche Scientifique et Technologique.

A central problem to be addressed is the continuous degradation of the Sahelian ecosystems

under a combination of anthropogenic actions and the dry climate. It threatens the food security and causes migratory movements. This, in turn, causes further negative effects on the environment along with socio-economical conflicts. There are also strong connections between unsustainable management practices, land degradation and poverty. In order to address the complex and inter-related aspects of natural dry forest management, a multidisciplinary approach has been chosen where a number of research projects focus on the common theme.

The disciplines involved are natural resources management, forest ecology, animal husbandry, agroforestry, soil sciences, social anthropology, social economics and econometrics. Ph.D. training of staff at the three institutions is a central part of the initial phase of the co-operation and 16 students are expected to start during the initial phase. Special efforts will be made to recruit female candidates for the research training, which will be arranged in a sandwich model involving scientific collaboration and supervision in collaboration with Swedish universities.

Sida commitment for current agreement period 2001-2003: SEK 23 million
Disbursed 2001: SEK 2.4 million

Supported areas: Agroforestry, Animal Husbandry, Econometrics, Forest Ecology, Natural Resources Management, Social Anthropology, Social Economics, Soil Sciences

Burkinabée Institutions
OU - University of Ouagadougou
UPB - Polytechnic University of Bobo-Dioulasso
CNRST - Central National Research Institute, Ouagadougou

Collaborating Institutions
SLU - Swedish University of Agricultural Sciences, Uppsala and Umeå
UMU - Umeå University, Umeå
UU - Uppsala University, Uppsala

Eritrea

Staff development in science and technology

A major challenge for Eritrea after its independence was to rebuild a basis for higher education. The research co-operation between Eritrea and Sweden started in 1992 with support for strengthening the College of Science at the University of Asmara. In the year 2000 support for the Faculty of Engineering was added. The Swedish support aims at strengthening capacities for undergraduate teaching and research.

In sciences, some 20 lecturers at the university are engaged in research training at Uppsala University in the areas of biology, zoology, hydrogeology, chemistry, physics, mathematics and computer science. One Ph.D. thesis and three M.Sc. theses were defended in 2001. Two multidisciplinary projects have been initiated, on medical plants and on seismology and geology. Academic staff from Uppsala, seconded to the University of Asmara have assisted in teaching and curriculum development.

In engineering, a staff development component has been initiated. Three members of the Engineering faculty pursue Ph.D. training and four follow an M.Sc. programme at the Swedish Royal Institute of Technology. The research concerns manufacturing technology, water resources engineering and computer sciences.

An external evaluation in 2001 considered the collaboration model to be highly efficient and cost effective. It recommended research groups to be

formed to address issues in the intersection between science and technology. Such teams of researchers would form a critical mass less dependent on individual staff members.

Several international agencies, including Sida, have decided not to enter into new agreements due to political disagreements. Preparations for continued support have therefore been postponed.

Sida commitment for current agreement period 1999-2001: SEK 31.1 million including university support
Disbursed 2001: SEK 25.6 million

Supported areas: Animal Ecology, Biology, Computer Science, Demography/ Biostatistics, Earth Sciences, Entomology, Mathematics, Organic Chemistry, Physics, Systematic Botany, Statistics

Eritrean Institution

UA - University of Asmara, College of Science, Asmara

Collaborating Institutions

KTH - Royal Institute of Technology, Stockholm

SLU - Swedish University of Agricultural Sciences, Uppsala

SU - Stockholm University, Stockholm

UU - Uppsala University, Uppsala

Ethiopia

Aiming for higher learning in the regions

Ethiopia sets its educational goals high. It aims to establish institutions for higher learning and research in each of its eleven regions. One of the challenges for the national Addis Ababa University, AAU, and the agricultural Alemaya University, AU, is to train qualified academic staff for these new regional institutions. Sida supports the Ethiopian ambition to strive to build national capacity in order to generate and apply appropriate technologies for the realisation of socio-economic objectives. Another shared objective is the ambition to rationally conserve and utilise natural resources.

Through the Ethiopian Science and Technology Commission, Sida supports research and research training at the two federal universities, AAU and AU, which have a key role in the national strategy for higher education and in the strategy for research development. Following a review of post-graduate training, the universities have developed faculty plans which form a strategic basis for future research, research training and for the preparation of future bilateral research co-operation.

At the Addis Ababa University, Sida supports the building of a network infrastructure at the main campus. During 2001 a first pilot phase was completed and tested, linking five departments.

Preparations have also been made to attach various training programmes.

Several studies on reproductive health within the Butajira rural health programme were presented in two Ph.D. dissertations during the year. Different methods to measure maternal mortality have been compared, showing advantages and disadvantages of the respective methods. Gender differences in the adult populations have been assessed showing a transition from male to female excess mortality in middle ages in the rural areas.

Aleamaya University collaborates with the Swedish University of Agricultural Sciences, SLU. For example, a project on the ecology, biology and management of a recently introduced weed contributes to the development of an integrated strategy for its control, especially in crop fields in eastern Ethiopia. Three Ph.D. candidates defended their theses in 2001.

Sida commitment for current agreement period 2000-2001: SEK 5 million
Disbursed 2001: SEK 15.7 million

Supported areas: Agriculture, Biodiversity, Environmental Economics, Health, Natural Products Chemistry, Solar Energy, Water Resources

Ethiopian Institutions

AAU - Addis Ababa University, Addis Ababa
Armauer Hansen Research Institute, Addis Ababa
AUA - Alemaya University of Agriculture, Dire Dawa
ESTC - Ethiopian Science and Technology Commission, Addis Ababa

Collaborating Institutions

GU - Gothenburg University, Gothenburg
ISP - International Science Programs, Uppsala
KI - Karolinska Institutet, Stockholm
KTH - Royal Institute of Technology, Stockholm
LU - Lund University, Lund
SLU - Swedish University of Agricultural Sciences, Uppsala and Svalöv
SMI - Swedish Institute for Infectious Disease Control, Stockholm
UmU - Umeå University, Umeå
UU - Uppsala University, Uppsala
University of Northumbria, Newcastle upon Tyne, U.K.

Mozambique

Increasing capacity and confidence for own research

The University Eduardo Mondlane in Maputo has an increasing number of qualified staff, capacity for own research and – confidence. During 2001, it set up its first two masters programmes at the faculties of agronomy and education. Also for the first time, the state budget earmarked money – US\$ 155,000 – for research. However, the university's academic base and resources are still quite limited and research largely dependent on donor support. Sida is a main actor.

In the current agreement with UEM, Sida is funding 30 research projects, with an emphasis on the Faculties of Science and Engineering, as well as four faculty-based funds and one central research fund. There are also various forms of institutional support to improve research capacity. One of the projects, at the Department of Physics, involves environmental monitoring through atmospheric and satellite analysis. This capacity has been built up to a large extent through Sida support over the last decade. Environmental degradation is of increasing concern in the region and such projects show the need for cutting edge technology at African universities.

Quite a number of projects within the current agreement are new. Within those projects that are

extensions from the previous agreement, seven licentiates and three doctorate degrees are expected to be accomplished during 2002.

Sida is also supporting research and training components for three projects at the Faculty of Arts, as well as a "small projects" fund, introduced in 2001. Two of the projects supported at the Faculty of Arts are new. The sociolinguistic survey of Mozambican languages in collaboration with Gothenburg University is an important area for investigation as the country consists of many different language groups and needs to formulate policy on the use of indigenous languages. Only a minority of the population speaks Portuguese, the national lingua franca. The second new project, in collaboration with Uppsala University, combines several disciplines in studies of the Zambezi Valley. These include historical and archaeological studies with anthropological studies of current use of environmental resources, gender and socioeconomic change. Lastly, the project "War, Economy and Transition in Mozambique 1964-1994" in collaboration with the University of Witwatersrand, South Africa, is a continuation from the previous agreement. This is an historical project engaged mainly in regional archival research, but also oral history.

Sida commitment for current agreement period 2001-2003: SEK 79.1 million
Disbursed 2001: SEK 26.3 million

Supported areas: Anthropology, Archaeology, Biotechnics, Chemistry, Engineering, Geology, History, Informatics, Law, Linguistics, Mathematics, Marine Biology, Marine Science, Medicine, Veterinary Medicine, Physics

Mozambican Institutions

INIVE - National Veterinary Research Institute, Maputo
UEM - Eduardo Mondlane University, Maputo

Collaborating Institutions

CTH - Chalmers University of Technology, Gothenburg
GU - Gothenburg University, Gothenburg
KI - Karolinska Institutet, Stockholm
Kristineberg Marine Biological Station, Fiskebäckskil
KTH - Royal Institute of Technology, Stockholm
LTH - Lund University of Technology, Lund
LU - Lund University, Lund
SLU - Swedish University of Agricultural Sciences, Uppsala
UU - Uppsala University, Uppsala
University of Northumbria, Newcastle upon Tyne
University of Zimbabwe, Harare
University of Natal, Durban
University of Pretoria
Witwatersrand University, Witwatersrand

South Africa

Swedish research links

In 1999 Sida and the South African research council, the National Research Foundation NRF, agreed on a joint research programme with a view to encourage co-operation between South African and Swedish researchers. The South African-Swedish Research Partnership Programme is jointly financed by Sida and the Department of Arts, Culture, Science and Technology in South Africa.

The programme was initiated in early 2000, with the first call for proposals in January and submission of applications in May and in October (for planning grants). All in all, South African and Swedish researchers jointly submitted more than 80 applications. In collaboration with the NRF and the Swedish research councils, they were evaluated by academics in both South Africa and Sweden. Scientific quality,

research capacity development and mutual benefit were the main criteria in the assessment.

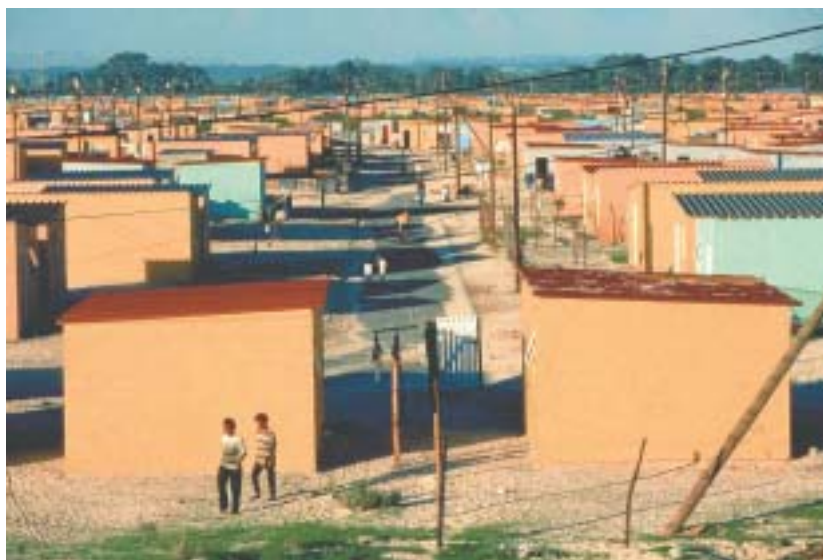
Out of 59 applications for three-year grants 22 were approved for the period 2002-2004, 20 for a three-year grant and two for planning grants. The total amount of SEK 8,3 million. The awarded applications were within all disciplines, but there was an emphasis on natural sciences and technology.

