



**African Women in Science and
Engineering**



**AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE**

**Women in Higher Education and Science:
African Universities Responding to HIV/AIDS**

Report from a Workshop

3-5 December 2001

Nairobi, Kenya

Organizers:

African Women in Science and Engineering (AWSE)
American Association for the Advancement of Science (AAAS)
Jomo Kenyatta University of Agriculture and Technology (JKUAT)
Association of American Colleges and Universities (AAC&U)
International Women in Science and Engineering (IWISE)

Participating Institutions:

Egerton University
Jomo Kenyatta University of Agriculture and Technology
Kawanda Agricultural Institute
Kenya Forestry Research Institute
Kenyatta University
Makerere University
Maseno University
Mikocheni Agricultural Institute
Moi University
Sokoine University of Agriculture
University of Nairobi

Financial Support:

U.S. Agency for International Development, through the
Association Liaison Office for
University Cooperation in Development (ALO)
CGIAR Gender and Diversity Programme
Jomo Kenyatta University of Agriculture and Technology
Association of American Colleges and Universities (AAC&U)
International Women in Science and Engineering (IWISE)
American Association for the Advancement of Science

Overview

From 3 to 5 December 2001, some 55 participants gathered at the meeting facilities of ICRAF (the International Center for Research in Agroforestry) in Nairobi, Kenya, for a workshop to

- ❑ discuss the extent and impacts of the HIV/AIDS crisis in East Africa, with special reference to universities,
- ❑ review what responses have been undertaken by universities in the region thus far, and
- ❑ formulate specific proposals to address areas where university action is most urgently needed.

The proposed action plans, begun at the workshop itself and to be completed over the next few months, are to be submitted by 1 March 2002 to a competitive review process for funding support. Of an anticipated eight proposals from participating East African Universities, four university teams of four people each will be selected to attend the 2002 Science Education for New Civic Engagements and Responsibilities (SENCER) Institute in the United States and to receive additional support for program implementation. The workshop and its follow-up activities are funded by a grant awarded by the Association Liaison Office for University Cooperation in Development (ALO) and administered by the American Association for the Advancement of Science (AAAS).

Participating in the workshop were representatives from eight East African universities: Egerton University, Jomo Kenyatta University of Agriculture and Technology, Kenyatta University, Maseno University, Moi University, and University of Nairobi, all from Kenya, plus Makerere University from Uganda and Sokoine University of Agriculture from Tanzania. These representatives included not only professors and administrators, but in several cases students, who reported on a variety of student-led initiatives on their campuses. In addition, representatives from several East African research institutes – Mikochei Agricultural Research Institute, Kawanda Agricultural Research Institute, and Kenya Forestry Research Institute – were in attendance, as they are dealing with similar impacts within their institutions and, like universities, have close ties to surrounding communities. Also in attendance were representatives from AAAS, the AAC&U SENCER Program, IWISE, the Consultative Group on International Agricultural Research (CGIAR) Gender and Diversity Programme, Beloit College, and Rutgers University. Finally, a special consultant on HIV/AIDS issues from Rand Afrikaans University in South Africa also participated.

This report briefly summarizes the presentations, discussions, and plans that took place at the workshop over the course of its two-and-a-half days. Many of the original presentations can be found on the worldwide web at <http://www.aaas.org/international/ssa/hiv>. Or, copies may be obtained from either AWSE or AAAS:

AWSE
United Nations Avenue
ICRAF House
P.O. Box 30677
Nairobi, Kenya
Tel. 254-(0)2-524000, Ext. 4750
Fax 254-(0)2-524001
Email awse@cgiar.org

Africa Program
AAAS
1200 New York Avenue, NW
Washington, D.C., 20005, USA
Tel. +1-202-326-6651
Fax +1-202-289-4958
Email: africa@aaas.org
Internet: <http://www.aaas.org/international/ssa>

