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Sub-Saharan Africa
Program





Founded in 1848, the American Association for the Advancement of Science (AAAS) is the world's largest federation of scientific and engineering societies, with nearly 300 affiliates, including those in the social sciences. In addition, AAAS counts more than 130,000 scientists, engineers, science educators, policymakers, and interested citizens among its individual members, making it the largest general scientific organization in the world.

The continuing objectives of AAAS are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase the public understanding and appreciation of the methods of science in human progress. Attainment of these objectives involves both national and international activities. AAAS is perhaps best known as the publisher of the weekly journal *Science*.

The AAAS Sub-Saharan Africa Program was inaugurated in 1987, representing a concerned response on the part of US scientists and educators to the institutional crisis that their African colleagues were facing, and a commitment on the part of US scientific societies and donors to attempt to work with African institutions in order to address that crisis. To date program activities have centered on improving access for African researchers to scientific and technical information, on encouraging other aspects of capacity-building for universities and related organizations within the region, and on promoting productive collaborative ties between US and African scientists and their institutions.



SCIENCE AND TECHNOLOGY INFORMATION (STI)

Undependable telephones, an unreliable postal system, vast distances, expensive airfares, and shortages of foreign exchange all serve to isolate African scholars and hinder communications among themselves and with their colleagues outside the region. These difficulties thwart their ability to conduct research and share data and results, stay current in their respective disciplines, and contribute to solving development problems faced by their countries. Fortunately, some of these difficulties are being addressed and overcome. Several AAAS activities are explicitly designed to facilitate communications within the African research community and with scientific colleagues abroad.

Project for African Research Libraries

Starting in 1987 with an initiative to provide African libraries with current subscriptions to journals in the sciences and the humanities, this project has broadened its focus to incorporate as well activities that promote CD-ROM usage and strengthen the institutional capacity of research libraries. The overall objective of the project remains the same: to collaborate with African libraries in an effort to meet the information needs of scientists and scholars who require access to current literature in their disciplines.

Journal Distribution

In partnership with US scientific and learned societies, AAAS is able to supply almost 200 journal titles in the sciences and humanities that they publish to research libraries in 38 sub-Saharan African countries. As a result of this effort, over 3,000 subscriptions reach African institutions hard put to find funding to



maintain their serials collections. The prestigious and immensely valuable journals provided through this effort are made available to AAAS at little or no cost. Grants cover air freight shipment to Africa. In 1991 AAAS was able to supplement the print journals already in the program with a small number of bibliographic and full-text databases on compact disc. We expect that the number of CD-ROM materials available will grow in the coming year.

CD-ROM Initiatives

AAAS activities in the area of CD-ROM (Compact Disc-Read Only Memory) concentrate on enhancing the environment for CD-ROM usage in sub-Saharan Africa. The AAAS is organizing a number of "sensitization" seminars and one workshop, from which there will be several publications:

CD-ROM for Scientists, Harare, Zimbabwe, October 1992

A seminar for scientists attending the Third Symposium on Science and Technology, organized by the Research Council of Zimbabwe.

CD-ROM for Academic Decision Makers, Accra, Ghana, January 1993

A seminar for university leaders attending the Eighth General Conference of the Association of African Universities (AAU), a pan-African organization with almost 100 member universities.

Marketing CD-ROM Services: A Workshop for African Research Librarians, Accra, Ghana, January 1992

Intended for information professionals who already have CD-ROM capability in their institutions, the workshop will cover marketing principles and methods, evaluation techniques, and document delivery issues.



CD-ROM for Economists, Nairobi, Kenya, March 1993
 A seminar for the Academic Council of the African Economic Research Consortium (AERC)

In addition to the above activities, the Sub-Saharan Africa Program is launching a biannual newsletter on CD-ROM for development.

Strengthening the Institutional Capacity of Research Libraries

The AAAS has engaged in a number of initiatives to promote communication among African librarians and to examine the capacity of research libraries to provide services.

In 1991 the Sub-Saharan Africa Program launched a biannual newsletter, *Notes*, for librarians receiving journals under the auspices of the program. The goal of the newsletter is to provide an opportunity for African librarians to exchange information, such as on projects underway in their libraries or meetings they have attended. The newsletter also contains information on organizations in addition to AAAS that donate scholarly literature (text-books, reference materials, journals, etc.).