Between 8-9 October 2001, representatives of the NRF met with Sida officials and representatives from the Swedish Research Council and FORMAS (The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning) in Pretoria, South Africa, for the second Joint Technical Committee meeting. The negotiations resulted in a joint priority list of projects.

Sida commitment for current agreement period: 2001-2004: SEK 30 million

Supported areas: Agriculture, Architecture, Biotechnology, Botany, Chemistry, Ecology, Economy, Education, Engineering, Geography, Geology, Music, Pharmacology, Physics, Psychology, Public Health, Sociology, Zoology

Research results have proved that local factors have been more important for the rise of African urbanism than formerly assumed.



Tanzania

Research co-operation in key sectors for development

The Swedish research co-operation with Tanzania dates back to 1976 and presently comprises 22 programmes. It is directed at strengthening the research capacity at the University of Dar es Salaam, UDSM and the Muhimbili College of Health Sciences, MUCHS. The support is used for reform and management programmes, research-facilitating activities and research collaboration, including research training at M.Sc. and Ph.D. levels.

Two of the more recent Sida-supported programmes at UDSM are those at the Faculty of Arts and Social Science, FASS and the Faculty of Commerce and Management, FCM. At FASS, the programme "The Humanities in the 21st Century" includes a project on the languages of Tanzania. It seeks to produce a language atlas showing the geographical location, number of speakers and genetic classifications of the languages. In a broader perspective, the documentation will be a major contribution to the preservation of people's cultural heritage. In July 2001, a first workshop was arranged, where tools and procedures for a pilot study were tested and developed.

The projects at FCM focus on entrepreneurship and small business development. The programme includes seven Ph.D. students, three of them

women. In 2001, a Ph.D.-supervisors' course was held at the collaborating institution, Umeå School of Business and Education. Furthermore, the annual International Conference on Entrepreneurship was organised at the FCM, with participants from UDSM, from the Ministries of Science, Technology and Higher Education and from universities in the region and overseas. Legal, political, cultural and social barriers to entrepreneurship were among the issues discussed at the conference and much ongoing work relates to the elaboration and adaptation to Africa of methodology in this field of inquiry.

An example from the research at the Muhimbili College of Health Sciences in 2001 is the Ph.D. thesis that demonstrated a declining trend of HIV-1 infection in the Kagera region. From 1987 to 1996 the prevalence of HIV-1 infection in the adult general population in Bukoba town decreased from 24.2 per cent to 13.3 per cent. This finding was also verified in incidence studies. The most significant prevalence decline was observed among young women. Behavioural factors indicated that condom use and the proportion of individuals getting married, and at an early age, increased with time.

Sida commitment for current agreement period 2001-2003: SEK 38.1 million
Disbursed 2001: SEK 49.9 million

Supported areas: Architecture, Education, Energy and Engineering (Electricity, Electrotechnology, New Materials), Health (Reproductive Health, HIV/AIDS, Malaria), Information and Communication Technology, Languages, Law, Natural Resources and Environment (Coastal Zone, Drylands, Agropesticides), Social and Economic Development, Institutional Support

Tanzanian Institutions

UDSM - University of Dar es Salaam
UCLAS - University College of Lands and Agricultural Studies
MUCHS - Muhimbili University College of Health Sciences, Dar es Salaam

Collaborating Institutions

GU - Gothenburg University, Gothenburg
KI - Karolinska Institutet, Stockholm
KTH - Royal Institute of Technology, Stockholm
SMI - Swedish Institute for Infectious Disease Control, Stockholm
Swedish Environmental Research Group, Stockholm
SU - Stockholm University, Stockholm
UmU - Umeå University, Umeå
UU - Uppsala University, Uppsala

Uganda

A focus on Lake Victoria

The Swedish contribution towards the building up of postgraduate research at Uganda's major university, Makerere, was initiated in 2000, when Sweden and Uganda decided to engage in bilateral research co-operation. The new programme between Sweden and Uganda aims to support the research system as a whole, as well as selected faculties in the Ph.D. supervision through research collaboration with Swedish and international scientists. The faculties identified for initial support are: medicine, social science, technology and agriculture.

Uganda has four universities, two public and two private, as well as more than twenty specialised research institutes. The oldest and most established institution of higher education is Makerere University in Kampala. Makerere is the focal point for university research and the only institution awarding postgraduate research degrees in Uganda. Its School of Postgraduate Studies has been selected to be the co-ordinating office for the new bilateral programme. Research within the four faculties mentioned above will focus on "Lake Victoria and other water (re)sources". This theme provides an opportunity to address questions of importance to Uganda in a concerted way, as well as an opportunity for multi-disciplinary collaboration.

In 2001, a number of cross-cutting research

courses were planned and executed. The lecturers involved in these courses include both Swedish and Ugandan researchers. As part of the co-ordination, the School of Postgraduate Studies has been commissioned to investigate the modalities to develop a demographic field site in the Lake Victoria area, where as many projects as possible in this programme may be focused. The university has been given support to develop a core laboratory structure at the Faculty of Medicine, open for different research groups at the university to use. An initial step in the process to integrate Information Communication Technology (ICT) into the university's functions was the development of an ICT policy and a five-year master plan based on a rolling format, funded by Sida. Moreover, during 2001, the programmes within the four faculties have been further developed and intense interaction between the Ugandan and Swedish collaborators has taken place.

Sida commitment for current agreement period 2000-2001: SEK 15 million, ICT Support SEK 20 million
Disbursed 2001: SEK 16.7 million

Supported areas: Agriculture, Health (Malaria, HIV/AIDS, Reproductive Health, Psychiatry, Pharmacology), ICT, Technology (Architecture, Energy, Engineering, Environment), Social Sciences (Political Science, Sociology)

Ugandan Institutions
MU - Makerere University, Kampala

Collaborating Institutions
GU - Gothenburg University, Gothenburg
KI - Karolinska Institutet, Stockholm
KTH - Royal Institute of Technology, Stockholm
Luth - Luleå University, Luleå
SLU - Swedish University of Agricultural Sciences, Uppsala
UU - Uppsala University
Delft University of Technology

Zimbabwe

Cancellation of agreement

In the beginning of 2001 the Government of Sweden decided, due to the political situation in the country, to terminate all development co-operation channelled through the Government of Zimbabwe. As a consequence, the agreements between Sida and the University of Zimbabwe and the National University of Science and Technology were terminated as per 31 August 2001.

However, the research training which had been initiated within the Swedish co-operation will be concluded. Through an agreement between Sida and the Swedish institutions, research training in protein biotechnology, reproductive health, burns surgery, groundwater research, applied physics and small business development was thus supported throughout 2001.

Sida commitment for current agreement period 1999-2001: SEK 45 million (Cancelled)
Disbursed 2001: SEK 9.99 million

Supported areas: Health Research, Science, Technology and Industrialisation

Collaborating Institutions
Haukeland University Hospital, Bergen
LU - Lund University, Lund
UmU - Umeå University, Umeå
UU - Uppsala University, Uppsala



Archaeological research programmes supported by Sida have provided new and unique insights to African life styles.

Sri Lanka

Universities can play a part in the peace process

Universities have a very important function in countries where peace and social structure are threatened. In Sri Lanka the research co-operation aims at developing the capacity for research and higher education, as well as strengthening the role of universities as centres for culture and intellectual exchange of opinion.

The Swedish research co-operation with Sri Lanka was initiated in 1976 and comprises thirteen programmes run by six universities. Support efforts target a wide range of sciences such as archaeology, biotechnology, biochemistry, electrical engineering, marine science and geography, as well as university staff development, library support, information and communication technology (ICT) and scientific infrastructure. The University Grants Commission of Sri Lanka administers the support.

The social instability of the country has ethnic and geographic dimensions. Two research programmes analyse the regional diversity of the country and currently map various socio-economic indicators to explain differences in economic development. Results from this research could play an important role in policy-making related to the peace process.

Considered as one of the most successful inputs, the biotechnology programme has established an ad-

vanced laboratory with extensive research capacity in molecular biology and genetics at the University of Colombo. The programme has resulted in fifteen doctoral dissertations, 40 Master theses and numerous scientific publications. To facilitate expansion of the programme activities, Sida has contributed with a SEK15 million soft-loan to finance the construction of a new building for a biotechnology institute at the University of Colombo.

With support from Sida, campus-wide computer networks were installed at the universities of Colombo, Ruhuna and Peradeniya, and at the NARA aquatic research institute during 2001. These universities are now connected not only to each other with a 2-MB radio-link, but they also have Internet services available. The infrastructure of the academic and research network LEARN, which provides Internet connectivity to all the universities, was strengthened and videoconferences can now be held. The University of Peradeniya has implemented the most modern and largest computer network in the country.

Eight Sri Lankan students are pursuing Ph.D. training in ICT in collaboration with Swedish universities and one of them defended his technical licentiate degree during the year.

Sida commitment for current agreement period 2000-2002: SEK 63 million
Disbursed 2000: SEK 21.95 million

Sri Lankan Institutions

NARA - National Aquatic Resources Agency, Colombo
NSF - National Science Foundation, Colombo
TRI - Tea Research Institute, Ratnapura
UGC - University Grants Commission, Colombo
UoC - University of Colombo, Colombo
UoJ - University of Jaffna, Jaffna
UoK - University of Kelaniya, Kelaniya
UoP - University of Peradeniya, Peradeniya
UoR - University of Ruhuna, Matara
UoSJ - University of Sri Jayawardenepura

Supported areas: Biotechnology (Medicine, Chemistry), Biochemical Pest Control, Electrical Engineering, Marine Biology, Regional Development/Poverty Alleviation, University Staff Development, ICT & Postgraduate Studies in ICT

Collaborating Institutions

CTH - Chalmers University of Technology, Gothenburg
ISP - International Science Programs, Uppsala
KI - Karolinska Institutet, Stockholm
KTH - Royal Institute of Technology, Stockholm
SLU - Swedish University of Agricultural Sciences, Uppsala
SU - Stockholm University, Stockholm
UU - Uppsala University, Uppsala
Coastal Management Centre, Manila
INASP - The International Network for the Availability of Scientific Publications, London

Vietnam

Economic and environmental impact on the society

The Sida-supported research co-operation with Vietnam has had a significant impact on the Vietnamese society according to a recent external evaluation. By the end of 2001, a total of 31 Ph.D. students had successfully defended their dissertations and 28 Master students had completed their programmes. The programme has changed over time but health research, agriculture and forestry have been prominent during the whole time.