Day One: December 3

SESSION I: Welcomes and Introductions

Participants were welcomed to the workshop and given basic background information by the organizers. Ebby Chagala and Mabel Imbuga of AWSE, who along with Caroline Lang'at-Thoruwa (and their staff) did all the local organizing for the workshop, welcomed everyone and thanked them for coming, noting that it was two years ago in 1999 at ICRAF that AWSE was originally established, with HIV/AIDS identified at the time as one of the primary issues requiring the new organization's attention. Prof. Imbuga emphasized that the situation in East Africa with regards to HIV/AIDS was indeed serious, with some 20 percent of high school students and 16 percent of primary school students having HIV-positive status. She further noted that girls and women are disproportionately affected by the disease, with approximately 6 girls testing positive for every 1 boy, and argued that there is a great need for a stronger response on the part of universities to meet this challenge. Prof. Imbuga expressed the hope that the workshop would enable the sharing of experience and discussions of curriculum reform and other university programs, and stressed the importance of the participation of men in AIDS control efforts.

Vicki Wilde, of CGIAR's Gender and Diversity Programme, noted that women, Africa, science, and AIDS were all top priorities within ICRAF, and said that while the situation at times seems hopelessly discouraging, nobody should feel that they are too small to make a difference. Alan Bornbusch of the AAAS Africa Program followed by stressing that all institutions represented have a role to play in combating HIV/AIDS, and that universities and women are particularly important as leaders in this area. Dr. Bornbusch acknowledged the women of AWSE in this regard as well, noting that this young institution has proven itself an excellent partner both in terms of intellectual contribution and organizational capacity. Finally, he warned that efforts to fight HIV/AIDS must be sustained over the long term, as rates have begun to rise once again in the United States as vigilance has waned, and that the task is therefore not only to bring infection rates down, but to keep them down.

Prof. Henry Thairu, Deputy Vice Chancellor of Jomo Kenyatta University of Agriculture and Technology, welcomed the participants on behalf of his university, and emphasized the connection between AIDS and poverty, with its links to prostitution, poor nutrition,

and ignorance. Thus the fight against AIDS in Africa is very much a part of a broader socioeconomic struggle to raise the material standard of living and improve education and health care within the region. Prof. Thairu argued that universities must depart from the traditional classroom approach and find creative ways to become more participatory and engage the students more effectively in the challenge ahead.

A final welcome was offered by Dr. Olenge from the National AIDS Council of Kenya. Dr. Olenge read a speech on behalf of the Honorable Ole Ntimama EGH MP, Minister for Internal Security, Office of the President. Hon. Ole Ntimama's speech noted some sobering statistics, e.g., that 70 percent of the world's AIDS cases were in Africa, and over 70 percent of all new infections globally occur in Africa. Kenya only declared AIDS a national disaster in 1999, establishing the National AIDS Council the following year. Hon. Ole Ntimama recognized that universities must play a key role in fighting AIDS since their students fall within an especially vulnerable age group (20 to 29). He identified the need to undertake comprehensive curriculum reform efforts; to address religious groups and beliefs that hamper progress; to address cultural factors (e.g., "cultural silence" and female circumcision); to reduce stigmatization and affirm the right to confidentiality; and to write new laws to acknowledge deliberate HIV infection as a form of murder.

SESSION II: Organizing Institutions and Existing Models

Dr. Bornbusch provided background information on AAAS, noting that it is among the oldest scientific organizations in the world, having been founded in 1848, and that more than 20 percent of its membership is international. He reviewed the call for proposals that represented one of the core goals of the workshop, emphasizing that proposals should address one or both of two essential activities: a) curriculum reform and development and b) engagement with and outreach to local communities. The complete call for proposals is attached.

Mary Ann Evans spoke next, representing IWISE, noting that IWISE was created in 1996 by UNESCO to help increase the participation of women in science and engineering, and that it was a cosponsor of the 1999 conference that founded AWSE. She invited inquiries about graduate students attending her home university of Iowa State, noting that support exists for international students and that she could help interested students to obtain it.