AAAS has conducted several studies as well, all resulting in reports available from the program (see section on Reports and Publications). In 1990 the program surveyed recipient institution libraries to ascertain their computer and CD-ROM capability. The questionnaire requested information on hardware and software, funding, maintenance and training, user access, interlibrary cooperation, and the documentation of indigenous research. More than half the libraries surveyed, including those located in almost every major university library in sub-Saharan Africa, returned questionnaires.

In 1992 AAAS began a followon analysis of information management issues in sub-Saharan African research libraries, with a focus on budgets, acquisitions, planning, and equipment. Almost all of the 40 selected libraries receiving questionnaires have responded.



Also in 1992, the Sub-Saharan Africa Program conducted a study in Mozambique and Angola to assess the need for scientific and scholarly serials and monographs in Portuguese and to examine how those needs can best be met with literature published in Portugal and Brazil.

The University of Zimbabwe and the AAAS are coorganizing a workshop for university librarians from Eastern and Southern Africa on strategic planning issues, with a focus on how technology can improve services. The workshop, which is timed to coincide with the Zimbabwe International Book Fair, will take place in Harare in August 1993.

And, finally, having examined information management issues from the perspective of the librarian, AAAS plans in 1993-94 to scrutinize the critical question of readership and patterns of library usage within the African scientific/academic community. This work will be done in collaboration with African researchers—end users—and librarians.

Enhancing Electronic Access to STI

One means with great potential for reducing the isolation of African scientists and engineers is the use of electronic networking and communications systems, which are integral to the conduct of normal science today in the US, but generally poorly developed within the African scientific community. In recent years the program has attempted to respond to African organizations interested in exploring networking possibilities and to assist them in the development of pilot projects. Increasingly AAAS has been involved in efforts to address essential policy and other requisites needed for successful electronic communications in sub-Saharan Africa.

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Workshops on S&T Communication Networks in Africa

Cosponsored by the African Academy of Sciences (AAS) and AAAS, a first Workshop on Science and Technology Communication Networks in Africa was held in Nairobi, August 27-29, 1992. Some 40 participants, representing virtually all extant noncommercial networks in the region, as well as prospective networks that intend to involve African institutions, provided a range of perspectives on electronic networking in Africa. Attendees included technical experts as well as administrators and endusers, who assembled to review and assess their experiences with scientific/academic networking in sub-Saharan Africa and to address significant policy issues affecting networking outcomes.

Although many of the questions addressed in Nairobi are germane to electronic networking in general, the focus of the workshop was on formulating workable recommendations to guide future actions of African universities and research institutes with respect to all aspects of participating in networks, expediting the rationalization, coordination, and expansion of the existing array of academic networking projects within the region. A full report based on this pioneering workshop, including edited papers submitted by the participants and a summary of conclusions and recommendations, is being published jointly by AAAS and AAS in early 1993.

Followon activities to the August 1992 meeting in Nairobi include a 1993 workshop aimed at enhancing opportunities for electronic networking among West African universities and research institutes, coorganized with the Association of African Universities.



User's Guide to Academic Networking in Africa

In line with a recommendation made at the Nairobi workshop to encourage the production and distribution of more "information on information" for African institutions, AAAS is preparing a user's guide to noncommercial electronic networks operating in the region. This manual will build on existing information sources and include directions on accessing extant network addresses in Africa, thus promoting interchanges between researchers and teachers throughout sub-Saharan Africa as well as facilitating electronic communication with their colleagues elsewhere in the world. The guide will be compiled as a database, so that it may be readily updated; AAAS will issue the first edition in 1993.

Online Access for African Research Institutions

During 1993 AAAS will begin a preliminary examination of the needs within African institutions for online access to databases and information sources and the means by which some of those needs are being met under present circumstances, with an eye toward fostering reliable, cost-effective access in the future.

SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

Promoting US-African Scientific Collaboration

Collaboration between US and African institutions and individuals has been integral to the AAAS Sub-Saharan Africa Program throughout its existence. As the program has grown in overall size and in its span of activities, the nature of this collaboration has also changed, becoming more institutionalized and more complex in scope. Today the program interacts



regularly with dozen of African universities and research institutes as well as substantial numbers of scientific societies and related organizations in the region. At the same time the AAAS program increasingly serves as a focal point for diverse US scientific and academic interests in sub-Saharan Africa. These various interactions have primarily served a vital capacity-building function. The joint quest for new knowledge and fresh policy directions also characterizes these cooperative efforts.