At the time of the initial support, Vietnamese scientists had very limited exposure to international science. The collaboration programme focused on international exchanges. Since the late 1980s, the focus of the efforts has shifted to strengthening capacity for research on an individual and institutional basis.

According to the evaluation, four research programmes have been particularly successful – forestry, farming systems, marine environment and research into the health systems.

The programme in forestry research developed hybrid clones of acacia, eucalyptus and pine species which grow faster and produce better timber and

thereby bring significant advantages to the forestry sector.

The farming systems research has developed new knowledge of animal feed and husbandry practices as well as new types of bio-gas converters. 15.000 households are estimated to use the bio-gas systems, which bring significant economic gains. Research on the marine environment has found ways of cultivating molluscs, thus presenting an alternative to environmentally harmful shrimp farming. The health systems research, has demonstrated impacts of different health policies, findings which in turn has influenced policies and legislation.

These programmes have all been running for 10 to 15 years. They illustrate the time it takes to build research capacity and the need for sustained efforts in order to have an impact.

Sida commitment for current agreement period: 2000-2002: SEK 54.3 million, ICT Support SEK 20 million
Disbursed 2001: SEK 20.4 million

Supported areas: Agriculture, Health, Biotechnology, Oceanography, Social Sciences, Technology and ICT

Collaborating Institutions

ISP – International Science Programs, Uppsala
KI – Karolinska Institutet, Stockholm
KTH – Royal Institute of Technology, Stockholm
Skogforsk – The Forestry Research Institute, Uppsala
SLU – Swedish University of Agricultural Sciences, Uppsala
SSE – Stockholm School of Economics, Stockholm
UmU – Umeå University, Umeå
UU – Uppsala University, Uppsala
CMC – Coastal Management Centre, Manila
DSV – Dep of Computer and Systems Sci, Stockholm University

Vietnamese Institutions

CLST – Central Library for Science and Technology, Hanoi
CTU – Can Tho University, Can Tho
Hué University, Hué
University of Agriculture and Forestry, Ho Chi Minh
Institute of Material Sciences, Hanoi
Institute of Oceanography, Nha Trang
Institute of Oceanology, Haiphong
MoSTE – Ministry of Science, technology and Environment, Hanoi
NCSSH – National Centre for Social Sciences and Humanities, Hanoi
NIAH – National Institute for Animal Husbandry, Hanoi
NISTPASS – The National Institute for Science and Technology Policy and Strategy Studies, Hanoi
RCFTI – Research Centre for Forest Tree Improvement, Hanoi
Hanoi Medical School, Hanoi
Agricultural Genetics Institute, Hanoi



Knowledge is crucial to development. In Vietnam the Sida-supported research has had a significant impact on society.

Bolivia

Thematic studies on Andean regions

The research co-operation with Bolivia involves support for a national university reform and research development at the central universities. The first agreement on research co-operation between Bolivia and Sweden was signed in July 2001.

Support for the two major universities, Universidad Mayor de San Andrés in La Paz and Universidad Mayor de San Simón in Cochabamba, is directed at strengthening overall capacity for research management and research development in selected faculties. The research programmes have been designed on a thematic basis, with each of the universities addressing problems related to a geographic area.

The Universidad Mayor de San Andrés investigates conditions around the lakes Uru-Uru and Poopó on the Andean Altiplano in western Bolivia. The region is mainly populated by indigenous Aymaras and Urus and has an arid and cold climate. Mining was for decades an important source of income at large but has been abandoned, leaving extensive traces of environmental damage. Hard minerals destroy fishing facilities and the population suffers poverty and malnutrition. The research programme looks into opportunities for water management and biochemical cleaning of mining residues and examines the partly unexplored bio-diversity of the region. Living conditions, history and language

are other aspects of the comprehensive efforts to document the life of this Andean population.

At Universidad Mayor de San Simón projects focus on Carrasco national park, an area in central Bolivia with several climatic zones and a great ecological diversity. Its socio-cultural situation is characterised by traditional rural communities with deep roots in the ancient Andean culture, as well as by settler communities of a more recent age. This programme also combines support for natural and social sciences in a broad-based research approach.

Research training in sciences and technology is an important feature of the programme. During 2001 more than 40 academic staff were registered for Ph.D. or Master degree programmes following the "sandwich mode". Lund University provides supervision for Bolivian academic staff engaged in collaborative research in biotechnology and hydrology. Uppsala University is engaged in archaeology, while researchers in other areas of social sciences and the humanities collaborate with supervisors in other Latin American universities.

Agreements have been signed on co-operation, mutual information and assistance between the Bolivian universities and local authorities in the investigated rural areas. Thus the research findings may be used to alleviate some of the social and technical problems facing these marginalised populations.

Sida commitment for current agreement period 2000-2002: SEK 41 million
Disbursed 2001: SEK 15.2 million

Supported areas: Biotechnology, Chemistry, Food Science, Water Resources Engineering, Regional Planning, Social Economics, History, Anthropology, Archaeology, Linguistics (Aymara)

Collaborating Institutions

LU - Lund University, Lund
FLACSO - Latin American Faculty of Social Sciences (network), Peru

Bolivian Institutions

CERES - Center of Studies of Economic and Social Reality, Cochabamba
CEBEM - Bolivian Center of Multidisciplinary Studies, La Paz
CERES - Center of Studies of Economic and Social Reality, Cochabamba
UMSA - San Andrés University, La Paz
UMSS - San Simón University, Cochabamba
Vice Ministry for Higher Education, Science and Technology, La Paz



The conditions on the cold and arid Andean altiplano are investigated by the local universities.

Nicaragua

Focus on reform of higher education

The Swedish research co-operation with Nicaragua is aimed at contributing to the modernisation and reformation of the system for higher education and research. The co-operation was first established in the early eighties and its modality has changed over time. The early support was project-based and focused on individual research training.

Today, the co-operation focuses on strengthening academic capacity in health, natural resources and agriculture, engineering and environmental issues. This is done at four state institutions of higher education – UNA, UNI, UNAN-León and UNAN-Managua – as part of the efforts to concentrate research capacity at these institutions. The support concerns research and research management. In addition, co-ordinating efforts are supported at CNU, the National University Council.

One main problem for the university sector in Nicaragua is the growing expansion. The large increase in students is undermining resources and the quality of the training. Research and problem-based learning are still relatively isolated activities and the deficiencies threaten sustainability.

The events in 2001 included an administrative workshop which addressed research management and was arranged by Sida and hosted by UNA over two days in April. Some 45 researchers and administrators from counterpart universities attended

the workshop with great interest. The workshop resulted in a firm, mutual understanding of the need for improved procedures for follow-up and control.

One example of the research within the health sector is the programme on occupational and environmental health, which has been running since the late 1980s at UNAN-León in co-operation with Karolinska Institutet. The fact that it is estimated that more than 200,000 deaths occur each year in the world, due to acute pesticide intoxication – and almost all of these deaths occur in countries in the south – underlines the importance of the research. Through in-depth interviews, causes of hazardous use of dangerous pesticides have been established, demonstrating that causes may be found not only in poverty, but also in e.g. culturally based relationships to crops.

Sida commitment for current agreement period 2001-2003: SEK 70 million
Disbursed 2001: SEK 23.0 million

Nicaraguan Institutions

UNA - National University of Agriculture, Managua
UNAN-León - National Autonomous University of Nicaragua, León
UNAN-Managua - National Autonomous University of Nicaragua, Managua
UNI - National University of Engineering, Managua

Supported areas: Agriculture, Health, Engineering and Environmental Sciences

Collaborating Institutions

HS - Huddinge University Hospital, Huddinge
KI - Karolinska Institutet, Stockholm
KTH - Royal Institute of Technology, Stockholm
LU - Lund University, Lund
SLU - Swedish University of Agricultural Sciences, Uppsala
SMI - Swedish Institute for Infectious Disease Control, Stockholm
UmU - Umeå University, Umeå

Information & Communication Technology – ICT

Globalisation is to a high degree supported by rapidly expanding Information and Communication Technology, ICT. If developing countries are to benefit from the achievements made in the field of science and technology, they have to be linked up with the worldwide information networks. Modern research cannot be carried out without access to global information sources.

Unfortunately, most countries in the South are lagging behind in the communication revolution and relevant research in this field is still lacking in many countries. Advances have often been made by interested “amateurs” who have gained knowledge while realising the benefits that can be gained for their own disciplines. However M.Sc.s, Ph.D.s and other postgraduate professionals with expertise in modern communication techniques are still scarce.

Since 1998, Sida has systematically assisted universities and research institutions in developing countries to access the Internet, and to create university backbones connected to local area networks at departmental and/or faculty level. Furthermore, support is provided to create local expertise in running, maintaining and managing the networks. Today, there are ICT projects in some ten developing countries. Contacts both within the universities and between them and other centres of research and learning, regionally and globally, are fomenting.

Universities are focal points

Universities constitute important focal points for ICT in society. In Vietnam, Sida is supporting a Science, Technology and Education Network (STE-Net) through which most of the universities and research institutes in the country will gain access to the Internet and enable them to share information digitally. In Maputo, Mozambique, another interest-

ing project takes place – the design and implementation of an Internet exchange, based on cost-effective routers with an aim to peer local traffic without the need for routing through foreign countries.

During 2001, Sida-support has been initiated for ICT projects at four universities in Nicaragua and at UMSA University in Bolivia, in collaboration with Lund University in Sweden. The universities are developing their respective ICT policies and master plans, expected to be completed by mid-2002. The preparatory work to launch ICT projects at the Addis Ababa and Alemaya universities in Ethiopia has been completed. In Laos, a dialogue has been initiated with the National University to improve its communication possibilities with the outside world. Furthermore, a total of twenty-three students from Sri Lanka, Tanzania, Mozambique, Vietnam and Uganda are pursuing “sandwich” M.Sc./Ph.D. studies in collaboration with various Swedish universities.