Vicki Wilde provided background information and a summary of HIV-related efforts within CGIAR. She noted that CGIAR comprised 16 research centers throughout the world, with a secretariat headquartered at the World Bank in Washington DC. CGIAR staff include 900 "internationally recruited" members and 7,000 "nationally recruited" members, of which 70 percent are natural scientists and 48 percent are from developing countries. She noted that only 18 percent of the internationally recruited staff and 28 percent of the nationally recruited staff are women, and hoped that these percentages could be raised in future. As program leader of the Gender and Diversity Program, Dr. Wilde has responsibility for focusing on HIV in the workplace. She emphasized the need for prevention, the importance of access to health care, and the development of a

workplace that does not discriminate on the basis of gender or disease status. The CGIAR program stresses compassion, education/prevention (including condom distribution), and support for the bereaved, and includes the following basic policy commitments:

- ❑ no screening for HIV in hiring and promotion processes;
- ❑ availability of HIV testing on a voluntary and confidential basis;
- ❑ no firing HIV-positive individuals; and
- ❑ provision of health insurance for both internationally and nationally recruited staff

Dr. Wilde also emphasized that there would be a survey within CGIAR to monitor progress in these areas, and that results would be made public so as to encourage clear action throughout the organization. In response to a question on how to increase the percentage of women within CGIAR, Dr. Wilde noted the development of a database of women scientists from which the organization planned to recruit new hires, and that the organization would offer training to promote women from within rather than only pursuing outside talent. She also mentioned that the organization was conducting a study of the global pool of women scientists in order to understand better the overall standing of women scientists worldwide.

David Burns, speaking on behalf of AAC&U and the SENCER initiative, emphasized the confluence of science, HIV, civic engagement, and education, noting that AAC&U was involved in these activities because its mission is continually to examine and re-think “what it means to be an educated person” in these times. Dr. Burns stressed the importance of going beyond a focus on individual risk to take account of the wider social environment and accept the notion that we share a kind of “Common Health.” Individual risk and common health, respectively, represent the first two “strands” of engagement with HIV/AIDS, and Dr. Burns noted two others: an improved focus on science and education, necessary to promote understanding of the issues of the day and to foster an engaged citizenry (the rationale behind SENCER), and a “moral strand” of compassion that compels us to become involved.

Monica Devanas provided a summary of an educational model that she has developed at Rutgers University in the United States, where she has adapted an introductory microbiology course to focus on “Biomedical Issues of HIV/AIDS.” This course is at the 100 (introductory) level with no prerequisites, deals with real issues in student lives, and focuses on connecting theory with practice and delivering complex content in manageable pieces. The course presents a core of biological principles (e.g., sexually transmitted diseases, immune system functions, and virology), brings in notable guest speakers to deal with a variety of psychological and social issues, and engages the students with creative writing and research assignments. Students are required, for example, to describe a population and a problem, design a solution, and obtain critical reviews from friends and, for extra credit, critiques from real-world experts. Course information can be found at her website: <http://www.rci.rutgers.edu/~devanas/AIDS>

Prof. Devanas also described her participation in “wrap-around seminars” with other cooperating professors in different fields, to connect learning in diverse areas such as education, criminal justice, journalism, psychology, women’s studies, political science, urban studies, Africana, communications, English, and human ecology, all of which can be related through a common focus on HIV/AIDS in one way or another. In response to a question on which types of students found the course most useful, Prof. Devanas said that there had been no comprehensive survey undertaken but that it was clear that the course mainly comprised non-science majors, who could receive credit for the class while science majors could not. Even in the absence of receiving credit, a significant number of science majors took the course, feeling that it addressed a highly relevant topic that would be of great use to them in application in their fields.