Providing Advice and Consultation on Science-Based Problems

The Sub-Saharan Africa Program, under Cooperative Agreement with the Africa Bureau of the Agency for International Development, recently carried out a multidisciplinary study of malaria in Africa, examining and evaluating environmental, social, and behavioral strategies to combat this serious disease. The study report *Malaria and Development in Africa: A Cross-Sectional Approach* represents the culmination of a fifteen-month interdisciplinary project and was published in September 1991.

Directed at donors, policymakers, and NGOs alike, and intended to be used as well by African ministries, other institutions, and individuals concerned with development in Africa, recommendations for the report were primarily formulated at a May 1991 workshop in Mombasa, Kenya. Workshop attendees were some two dozen African, US, and European specialists in disciplines ranging from anthropology and agriculture to economics and medical entomology. Case studies and other papers prepared for the workshop by these participants are included in the appendix to the report. By relying primarily on firsthand African experience, the study underscores the importance of relying upon, and strengthening, local expertise.



The AAAS Sub-Saharan Africa Program will continue to provide advice and consultation on science-based problems affecting the region, harnessing the cooperation and insights of like-minded institutions and individuals in Africa and the US.

Enhancing US Understanding of Science in Africa

Beginning in 1991 AAAS has organized a series of meetings in this country, aimed at informing strategic US audiences about critical science and science policy issues affecting sub-Saharan Africa. These innovative Science in Africa sessions, and subsequent book-length publications resulting from them, have not only fulfilled their principal educational mission among scientists, scholars, and development specialists in the US but have also served that function within Africa as well. Presenters at the three Science in Africa meetings to date (Achievements and Prospects; Setting Research Priorities; and Innovations in Higher Education) have included some of Africa's most prolific researchers and seasoned administrators, as well as outstanding graduate students just embarking upon scientific careers.

Science in Africa activities during 1993 include a February 13 Roundtable for African Graduate Students, scheduled in conjunction with the AAAS Annual Meeting in Boston, focusing on common careers concerns and enhancing networking among student cohorts. Panel discussions, involving African researchers who studied abroad at an earlier point, will document successful strategies for utilizing one's specialized training after returning to Africa.

On May 18, in Washington, DC, a Forum on African Women in Science will address major issues concerning access to and advancement in scientific careers. The African women presenters at the Forum, representing various disciplines and professional experiences, will



also demonstrate ways in which African women can lead from strength, including applying their own special talents and interests within newly emerging fields in science and technology.

PROGRAM SUPPORT

Major support for the Sub-Saharan Africa Program is provided by the Carnegie Corporation of New York, the Ford Foundation, and the Agency for International Development. In addition, specific project support is being provided by CTA (Technical Centre for Agricultural and Rural Cooperation), the International Development Research Centre, and UNESCO.

REPORTS AND PUBLICATIONS

The following reports and publications are available at no cost from the AAAS Sub-Saharan Africa Program, upon request:

Computer and CD-ROM Capability in Sub-Saharan African University and Research Libraries (1991)

Confronting the Demand for Scientific and Scholarly Literature in Portuguese: An Assessment of African Needs and How to Meet Them (1992)

Malaria and Development in Africa: A Cross-Sectoral Approach (1991), 225 pages

La Malaria et le Developpement en Afrique: Une Approche Intersectorielle (1991), 225 pages

Notes: A Biannual Newsletter for Sub-Saharan African Research Librarians



Science in Africa: Achievements and Prospects (1991), 155 pages

Science in Africa: Innovations in Higher Education (1992), 107 pages

Science in Africa: Setting Research Priorities (1992), 65 pages

Forthcoming in 1993

Electronic Networking in Africa: Advancing Science and Technology for Development (Summary Report and Proceedings from a 1992 Workshop)

CD-ROM for African Researchers: A Compendium of Papers

CD-ROM for Development: A Biannual Newsletter

Information Management Issues in African Research Libraries

Marketing CD-ROM Services: A Manual for African Research Librarians

Science in Africa: Career Strategies for Graduate Students (Report from a 1993 Roundtable)

Science in Africa: Women Leading from Strength (Proceedings from a 1993 Forum)

Strategic Planning in African University Libraries (Report from a 1993 Workshop)

User's Guide to Electronic Academic and Research Networks in Africa



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