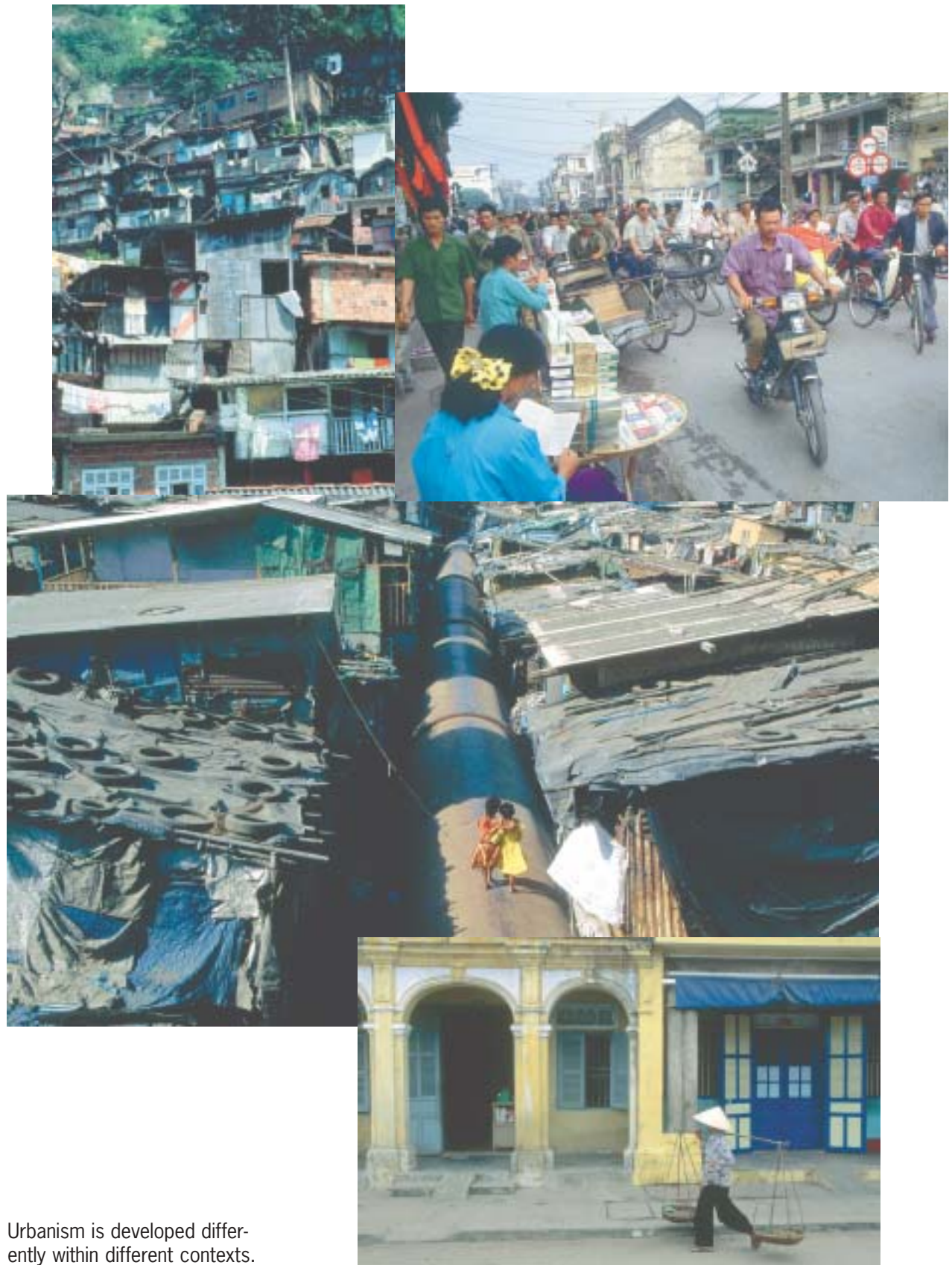
Connections

ICT projects have also been under implementation at universities in Sri Lanka, Tanzania, Mozambique and Uganda, in collaboration with Stockholm University and Uppsala University. A countrywide STE-Net project dedicated to research and higher education is under implementation in Vietnam.

Finally, the first phase of an ICT-network project in Sri Lanka has been completed. A total of seven universities along with the National Aquatic Resource Authority will be connected to this network.

For further information, please see the homepage that each ongoing ICT project has developed. They can be accessed through the Sida homepage (www.sida.se) under the heading Sector Information

- Information and Communication Technologies
- ICT in the Development Co-operation.



Urbanism is developed differently within different contexts.

Thematic Research Programmes

Contacts across national and cultural borders are increasing, both in quantity and in quality. These interactions have also made global problems such as poverty, underdevelopment, deterioration of environment, religious and other forms of extremism, intolerance and social exclusion, obvious to us.

Poverty alleviation is the cornerstone and goal of Sida's support to developing countries. It has always been acknowledged that an important prerequisite for fulfilling such a goal is that poor people obtain control of assets. This means that they have to acquire the knowledge, skills and organisations that make such a control possible. If sustainable development is going to be achieved, individuals at all levels of society have to be engaged in decision making and the execution of policies that affect their wellbeing. Accordingly, the importance of effective capacity building and research is central to all development work.

The need to apply social science analyses to different policies and development strategies is apparent. Social problems are often linked to health and technical issues. Accordingly, social science components are to an ever-increasing degree integrated in projects and programmes that formerly had a tendency to be of an exclusively "technical" nature, such as construction of various forms of infrastructure, agricultural development and health programmes. Sida is consequently stimulating social scientists to co-operate with natural scientists and technicians.

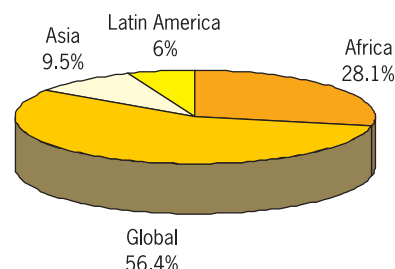
Sida's support for thematic research programmes involves international research programmes, as well as regional research networks. Networking between individual professionals and institutions is facilitated and the sharing of experiences and joint research within specific themes are stimulated. The activities span neighbouring countries, entire regions (like Africa, Central America, etc.) or are on a global scale.

In 2001, Sida provided financial support to a large number of research networks and organisations linking national research into regional collaboration. Over the year, Sida intensified its efforts to deepen the collaboration to address specific problems where social researchers interact with scientists from other disciplines. A joint programme was elaborated among African social science networks to foment the study of social issues related to the HIV/AIDS pandemic in Africa. Other fields of co-operation across traditional discipline boundaries are presently being explored.

Joint research programmes supported by Sida are producing a vast amount of new knowledge. International public goods, like vaccines, environmentally safe plant materials and renewable energy technologies, are produced. Sida-supported research serves cross border public-policy action as a means to improve people's lives. Research on conflict management, democracy and knowledge systems is an important part of the activities.

Diffusion of results is provided through publications, as well as national and international seminars and conferences. Research networks also act as advisory panels and a close co-operation with decision-makers is constantly encouraged and stimulated within the existing networks.

Thematic programmes disbursements by continent
percentage of disbursements 415 MSEK



Social Sciences & the Humanities

A growing awareness of the crucial role that social sciences and humanities play in developing efforts is gradually becoming part of the development agendas of low-income countries. Technical solutions need to be supplemented with effective institutional structures and other means to engage and “empower” beneficiaries. Such strategies demand local knowledge, cultural sensitivity, awareness of gender roles and other skills provided by social sciences and humanities. Developing countries need skilled negotiators, people equipped with academic knowledge and adequate experience enabling them to assert themselves, defend their interests in international negotiations and participate in international policy development.

Since social sciences deal with the study of man as a social being, they are bound to arouse controversy. If the findings of social researchers do not coincide with the views of the people in power they run the risk of being considered as “professional critics” or even worse – enemies to the common good. Accordingly, when developing countries have made an effort to build up, or strengthen, their local research capacity, particular emphasis has traditionally been given to natural sciences and technology.

Inventory of African social science faculties
Against the background of rapid societal and institutional change in many African countries, Sida decided to support an inventory of social science structures, knowledge production, human resources and capacity at the universities in Mozambique, Tanzania, Uganda and Zimbabwe. The studies, based on self assessments, found that many universities lack adequate research environments for social studies. Much academic capacity is devoted to commissioned studies and consultancy, less to independent academic research.

The outcome was used for each university to formulate a strategic plan for social sciences, against which Sida will consider additional funding. During 2001, support to the Faculty of Social Science has been merged into the bilateral collaboration at Makerere University, which has, among other initiatives, established a system of faculty funds to support small scale research projects.

Regional research networks

Traditionally, Sida has supported the build-up and expansion of regional research co-operation. Regional research networks are instrumental by giving greater impact of research findings through communal action. They attract funding and serve as platforms for exchange of research results between scientists from different regions, co-operating with other regional research institutes. The international acceptance, visibility and size of some of these networks also mean that they may serve as safe havens for researchers that risk persecution through their critical studies of totalitarian environments. However, as noted in an African workshop on social sciences, the weak status of national social sciences threatens to undermine the functions of the regional networks. One important role for these networks will therefore be to help strengthen national research.

African research networks

CODESRIA, the Council for Development of Social Science Research in Africa, focused on territoriality, urban processes, and gender politics in 2001. A wide range of research reports and 12 books were produced, representing social science disciplines such as philosophy, economics, and democracy/human rights. A special initiative was the issuing of a series of manuals directed to human

Assisting peace through CODESRIA

Dr. Ebrima Sall is on a three-year engagement at the Nordic Africa Institute in Uppsala, co-ordinating the research programme "Post-conflict transition, the state and civil society in Africa". When Ebrima Sall first encountered CODESRIA, the programme opened up a window to Africa.

"It later became my life", declares Ebrima Sall.

The Council for the Development of Social Science Research in Africa, CODESRIA, is a regional network on social science in Africa, which has been supported by Sida/SAREC since 1975. The programme involves several themes and working groups.

When the programme was set up in the early 1970's, many African countries were ruled by intolerant, authoritarian regimes, where criticism was forbidden. The scholars asked themselves: how can we promote social science research in Africa? What can we contribute to the development of Africa and to the promotion of democracy? It was obvious that social and economic explanations were needed.

Through encounters with other scholars, Dr. Sall discovered the CODESRIA Bulletin while he was working on a Ph.D. programme at the Sorbonne. There was in the West a strong pessimism about the development of Africa during the late 1980's and early 1990's. Africa's development challenges were discussed in the Bulletin, but the scholars themselves were not at all pessimists.

"The criticism you find by Africans is often strong, but encouraging. They give meaning to a



lot of issues", says Dr. Sall.

Upon completion of his studies, living in a country without a university (as was the case with Gambia then), the networking and involvement in groups of social scientists working together made CODESRIA extremely important for him. This forum for scholarly voices from within Africa became a lifeline that provided a space for critical scholarship.

In his current work at the Nordic Africa Institute, Ebrima Sall looks, among other things, at Africa's intelligentsia, how they participate in the reconstruction of conflict-ridden nations, in public fora, what sides they take etc.