Debra Meyer, consultant on HIV/AIDS and serving as rapporteur on behalf of the AWSE contingent that attended the 2001 SENCER Institute, reported that the SENCER principles of civic engagement are universal and well applicable in the African context. She also noted that each individual institution can and should adapt the general principles as desired to fit with local conditions, with the primary purpose of getting educational information out into the community and engaging the university directly in society. Dr. Meyer emphasized that the benefits of the SENCER approach included the ability to add more information to courses without necessarily adding more work for the professors, through the mechanism of team teaching and modification/expansion of existing courses and programs (without ruling out the possibility of developing entirely new courses as desired); she also felt that information retention was improved as a result of the more pertinent and interesting real-life context of the teaching, and noted the improved community ties that resulted from incorporating social engagement into the curriculum.

Dr. Meyer herself was able to incorporate SENCER principles from the August 2000 Institute immediately into her fall semester course on virology, inviting the participation of the nursing department, a local HIV-related NGO, and HIV-positive individuals in her classroom, and adapting assignments to address real community needs as identified by the NGO. More specifically, students were required to present scientifically accurate but perfectly clear explanations of anti-retroviral treatments in support of the need to take medicines exactly as directed because of viral replication. She reported that as a result of these modifications, students became highly engaged in the course and practical learning and retention were enhanced.

General discussion focused on the issue of what was needed in order for universities to make fundamental shifts in their curricula to address HIV/AIDS, e.g., how to get university administrators on board, and whether special training was required for professors. Several panel members emphasized that no new permission or administrative support was necessarily needed in order to adapt existing courses, and that much could be accomplished by building new material into the context of traditional courses and assigning student projects that can be put to real use, for example designing posters explaining AIDS processes, which can be donated to NGOs, schools, churches, etc. On the other hand, others argued, to some extent new skills are required of teachers and that high-level leadership within universities is essential. It was argued that some lecturers

have become quite fixed in their ideas and methods and will not on their own be likely to take on the challenge of adaptation for HIV education; they may require motivation as well as training and support. It was noted that for this reason one of the requirements of the project's call for proposals was the participation of an administrator as one of the four people on the university team.

As to the question of whether the region had enough lecturers capable of making such adaptations, some participants felt that sufficient experts were already in place and could be made use of through such means as team-teaching if necessary, while others felt that short courses and workshops on HIV education would be imperative. The suggestion was made that AWSE might be able to fill a role in faculty development support.

SESSION III: Background Reports

Debra Meyer provided a broad overview of HIV in Africa, beginning by asking for a moment of silence for all those affected by the epidemic. She drew a comparison to apartheid in South Africa, which similarly seemed impossible to change but through persistent effort was proven otherwise. Dr. Meyer noted that the infection rate within sub-Saharan Africa is disproportionately high compared to the rest of the world and is getting worse, not better. At the end of 1999 there were an estimated 34.5 million AIDS cases worldwide, with 24.5 million of them (some 68 percent) in sub-Saharan Africa. By the beginning of 2001, there were 50 million cases worldwide, of which 40 million (80 percent) were in sub-Saharan Africa. In addition to a poor record of preventing infection, the region is not doing well treating those already afflicted.

Dr. Meyer also provided some historical background, noting that the earliest known case of HIV infection dates to 1959, found in Congolese serum, and that the disease is thought to have originated in Africa, having been transferred from monkeys to humans. While acknowledging that there is some dispute about the disease's origins, Dr. Meyer emphasized that the preponderance of scientific evidence clearly points to an African origin and zoonosis. Whether the transfer occurred through mixture of blood through hunting or husbandry or is related to the development of the polio vaccine (which involved monkeys) is not known. Dr. Meyer noted that there are two major strains of HIV (HIV-1 and HIV-2) and a variety of subtypes, so that a vaccine developed for example in the United States might not be useful in other regions.

Causes of the disease identified by Dr. Meyer include unprotected sex; literacy and language difficulties (hampering communication); the economic and cultural status of women, for example placing them in a poor negotiating position with regard to protected sex; cultural beliefs and practices such as wife inheritance; and migrant labor, where men are away from home for long periods of time, resulting in reliance on prostitution as a sexual outlet. As for solutions, she emphasized the importance of educational efforts, care and support, and research into vaccines for each of the various subtypes of the virus. Dr. Meyer also noted that, while some 5,000 simultaneous deaths in the World Trade Center tragedy begat a major war on terrorism, 2 million isolated deaths per year from AIDS has not resulted in any similar massive mobilization.

Alice Ennals, from the Agricultural University of Norway, briefed the participants on a study she is conducting on behalf of the Norwegian aid agency NORAD – a study on preventive action taken at agricultural universities – and planned to report back to NORAD with recommendations of best practices. She is disseminating surveys and questionnaires to African colleagues to determine what universities are doing in response to the HIV crisis, what are the impacts of their efforts thus far, and what curriculum changes have been instituted.

Stella Neema of Makerere University in Uganda next presented an overview of AIDS in Uganda, where the disease was first detected in 1981, and at the time was attributed to witchcraft or unknown causes. In 1985 the first blood samples were taken, and the government took quick action, forming a national committee that same year. By 1986 the government had pledged its commitment to fight the disease and instituted an AIDS control program with support from the World Health Organization. Uganda adopted a multisectoral approach, involving government agencies, NGOs, religious and community groups, and concerned individuals, and emphasized providing health information to adolescents. While the rate of infection increased up to 1993, when the percentage of the adult population infected reached 14 percent, it declined from there (among all age groups) to 8.3 percent by the end of 2000. The number of girls infected remains 3 to 6 times higher than that of boys. Dr. Neema attributes the relative success of the Uganda program to the government's willingness to talk about the problem openly and tackle it immediately. As a result, the country has seen favorable changes in high-risk behaviors, such as an increase in the age of first sexual activity, a rise in abstinence and use of condoms, and a reduction in the number of sexual partners per person.

Eleuther Mwageni of Sokoine University of Agriculture provided a similar overview of AIDS in Tanzania, where the first three cases were detected in 1983 in Kagera. By 1986 all regions of the country were reporting cases of the disease, and an estimated 1.3 million people were infected by 1999 according to UNAIDS – a number representing 1 in 12 adults. In 1999 alone, 140,000 people died from the disease in Tanzania, and some 700,000 children have lost one or both parents. Again, far more women than men are infected with HIV. Studies in the country have shown that, perhaps counter-intuitively, better-educated women have a higher risk of infection than less educated women, a phenomenon that Dr. Mwageni attributes to their or their husbands' higher mobility. Some national efforts were begun in the 1980s, but these efforts were significantly upgraded in 1999 with a program known as Medium Term III, which establishes a National AIDS Committee and National Advisory Board, provides a technical AIDS committee within every ministry, and employs a multisectoral approach. In subsequent discussion, questions focused on the issue of the infection rate among educated women, with some participants suggesting that the salient point was not education per se but a difference between rural and urban women.

Additional discussion focused on whether the decline in HIV infection rates in Uganda was real or instead reflected inaccurate statistics, perhaps the result of under-reporting because of lack of health care access among the poor, in turn a result of Structural

Adjustment Programs and general economic deterioration. However, representatives from Uganda noted that the statistics were drawn from a variety of sources and that these remained consistent both before and after the 1993 infection rate peak.

SESSIONS IV and V: Reports from Institutions

Each of the eight participating East African universities and research institutes presented status reports of HIV-related activities at their institutions to date. Rather than present each institution's report individually, here a summary is provided of typical challenges identified and measures taken, with specific references to particular details as necessary. Note that Session V occurred on the morning of Day Two, December 4.

Most of the institutions reported first of all that they had each been hit very hard by the HIV/AIDS epidemic. Statistics were more easily available for infection and death rates among staff than they were for students, since staff members tend to remain attached to the university after the onset of illness whereas students tend to disappear. Estimates of percentage of staff infected range from 12 percent to over 50 percent (Maseno University reports a rate of 51.5 percent of staff members between the ages of 30 and 39, and 35 percent of those over 40 – of these nearly three quarters are support staff, with some 17 percent being academic staff and the rest, about 9 percent, administrators). Many institutions reported an average death rate of about 2 staff members per month, with University of Nairobi reporting an average death rate of 2 staff members per week. In each case the numbers of students infected and dying were unknown.