– They occupy a very strategic position in the societies and they are expected to ask questions and, through their research, provide explanations; they also campaign for peace, rights and justice.

– We are of the view that through research we can assist those who are doing the peace and reconstruction work. We increase the possibilities for making informed choices and for basing policies and community actions on research based knowledge.

rights defenders. The booklets presented means to monitor and investigate various human rights abuses. The series was written in collaboration with Amnesty International. Titles included: "Excessive

Use of Force", "Sexual Violence", "Death in Custody", "Political Killings", "Torture, Cruel, Inhuman or Degrading Treatment and Prison Conditions", and "Political Killing".

Social Sciences & the Humanities

2001 saw a strengthening of working relations between Sida and CODESRIA. A three-year agreement was signed, and the organisation launched into a new era both in terms of organisational and programmes objectives. Renewed agreements were also made with OSSREA, the Organisation for Social Science Research in Eastern and Southern Africa, AAPS, the African Association of Political Science and UAPS, the Union for African Population Studies. OSSREA and AAPS are expanding their grant schemes and their publication activities in order to enhance their support to the scholarly community in Africa. OSSREA has launched a new research programme in the field of conflict studies in East Africa.

African archaeology

Culture understood as human self-realisation, mirroring views and ideologies, is increasingly becoming a part of the development discourse.

In 2001, an important archaeological research programme about the origins of African urbanism and resource utilisation was completed. The programme has provided new and unique insights to African history. The regional network has also supplemented the bilateral efforts towards the build-up of important national and regional research capacity that provides Africans with the tools and knowledge to regain their own history. The origins of East and South African urbanism formed the focus for the first phase of the programme. Research results proved that local factors for the rise of African urbanism had been much more important than formerly assumed. Due to these findings, traditional chronologies had to be reassessed. East African urbanism had an earlier start than general opinion had assumed. The programme demon-

strated that urbanism is developed differently within different African contexts. Access to water, quality of soil and existence of trade networks were stressed. An African perspective is now taking form as a counter image to views that stressed an external, "colonial" way of describing cultural development on the continent.

A second phase related to resource utilisation over time. New understanding was reached of how resource utilisation changes over time within pastoral and agricultural societies. It became possible to establish when new species of seeds and husbandry were introduced and/or developed, as well as how climatic changes had affected various human settlements.

The programmes in archaeology have contributed substantially to African capacity for archaeological research. In co-operation between the University of Uppsala and African universities, 12 African Ph.D.s and more than 10 M.Sc.s have graduated, all presently active within African research environments.

Latin American research networks

Beginning in 1997, SAREC supported a wide range of Latin American development research institutes and organisations in order to contribute to the maintenance of an independent research capacity. When democracy gradually returned to the continent, Sida withdrew its support from the majority of the more than 40 institutes that had received support from the so called Latin American Programme (LAP). Since 2000, regional support to social sciences in Latin America is concentrated to CLACSO (Latin American Council of Social Sciences) and the Central American FLACSO (Latin American Faculty of Social Sciences) network. In 2001, The 20th General Assembly of CLACSO

CLACSO – 35 years of fighting

CLACSO, the Latin American Council of Social Sciences, has played several roles during its 35 years. Atilio A. Boron, executive secretary of CLACSO, describes it as “a safety net against political oppression and all the encroachments against freedom of expression”.

CLACSO can look at its history with pride and satisfaction. Throughout its 35 years, the Council has played several roles. It served as a promoter of the social sciences in the mid-sixties. During the sombre seventies and early eighties, while the entire region was engulfed by sinister military dictatorships, CLACSO acted as a kind of humanitarian umbrella. In the mid-eighties, when democracy returned and social sciences had to be rebuilt from scratch, CLACSO became a regional architect, reconstructing what had been lost. Finally, at the turn of the century, CLACSO is again faced with new challenges: to keep alive the torch of critical thought in Latin America in a moment in which the *pensée unique* threatens to overwhelm our entire culture and social life.

The CLACSO community involves more than 130 research and teaching institutions, both public and private. Its members are dispersed throughout nineteen countries in the entire Latin American region. Some five thousand social scientists are organised within the network, constructively renewing the on-going debate, not only criticising the prevailing intellectual and moral tendencies of our time. This major endeavour is achieved through a wide range of activities.

CLACSO has been a major reference point throughout my entire scholarly career. This feeling is shared by several generations of sociologists, political scientists, anthropologists, economists and other social scientists who consider the Council a



safety net against political oppression and all the encroachments against freedom of expression. CLACSO has made a decisive contribution to improving security for social scientists in a continent where attacks against public liberties have been the rule for decades. Now, in a rather democratic environment, CLACSO contributes to a continuous upgrading of the professional formation of social scientists, thus bridging the gap between old and new generations of social scientists, facilitating the transmission of the rich theoretical tradition of Latin American social thought. New information technologies are incorporated into the research and teaching of social sciences. New themes and problems are constantly explored. Co-operation among social scientists in the region is improved, while the dialogue between Latin American and Caribbean experts with their counterparts in other areas of the world is deepened and made more efficient.

Atilio A. Boron is Executive Secretary of the Latin American Council of Social Sciences (CLACSO), and is currently Professor of Political Theory at the University of Buenos Aires.

Social Sciences & the Humanities

was celebrated in Guadalajara, Mexico. It was able to present findings from more than 30 research projects. The books presented research results from a wide range of areas of social research, such as the social importance of sports events, labour rights, Latin American youth cultures, the significance of the pedagogical work of the Brazilian educator Paulo Freire, cultural and social transformations, changing political systems, ethnic rights, etc. Interesting insights were for example given in an anthology on urbanism that highlighted a recent trend of emerging self-contained, secluded and autonomous enclaves of wealthy neighbourhoods within formerly run-down mega-city centres. Illuminating were also research reports indicating the different agendas of national military, police corps, protection firms and militias within different Latin American contexts.

A new programme of support to the three national FLACSO research units of Guatemala, Costa Rica and El Salvador was launched in 2001. These organisations embarked on a joint effort to organise a Central American Graduate Programme in Social Sciences. This is the first initiative of its kind shared between different national academic units within the FLACSO system. M.Sc. and Ph.D. studies are now offered in social sciences for students from state universities in all Central American countries.

The programme is cross-disciplinary in nature and aims at developing integrated knowledge of complex socio-political problems faced by the Central American region. Relationships between global, national and local factors are studied through three basic, analytical axes: i) citizenship, ii) identities, and iii) territoriality. Topical thesis seminars are carried out, conducted *in situ* by the various academic units – “citizenship” is imparted in Costa

Rica, “identities” in Guatemala, and “political institutions” in El Salvador.

Southeast Asian conflict studies network

The multifaceted reasons behind human conflicts may be easier understood if studied out of a comparative, regional perspective, where insights may be gained from “objective” research by observers that have not been involved in the conflicts in the sense that they do not come from the affected areas. Regional research co-operation may also ease the tension in areas plagued by warring political, cultural, and/or religious fractions, or where various economic and nationalistic interests clash over natural resources.

In 2001 Sida formalised its collaboration with SEACSN (the Southeast Asian Conflict Studies Network), co-ordinated from University Sains Malaysia in Penang. The research network studies various aspects of conflicts, such as the relationship between the state and the emergence of conflicts in society, the role of the state in the escalation, or resolution, of conflicts, the control over natural resources, conflicts related to ethnicity, religion, and culture and Inter state conflicts in Southeast Asia and the roles played by regional organisations in the region.

Asian networks for environmental economics

The costs and benefits for human interaction with the natural environment are studied by environmental economics. Sida supports two Asian research networks dealing with environmental economics – EEPSEA (Economy and Environment Programme for Southeast Asia) and SANDEE (South Asian Network for Development and Environmental Economics).

Some examples of scientific reports issued in 2001 may indicate the scope of EEPSEA's research topics: Assessments of environmental damages caused by Vietnamese cement industries, electronic industrial waste in the Philippines, renewable resource management in Vietnamese rice production, economic evaluations of protected coral reefs, impacts of unit pricing on solid waste collection, illegal trading of endangered species in Vietnam, environmental costs of power generation, Asian timber exporters, economic impact of integrated pest management, improvement of air quality by substituting natural gas for coal in China, extended cost-benefit analysis of dam projects in Thailand, and the impact of integrated pest management on the Indonesian economy.

SANDEE carries out similar research in South Asian countries, though the output of the organisation was in 2001 affected by the war in Afghanistan and political crisis in Nepal, where SANDEE's headquarters are situated.

International social research through UNRISD

Recent developments highlight the often-crucial role of cultural differences. The "power" element present in the discourse revolving around concepts such as globalism and neo-liberalism is debated. Who is setting the agenda? Who benefits from globalism and neo-liberal ideologies? Whose needs and priorities are favoured?

These are some of the issues dealt with in the research co-ordinated by UNRISD, the United Nations Research Institute for Social Development, an independent social research institutes within the UN system. Sida contributes to its core funding. In addition, Sida in 2001 decided to support a research project "Social Policy in a Development Context". Through this programme, UNRISD in-

tends to address the issue of how comprehensive social welfare systems may be constructed in harmony with demands for economic development and poverty reduction. One of the hypotheses underlying the project is whether experiences gained from social policies in the Scandinavian countries could be applied to developing countries.

Social elements in other international research

Sida has promoted the inclusion of social research elements also in other international research programmes. Recent seminars in the CGIAR-system for agricultural research, presented elsewhere in this report, have, for example, pointed to the effects of HIV/AIDS on African agriculture, different forms of production, agricultural labour loss, availability of expertise, land ownership, gender roles etc.

Similarly, WHO in its research programmes includes issues like the social dimension of certain diseases, the limited access to medicines and remedies due to commercial interests, the importance of preventive health care, cultural factors influencing disease patterns, etc.