Each of the universities has already taken a variety of measures to respond to the HIV crisis, including awareness-raising and prevention, care and treatment, and medical research. Most of the universities reported the establishment of AIDS committees, known by a variety of names, e.g., AIDS Control Board, AIDS Control Unit, Technical AIDS Committee, and so on. These AIDS committees typically perform functions including seminars and workshops for HIV awareness, provision of educational materials (and often a resource center), provision of medical advice and counseling, promotion of voluntary testing, distribution of condoms, and the establishment of peer education/counseling mechanisms. In addition to direct functions of these AIDS-specific committees, most universities reported HIV-related educational efforts in other contexts, including centers for women's studies and gender issues, health departments, and courses. Most universities reported administration-led, faculty-led, and student-led activities; notably, in most cases it has been the students who have been most open about discussing the issues and who have exhibited the strongest leadership on campus.

Most of the universities are also engaging in some form of community outreach as well, for example offering home-based care, support groups, partnerships with NGOs, schools, and churches, education and counseling, research, medical treatment, and open women's and youth groups. University of Nairobi has been involved extensively with research ("both good and bad" according to its representative), including epidemiological research, observational studies, gender studies, risk, transmission, and impact assessments, and intervention trials (e.g., vaginal microbicide and VCT trials, an infant

formula study to prevent breast milk transmission, and a DNA vaccine initiative in collaboration with Makerere University and University of Dar es Salaam). The Kenya Forestry Research Institute is also heavily involved in medicinal research and reports that some 15 plants have shown promise as possible treatments.

Most of the universities report similar challenges in terms of observed behaviors and socioeconomic factors. Many point to poverty as a root cause, driving students to engage in high-risk income-generating activities including involvement with drugs and prostitution. Most have noted that individual behaviors after infection contribute to the perpetuation of the virus and the deterioration of the educational environment. For example, HIV-positive staff members typically have been observed to engage in heavy drinking and increased promiscuity, while withdrawing from the community of peers, becoming markedly moody and temperamental, and exhibiting poor health resulting from lifestyle and nutrition factors, decreased productivity, and increased absenteeism. Similarly, students are observed to engage in “reckless” high-risk activity (heavy drinking, promiscuity), poor academic performance, absenteeism, and lifestyle-related health problems.

Despite measures taken to provide voluntary testing with assurances of confidentiality, most universities have noted that students are reluctant to get tested on campus, preferring the greater anonymity of city or national testing centers because of privacy concerns. This reality makes it more difficult for a university to provide counseling and treatment and to record accurate measures of the scope of the problem. Other challenges and difficulties widely noted among the universities are a lack of available funds in support of AIDS-related programs, a continuing reluctance on the part of many people to speak openly and address the issues (fear, shame, and silence), a low level of sensitivity to the plight of the already infected, and lack of comprehensive, coordinated, university-wide HIV policies and work plans. Although the universities are aware of the desirability of policies to guarantee non-discrimination, the mounting strain on university health care systems creates pressure to screen employment recruits for HIV. Unfortunately, despite the efforts that have been made so far, most of the universities report observing little or no change in high-risk behaviors among students and staff.

While all of the universities are undertaking an impressive array of activities, most are taking place outside the classroom. These are clearly necessary and they support the universities to achieve their core goals in higher education. But, there remains little connection between what is happening inside the classroom and what is happening outside the classroom. Significant exceptions are medical school courses and courses in the health sciences and allied health professions. This workshop catalyzed creative thinking about how to promote responsible engagement with HIV/AIDS issues in the classroom, especially through natural and social science coursework.

Day Two: December 4

Note that Session V, reported above together with Session IV, occurred on the morning of Day Two. These sessions on institutional responses were followed by a session focusing on student-led activities.

SESSION VI: Student-Led and Other Activities

The workshop received excellent presentations by student leaders from Maseno University, University of Nairobi, and Kenyatta University, where students have generated a very creative array of outreach activities in response to the HIV crisis.