Collaborating Institutions

Social Sciences:

United Nations Research Institute for Social Development, UNRISD, Geneva, Switzerland
 Council for Development of Social Science Research in Africa, CODESRIA, Dakar, Senegal
 Organisation for Social Science Research in Eastern and Southern Africa, OSSREA, Addis Ababa, Ethiopia
 African Association of Political Science, AAPS, Harare, Zimbabwe
 Union for African Population Studies, UAPS, Dakar, Senegal
 Centro Boliviano de Estudios Multidisciplinarios, CEBEM, La Paz, Bolivia
 Centro de Estudios de la Realidad Económica y Social, CERES, Cochabamba, Bolivia
 Consejo Latinoamericano de Ciencias Sociales, CLACSO, Buenos Aires, Argentina
 Facultad Latinoamericana de Ciencias Sociales, FLACSO, San José, Costa Rica
 Facultad Latinoamericana de Ciencias Sociales, FLACSO, Guatemala City, Guatemala
 Facultad Latinoamericana de Ciencias Sociales, FLACSO, San Salvador, El Salvador
 Centro de Investigaciones Económicas y Sociales, CRIES, Managua, Nicaragua

Economy:

African Economic Research Consortium, AERC, Nairobi, Kenya
 The Beijer Institute of Ecological Economics, Stockholm, Sweden
 Economy and Environment Program for Southeast Asia, EEPSEA, Singapore
 Environmental Economics Unit, Gothenburg University, Gothenburg, Sweden
 Network of Social Economics Centres in Latin America, NOSECLA, Montevideo, Uruguay
 South Asian Network for Development and Environmental Economics, SANDEE, Kathmandu, Nepal

Democracy and Human Rights Programme:

Birzeit University, Birzeit, West Bank
 Jawaharlal Nehru University, New Delhi, India
 Utkal University, Bhubaneswar, Orissa, India
 University of Witwatersrand, Johannesburg, South Africa
 Centre for Research and Documentation, Kano, Nigeria
 Institute for Free Flow of Information, Jakarta, Indonesia
 Institutt for Statsvitenskap, Oslo University, Oslo, Norway
 Centre for East & Southeast Asian Studies, GESEAS, Gothenburg University, Gothenburg, Sweden
 Peace & Development Research Institute, PADRIGU, Gothenburg University, Gothenburg, Sweden
 Department of Political Science, Stockholm University, Stockholm, Sweden
 Department of Peace & Conflict Research, Uppsala University, Uppsala, Sweden
 Department of Government, Uppsala University, Uppsala, Sweden
 Cambodian Researchers for Development, CRD, Phnom Penh, Cambodia
 Institute for Malaysian and International Studies, IKMAS, National University of Malaysia, Bangi, Malaysia
 Research and Education for Peace Unit, University of Science of Malaysia, REPUSM, Penang, Malaysia
 The Centre and Programme for Southeast Asian Studies, Indonesian Institute of the Sciences, PSEAS/LIPI, Jakarta, Indonesia

Archaeology Programme:

Pan African Association, PAA, History Department, University of Zimbabwe, Harare, Zimbabwe
 Department of Archaeology and Ancient History, Uppsala University, Uppsala, Sweden

Gender Research:

Centre for Research Training and Information for Women in Development, CERTWID, Addis Ababa, Ethiopia
 Department of Women's Studies, Makerere University, Kampala, Uganda
 Centre for Basic Research, CBR, Kampala, Uganda
 Department of Gender Studies, University of Zambia, Lusaka, Zambia
 Institute of Southern Africa Studies, ISAS, University of Lesotho, Roma, Lesotho
 Mazingira Institute, Nairobi, Kenya
 Women and Law in East Africa, WLEA, Nairobi, Kenya



Research aiming at prevention of HIV/AIDS is given top priority. Youth AIDS awareness session by Pasada, Dar-es-Salaam, Tanzania

Health Research

Health research is a multi-faceted activity involving a wide range of disciplines, ranging from basic biomedical research to social sciences. It is often argued that health research is essential not only for improvements in health but also for social and economic development in a country. Furthermore, health research is essential to the design and implementation of health interventions, health policies, and health service delivery.

Failure to establish a process for priority setting, or serious deficiencies in this process, have led to a situation in which only 10 per cent of research funds from both the public and private sectors globally are devoted to 90 per cent of the world's health problems. This imbalance in research funding carries a heavy economic and social cost for society. To make matters worse, these 10 per cent are not always being used within areas that would ensure the greatest gains in health. Such conclusions are drawn from the estimate of the resource flow for health research, *Monitoring Financial Flows for Health Research 2001*, published by the Global Forum for Health Research.

Sida includes support for health research in its bilateral research support, but recognises the problems contained in the many demands placed on health personnel in developing countries struggling with meager resources. Sida supports as well COHRED, the Council on Health Research for Development and the Alliance for Health Policy and Systems Research, both international organisations striving to enhance the role of developing country based research. While such concerted efforts in the long run may help shift the unfavourable balance, Sida also continues to influence the orientation of international research towards health problems affecting people in poor countries. A wide range of research areas are supported via

the special programmes for research linked to WHO, the World Health Organization, including tropical diseases, reproductive health, child and adolescent health. Some priority issues, like the HIV/AIDS and vaccine research are supported through other channels as well.

Tropical disease research

The Special Programme on Tropical Disease Research, TDR, reports that it is utilising new opportunities provided by advances in science and technology – such as genomics, bioinformatics and high-throughput screening – which open new ways for accelerated discovery of new drugs, vaccines and diagnostics, as well as new perspectives for vector control. “Implementation research” is needed during the introduction of a new disease control tool by health systems of disease-endemic countries.

The close collaboration between research and control programmes at WHO opens up possibilities to go beyond the traditional researchers' terrain of demonstrating “proof of principle” and into actual implementation in a real field setting. TDR is making a determined effort to work in the overlapping area between research and control in order to get its “products” into policy and practice more quickly. At the same time there are strong efforts to strengthen and promote interactions with the private sector. TDR also focuses on social, economic and behavioural research aiming to increase understanding of how social, behavioural, political, economic and health system factors operate to affect disease patterns and disease control efforts.

Research related to HIV/AIDS

Research aiming at prevention of HIV/AIDS is given top priority. Development of a HIV vaccine, prevention of mother-to-child transmission, control of sexually transmitted diseases related to HIV/AIDS and research aiming at protecting young people and future generations are some of the research areas with a strong focus.

The character of the HIV/AIDS epidemic in the developing countries is different from the northern industrialised countries and there are many complexities. Public sector investment in research and collaboration between institutes in different countries is therefore necessary.

In parallel with support to capacity building in countries, Sida also supports research in Sweden on HIV/AIDS. This research is at the international front within the field of vaccine development, as demonstrated during a Nobel symposium in Stockholm in June 2001 arranged by the Karolinska Institutet.

It has been demonstrated that it is possible to reduce the transmission of HIV infection from mother to child by treating the mother during the pregnancy and during birth with anti-retroviral drugs. The period of treatment, however, has to be prolonged in order to hinder the transmission later to the child via breast-milk. Such studies are at the moment on-going.

Increased efforts have recently been put in to organising research into social and economic consequences of HIV/AIDS. The increased illness and mortality in the productive age groups cause grave anomalies in many sectors. Traditional family structures are destroyed. Households headed by grandparents, and even children, are multiplying. Agriculture is often damaged, not only because of lack of labour, but also because traditional know-

ledge is lost when no longer passed on from older generations to the young. Society has to prepare for new situations created by the epidemic. (For more information on research activities related to HIV/AIDS, see pages 4, 12, 23, 29).

Vaccine research

Another high priority area is vaccine research. Support to studies on the orally inactivated whole cell enterotoxigenic *Escherichia coli* (ETEC) diarrhea vaccine was initiated in 1996 in Bangladesh. Results obtained so far show that the vaccine is well tolerated and gives rise to only negligible side effects in children aged 18 months to 3 years. Future studies will prepare for a phase III trial of the ETEC vaccine in Bangladeshi children.

Further development of malaria vaccines is supported through the European Malaria Vaccine Initiative. Two research networks in Latin America; NeTropica and a research network on parasites, publish high quality research results internationally regarding infectious and parasitic diseases, common in developing countries.

The TDR programme has reported several new products. One example is the testing of a new adjuvant – an additional substance that enhances the immune response – which gives promise for better malaria vaccines. Protection was partial and short-lived, but the vaccine could have a potential in epidemic areas with low endemicity or short transmission seasons.

A drug with a new type of action against the malaria parasite has been reported. The drug stops the parasite making its cell walls when living inside red blood cells. It has shown remarkable activity both in vitro experiments, and in primates and relative lack of toxicity compared to quinine.

Health Research

Genomics research

WHO has also issued a major new report on the impact of genomics, entitled “Genomics and World Health”. The report details the latest advances in genome research, and explains how this research could result in medical advances against many diseases, including those pandemics in poor countries. The report also warns about the potential risks of such research, and makes recommendations on how the fruits of this research can be brought to the developing world. It makes a major contribution to the debate on the ethics of genome research, and anticipates how the global community could use genetics to attack the unfinished agenda of infectious diseases such as malaria, TB and HIV/AIDS, helping to narrow the existing unethical inequities in global health. The need for public engagement on issues related to genomics in order to enable society to enter into informed debate on an uncertain, rapidly changing field with enormous potential for improving health.

A high proportion of neonatal deaths in some countries has highlighted the need to strengthen the young childcare module. It has also shown that the implementation of IMCI, the Programme for Integrated Management of Childhood Illness, is closely linked to health sector reform. Preliminary findings in some countries indicate that there is low utilisation of public health services, which need to be addressed for IMCI, to have its expected impact.

Reproductive and child health research

The programme for Human Reproductive Health Research is continuing to produce relevant research publications of high quality in a number of areas like unsafe abortions, sexual and reproductive health in adolescents, reproductive tract and sexually transmitted infections, making pregnancy safer and so on. A large number of microbicidal compounds and formulations are currently under investigation and development. The programme has decided not to become involved in exploratory research for new products but collaborate in clinical trials of promising preparations. One example is cellulose sulfate gel which has been shown to have good spermicidal and anti HIV activity, and will be tested in humans during the coming year.

Collaborating Institutions

Health research policy:

Global Forum for Health Research, Geneva, Switzerland
 Council on Health Research for Development, COHRED, Geneva, Switzerland
 Alliance for Health Policy and Systems Research, AHPSR, Geneva, Switzerland

Child health:

Child and Adolescent Health and Development, World Health Organization, Geneva, Switzerland

Sexual and reproductive health:

UNDP/UNFPA/WHO/World Bank Special Programme on Research, Development and Research Training in Human Reproduction, World Health Organization, Geneva, Switzerland
 Centre for Reproductive Health, Research and Training, RHRT, Harare, Zimbabwe
 East, Central and Southern African Organisation for Obstetrics and Gynaecology, ECSAOG, Harare, Zimbabwe

Tropical and other infectious diseases:

UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, World Health Organization, Geneva, Switzerland
 Instituto de Investigaciones Bioquímicas, Fundación Campomar, IIBFC, Buenos Aires, Argentina
 Mekelle University College, Mekelle, Ethiopia
 International Centre for Diarrhoeal Disease Research, ICDDR.B, Dhaka, Bangladesh
 Department of Medical Microbiology and Immunology, Gothenburg University, Gothenburg, Sweden
 Department of Immunology, Microbiology, Pathology and Infectious Diseases, Karolinska Institutet, Stockholm, Sweden
 Microbiology and Tumour Biology Centre, Karolinska Institutet, Stockholm, Sweden
 Vaccines and Biologicals, World Health Organization, Geneva, Switzerland
 European Malaria Vaccine Initiative, EMVI, Copenhagen, Denmark

HIV/AIDS and related sexually transmitted diseases:

National Public Health Laboratory Bissau, Bissau, Guinea-Bissau
 Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania
 Department of Medical Microbiology and Immunology, Gothenburg University, Gothenburg, Sweden
 Swedish Institute for Infectious Disease Control, Stockholm, Sweden

Research training and networking in biomedicine in Central America:

Fundación para el Desarrollo Económico y Social de Centroamérica, FUNDESCA, Panamá, Panamá
 The Karolinska International Research and Training Committee, KIRT, Karolinska Institutet, Stockholm, Sweden

Network for Research and Training in Parasitic Diseases at the Southern Cone of Latin America, RTPD, Porto Alegre, Brazil

Regional programme for environmental and health research in Central America:

Central American Institute for Studies on Toxic Substances, Heredia, Costa Rica
 Department for Systems Ecology, Stockholm University, Stockholm, Sweden

Other:

Non Communicable Disease Surveillance, World Health Organization, Geneva, Switzerland
 Research, Policy and Co-operation, World Health Organization, Geneva, Switzerland
 International Network of Field Sites with continuous Demographic Evaluation of Populations and their Health in Developing Countries, INDEPTH, Accra, Ghana

Natural Resources & Environment

Agriculture is the cornerstone of development in poor countries, where more than 70 percent of people depend on the land for their livelihood. Agricultural growth must be achieved through methods that preserve the productivity of natural resources and research is one key means by which the world's knowledge of agriculture is increased and improved.

Sida's largest research allocation concerns the Consultative Group for International Agricultural Research (CGIAR), a global network of 16 international research institutes. The network focuses on both strategic and applied research. The research agenda includes the entire range of problems affecting agricultural productivity, linking them to broader concerns about poverty reduction, sustainable management of natural resources, protection of bio-diversity, and rural development. The research focuses on higher-yielding food crops and more productive livestock, fish and trees; improved farming systems that are environmentally benign; better policies and enhanced scientific capacities in developing countries. Farming populations, particularly poor farmers, are the ultimate clients of the CGIAR, and they are the main actors in improving agricultural productivity. Both the farmers and technical scientists benefit from the inclusion of social sciences into the CGIAR research agenda. For a farmer within a farming system, both the social sciences and the technical sciences can bring in distinctive perspectives which can, and do, complement each other. After all, motivation, traditions, power hierarchies, market structures are as important to a farmer as are seeds, ploughs and fertiliser.

Some CGIAR achievements

The CGIAR holds one of the world's largest ex

situ collections of plant genetic resources in trust for the world community. It contains over 500,000 accessions of more than 3,000 crop, forage, and agro-forestry species. The collection includes farmers' varieties, improved varieties and, in substantial measure, the wild species from which those varieties were created. The CGIAR has placed its collections under the auspices of FAO within the International Network of Ex Situ Collections. The terms of the agreements signed between the FAO and CGIAR centres ensure that the germplasm within the in-trust collections can be made available without restriction to researchers around the world, on the understanding that no intellectual property protection is to be applied to the material.

Research on water management has generated knowledge on how more sustainable farm production can be achieved in irrigated areas. Current efforts are also being directed at making the use of water more sustainable by obtaining "more crop per drop". Research has enabled local communities to undertake their own initiatives to conserve and protect marine resources.

Research on food subsidies in Africa, Asia, and Latin America has shown that although consumer-oriented food subsidies in developing countries can help alleviate human misery, they also contribute to slow economic growth. This research has greatly improved policymakers' understanding of the effects of food subsidies as well as the likely effects of policy reform.

Research on Vietnam's rice production and domestic and international marketing helped stimulate policy reforms that led to a US\$61 million increase in national income in 1998.

Initiatives that concern resources of the sea and coastal areas

Coastal areas have always been at the centre of human activities, a meeting place between human cultures and different ecological systems. In the tropics, mangrove forests, sea-grass beds and coral reefs are essential global life support systems necessary for food production and other aspects of human survival. However, coastal ecosystems are also extremely vulnerable and mankind is constantly engaged in striking a balance between exploitation and preservation.

Since 1989, Sida has been engaged in an initiative concerned with the development of tropical coastal and sea areas, particularly in research on the ecology and economic resources of the Western Indian Ocean. As a direct response to the catastrophic development of mass bleaching and death of corals, the programme Coral Degradation in the Indian Ocean (CORDIO) has been established. Sida is one of the main founders of this programme, focusing on the biophysical impacts of coral degradation, its socio-economic impacts, prospects of restoration and rehabilitation of the stricken reefs. CORDIO is a part of the global coral reef monitoring network within the International Coral Reef Initiative (ICRI) supported by Sida. ICRI is a global partnership among nations and organisations seeking to implement international conventions and agreements for the benefit of coral reefs and related ecosystems. In 2001 Sweden and the Philippines assumed the co-chairmanship of ICRI's co-ordination and planning committee secretariat.

In 2001 Sida also initiated support to the regional programme "Marine Science for Management" (MASMA), co-ordinated by the Western Indian Ocean Marine Science Association (WIOMSA). This year WIOMSA published the proceedings of

the 20th anniversary conference on advances in marine science in Tanzania¹ and conducted the second Scientific Symposium on "Advances in marine science in East Africa: setting the research agenda", with more than 150 participants. The programme seeks to contribute to the knowledge and understanding of coastal and marine environment of the Western Indian Ocean, to raise awareness, to conduct and co-ordinate research activities of national and regional importance, and to disseminate information and data for sustainable use of coastal and marine resources. Priority research themes are: sustainable fisheries and food security, ecosystems research, pollution "hot spots" and sustainable tourism.

¹ Marine Science Development in Tanzania and Eastern Africa. Proceeding of the 20th anniversary conference on advances in marine science in Tanzania 28 June - 1 July, 1999. Zanzibar, Tanzania. Eds. M.D Richmond and J. Francis. IMS/WIOMSA. Regal Press Kenya. 569 pp.

Collaborating Institutions

Regional marine research programmes:

Western Indian Ocean Marine Science Association, WIOMSA, Zanzibar, Tanzania
 Coastal Management Research Centre, COMREC, Södertörns University College, Stockholm, Sweden
 Coral Reef Degradation in the Indian Ocean, CORDIO, Kalmar University, Kalmar, Sweden
 University of Dar es Salaam, Institute of Marine Science, Zanzibar, Tanzania
 National Aquatic Resources Agency, NARA, Colombo, Sri Lanka
 Gothenburg University, Gothenburg, Sweden
 Stockholm University, Stockholm, Sweden
 Universidad de Concepción, Concepción, Chile

Dryland projects:

African Academy of Science, AAS, Nairobi, Kenya
 African Research Programme on Sustainable Use of Dryland Biodiversity, RPSUD, Nairobi, Kenya
 Regional Dryland Programme in Eastern Africa: training and research for sustainable livelihoods (REDPA),
 Dryland Husbandry Programme, DHP/Pastoral Information Network Project, PINEP, Nairobi, Kenya
 Organisation for Social Science Research in Eastern and Southern Africa, OSSREA, Addis Ababa, Ethiopia
 Research Programme for Environmental Policy and Society, EPOS, Linköping University, Linköping, Sweden

International agricultural research, food security and genetic resources:

Consultative Group for International Agricultural Research, CGIAR:

- International Potato Center, CIP, Lima, Peru
- International Rice Research Institute, IRRI, Manila Philippines
- International Maize and Wheat Improvement Center, CIMMYT, Mexico City, Mexico
- International Institute of Tropical Agriculture, IITA, Ibadan, Nigeria
- International Center for Tropical Agriculture, CIAT, Cali, Colombia
- International Crops Research Institute for the Semi-Arid Tropics, ICRISAT, Andhra Pradesh, India
- International Center for Agricultural Research in the Dry Areas, ICARDA, Aleppo, Syria
- International Livestock Research Institute, ILRI, Nairobi, Kenya
- International Plant Genetic Resources Institute, IPGRI, Rome, Italy
- International Service for National Agricultural Research, ISNAR, The Hague, the Netherlands
- West Africa Rice Development Association, WARDA, Bouaké, Ivory Coast
- International Centre for Research in Agroforestry, ICRAF, Nairobi, Kenya
- Center for International Forestry Research, CIFOR, Jakarta, Indonesia
- International Center for Living Aquatic Resources Management, Inc., ICLARM, Makati City, Philippines
- International Irrigation Management Institute, IIMI, Colombo, Sri Lanka

Intellectual Property Protection and the CGIAR System:

Vision for Food, Agriculture and the Environment:

International Food Policy Research Institute, IFPRI, Washington, USA
 International Centre of Insect Physiology and Ecology, ICIPE, Nairobi, Kenya

ACTS – African Centre for Technology Studies, Nairobi, Kenya

International Foundation for Science, IFS, Stockholm, Sweden

World Bank/ESDAR – Environment Sustainable Development and Agricultural Research, Washington, USA

Sabah Forest Industries, Sabah, Malaysia

Rakyat Berjaya SDN BHD, of Innoprise Corporation, Sabah, Malaysia

International Water and Sanitation Development Fund, IWSD, Harare, Zimbabwe

National Biodiversity Institute of Costa Rica, INBio, Costa Rica

National Botanical Institute of South Africa, Cape Town, South Africa

National Herbarium and Botanic Gardens of Malawi, Malawi

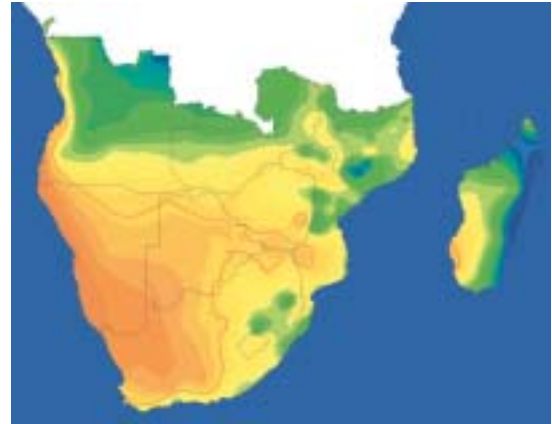
Regional Farming Systems in Asia, Ho Chi Minh, Vietnam

Exampels showing models of precipitation in Southern Africa

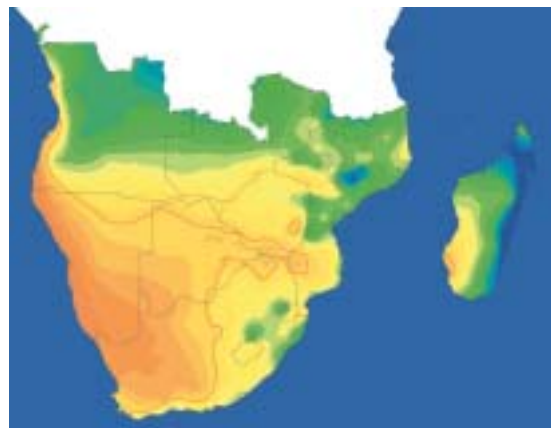
By modelling the present climate data from 282 weather stations all over southern Africa, researchers can simulate the precipitation changes over time. The maps show amounts of rainfall 2000 years ago, 800 years ago and the distribution of today's precipitation.

The global climate changes, such as the medieval warm period (1100-1400 AD) meant a more humid climate in extensive parts of southern Africa, while the global Little Ice Age (1400-1850) caused draughts in large areas of southern Africa. The extreme draughts affected both flora and fauna. However, the traditional cultivated plants tolerate draughts very well. Durra, e.g. needs an average precipitation of 500 mm to grow properly. Today's 500 mm limit is marked as a red line on the maps.

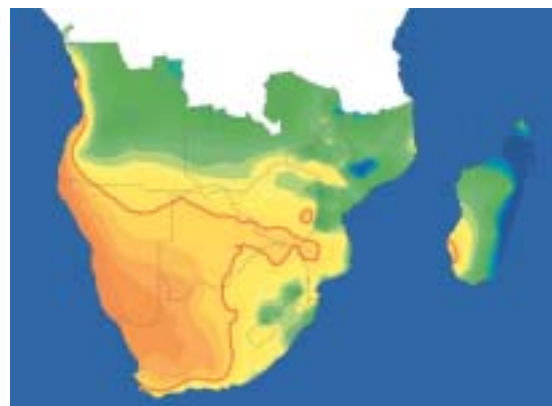
The modelling is produced at the Human Responses and Contributions to Environmental Change project, by Bryson and Bryson, Centre for Climatic Research, Wisconsin University, USA in co-operation with African and Comparative Archaeology, Uppsala University. Graphics by M. Pykönen.



precipitation 2000 BP (before present)



precipitation 800 BP



present precipitation

Science, Technology & Industrialisation

Environmentally sound development is one of the main objectives of the research supported by Sida in natural and engineering sciences. Several Sida-supported programmes deal with biotechnology and energy-climate related issues in Africa and Asia. Parallel to the research, efforts are made to develop and implement technology policies. The approach is multidisciplinary and requires co-operation between engineers, economists, social scientists and political decisionmakers.

Basic sciences

Capacity building in the basic sciences (mathematics, physics, chemistry and biology) is an important area. These disciplines play a crucial role both in the academic domain and in the economic development of society. Sida's support is channelled through five organisations; two of which are situated in Sweden and three in Italy (ISP, International Science Programs at Uppsala University, IFS, International Foundation for Science in Stockholm, ICTP, International Centre for Theoretical Physics, TWAS, Third World Academy of Sciences and TWOWS, Third World Organisation for Women in Science in Trieste). In addition, several bilateral co-operation programmes supported by Sida include research and training within the basic sciences.

The renewable energy technology research and dissemination programme in Asia
RETs in Asia is a regional research programme involving 15 national research institutions from six countries in South and Southeast Asia and co-ordinated by the Asian Institute of Technology in Bangkok. The programme aims at decreasing energy poor countries' dependency on fossil fuels. Simple, low cost technologies adapted to the local conditions are developed. The programme has

strengthened the research capacities of the participating institutions. Demonstration and dissemination of renewable energy systems has already resulted in a number of measures undertaken in the countries involved. Overall, the RETs in Asia-programme has given a significant thrust to the commercialization of renewable energy technologies in the countries involved in the programme. (For further information, see <http://www.rets.ait.ac.th>).

The Asian regional research programme in energy environment and climate

The ARRPEEC network deals with policy-oriented research aimed at mitigating the emission of green house gases from the use of fossil fuels in urban transport, power sector and industry, and substituting fossil fuels with bio-mass energy. The network, co-ordinated by the Asian Institute of Technology, involves 23 national institutions from eight countries in East and South Asia. Many problems faced by the member countries are similar. The regional programme offers the researchers a vital opportunity to learn from one another and to develop methodologies together. (For further information, see: <http://www.arrpeec.ait.ac.th>).

The Asian regional research programme on environmental technology

The ARPET aims at strengthening research competence in environmental issues such as wastewater, solid waste, air pollution and hazardous waste. The programme involves 20 research institutes from eight Asian countries, co-ordinated by the Asian Institute of Technology. The institutes have established corresponding national networks and have held national workshops. (For further information, see <http://www.arrpet.ait.ac.th>).

The African energy policy network

AFREPREN is Africa's only research network dedicated to energy policy issues. Initiated in 1989, the network brings together more than 100 African energy researchers and policy makers from eleven countries. The core programme deals with renewable energy for rural development and energy services for urban poor. The network is provided with an African energy library and database which facilitates the dissemination of research results. The network also organises national and regional policy seminars and has initiated M.Sc. programme in energy policy presently involving seven candidates.

Maintenance of scientific equipment in Africa

Technologically advanced scientific equipment has become a necessity for experimental work within the natural sciences and engineering as well as in many other research fields. In developing countries, maintenance of such equipment is often a huge problem, due to lack of local repair service. The Network of Users of Scientific Equipment in Eastern and Southern Africa, NUSESA, supported by Sida for many years, strives to alleviate the maintenance problem by providing advice and arranging hands-on training courses for researchers and technicians from the 16 member countries.

The East African regional programme and research network for biotechnology, biosafety and biotechnology policy development

Sida's support to BIO-EARN represents a joint effort to strengthen four East African countries – Ethiopia, Kenya, Tanzania and Uganda – in meeting the challenges of modern biotechnology in view of the regional needs and preconditions. The

first phase of the programme involves sixteen East African, eight Swedish and three other European institutions. The overall co-ordination is carried out by the Biotechnology Advisory Centre of the Stockholm Environment Institute (SEI) in Sweden, while the Uganda National Council for Science and Technology in Kampala acts as the regional co-ordinator.

The programme builds capacity to implement biosafety regulations, research laboratories are being equipped and 20 candidates are enrolled in a Ph.D. training. In addition, more than 80 scientists and policy-makers from the region have been trained in biosafety risk assessment and management. Crucial biological background information for support of local biosafety assessment has been compiled, as well as a first draft of a biosafety manual for regulatory authorities in Eastern Africa. (For further information, see <http://www.bio-earn.org>).

Collaborating Institutions

Basic Sciences:

International Science Programs, ISP, Uppsala, Sweden
Third World Academy of Sciences, TWAS, Trieste, Italy
International Centre for Theoretical Physics, ICTP, Trieste, Italy
Third World Organisation for Women in Science, TWOWS, Trieste, Italy

Biotechnology, Biosafety and Biopolicy in East Africa (BIOEARN):

Ugandan National Council for Science and Technology, UNCST, Kampala, Uganda
Stockholm Environment Institute, SEI, Stockholm, Sweden

Energy:

African Energy Policy Research Network, AFREPREN, Nairobi, Kenya
Food Woodstove Dissemination, FWD, Kilimani, Kenya
Asian Institute of Technology, AIT, Klongluang Pathumthani, Thailand
Asian Regional Research Programme in Energy, Environment and Climate (ARRPEEC), (administered by AIT)
Renewable Energy Technologies in Asia (RETS in Asia), (administered by AIT)

Geoscience in Central America – Seismology Research and Research Training (SERCA):

Universidad Nacional, Heredia, Costa Rica
Uppsala University, UU, Uppsala, Sweden
Bergen University, Bergen, Norway



Munyaradzi Manyanga, University of Zimbabwe and Michael Petrén, Uppsala University, Sweden working with phosphate analyses at the excavations in Chibuenene, Mozambique.

Swedish Development Research

- How does domestic violence affect the striving for democracy?
- How can tropical diseases like malaria or leishmaniasis be treated?
- How is food distributed from rural settings to urban areas?

When the Sida Development Research Council advertises its research grants for application, the proposed projects cover a wide range of subjects. The objective is to give Swedish researchers the possibility to study development problems, and thereby contribute to the build-up of the Swedish resource base in the field of development research.

In 2001, Sida received 382 applications for funding of projects dealing with development issues. A total of 138 grants were accepted. Approximately ten per cent of Sida's appropriation for research co-operation is allocated to development research in Sweden; SEK 97 million for 2001. That equals less than one per cent of the total Swedish annual budget for research.

Sida has a special responsibility to stimulate interest in development issues among Swedish research institutes. The Sida Development Research Council provides grants for research projects or support for Ph.D. students or guest lecturers. The proposals are evaluated by scientific advisory groups. Support is mainly given to research themes defined by the aca-

demic community, but Sida also invites applications for specific themes of particular interest to Swedish development co-operation. The funding is divided into five areas: health research; natural resources and environment; science, technology and industrialisation; economic, social and political dimensions of development and the humanities, education and culture.

In the health area, studies on tropical diseases dominate. Research on mental health and HIV are other focus areas as well as research on reproductive health, mother/child health and nutrition.

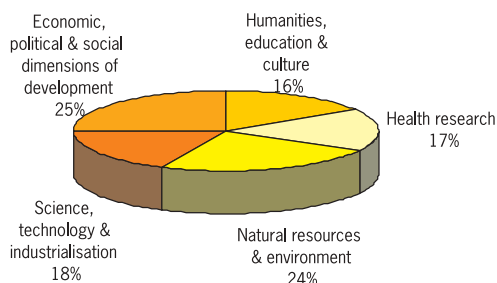
In natural resources and environment, issues in marine sciences dominate. Other issues are how tenure and other socio-economic conditions affect the use of natural resources and food distribution.

In science, technology and industrialisation the major areas are water, energy, urban issues and pollution and industrialisation in developing countries.

In the area of economic, social and political dimensions of development political science and economics dominate. The Sida-supported Swedish economic research covers a wide range of issues such as micro-finance, globalisation, regional integration, national production systems and the effects of HIV/AIDS on economic performance. Poverty alleviation and equity issues are essential parts of most studies. However, explicit gender perspectives in economic research are very scarce.

In humanities, education and culture the main areas are anthropology and archaeology. The anthropologists cover a wide range of topics, while the archaeologists uncover cultural heritage and thus contribute to new perspectives on world development. Studies in human geography, analysing the history of cultural landscapes are related to archaeology. In a similar fashion, language studies contribute to knowledge about the mental landscapes.

The research grants distributed by research area
percentage of 2001 total allocation, 97 MSEK



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Berit Olsson, Director, Department for Research
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Per Einar Tröften	Senior research officer, Eritrea, Sri Lanka, science, technology and industrialisation

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Viveka Persson	Senior research officer, health research
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