Each of the students reported the establishment of peer-to-peer counseling and advisory functions, employing a variety of outreach methods, including events involving plays and skits, songs and dances, and artwork, and educational materials using mixed media including videos, newsletters, magazines, and posters. Maseno University's Peer Education Club (MUPEC), for example, organizes activities such as an AIDS Campaign Day, trains selected students as counselors, and publishes a magazine called "Private Eye." MUPEC partners with students in Communications and Media Technology in order to use media creatively and improve the "packaging" of its messages for more effective dissemination. MUPEC helps to fund itself by organizing movie nights and making a pool table available for a fee.

University of Nairobi students have also organized an AIDS Awareness Campaign, featuring events including a beauty contest to attract interest, and combining this feature with an AIDS talk and dissemination of educational materials. University of Nairobi students coordinate their activities through a variety of student groups that do not necessarily focus exclusively on AIDS, but incorporate an HIV/AIDS focus into their particular group activities, for example by holding a competition among the groups for best AIDS campaign.

At Kenyatta University, the students are organized not as a club, but specifically as a peer counseling service, originally established to deal with student pregnancy but now focusing largely on HIV. Prospective counselors are screened in a multi-stage process and then trained extensively by professionals for eight hours a day for ten days before going into the field. Kenyatta now has 50 peer counselors, half of them male and half female, and in addition to holding events and producing educational materials in various media they perform group and door-to-door counseling.

While each of the groups has enjoyed success in raising awareness of HIV issues, each also reports similar continuing problems. Despite the high rate of infection, an attitude of "it can't happen to me" remains prevalent among students, use of condoms is resisted, abstinence is a "non-issue," and negative attitudes towards infected individuals persist. The students also noted religious barriers to HIV prevention, identifying among various groups a resistance to speaking of sex at all (on the grounds that it promotes immorality or should be restricted to married couples) or a persistent anti-condom stance.

Marion Field Fass of Beloit College also spoke at this session, addressing her remarks on the subject of “Bridging the Gap between Science and Health.” Dr. Fass noted that health status is a characteristic of populations, and that individual health is neither entirely predictable nor entirely controllable, but is subject to “good and bad luck” since social and environmental circumstances play a key determining role. She posited three intersecting circles of influence with regard to HIV: a circle of science (virology, microbiology, etc.), a circle of individual behavior and education, and a circle of social factors including human rights. She reported that at her own institution the approach was one of problem-based learning, i.e., teaching skills and content through the analysis of complex and interesting real-world problems. More information on her approach can be found at her course website at <http://biology.beloit.edu/emgdis/index.html>.

Finally, this session also featured a compelling presentation by Eunice Odongo, representing Women Fighting AIDS in Kenya (WOFAK), a Nairobi-based NGO established in 1993. Ms. Odongo’s talk focused on the issue of disclosure or non-disclosure of one’s HIV status and the respective effects thereof. In keeping with her argument that disclosure is essential, Ms. Odongo began by stating that she herself was HIV-positive.

She distinguished between voluntary and involuntary disclosure, first of all, and between partial and full disclosure. Full disclosure is “going public” with one’s HIV-positive status, including to friends, family, colleagues, relevant organizations, and/or the media; partial disclosure means telling a select few people in confidence. Non-disclosure means telling nobody at all about one’s HIV-positive status, and may indicate some level of denial on the part of the infected individual.

Arguments in favor of disclosure include:

- ❑ Help in obtaining medical services and support
- ❑ Better protection of self and others
- ❑ Easier to negotiate for protected sex (especially women)
- ❑ Promotes acceptance and responsibility
- ❑ Helps reduce social stigma
- ❑ Reduces suspicion and stress from keeping everything secret

Consequences of disclosure can include:

- ❑ Possible stigma
- ❑ Relationship troubles (partner, family, co-workers)
- ❑ Rejection
- ❑ Pressure to join/assist in AIDS work and become role models

Consequences of non-disclosure can include:

- ❑ Lack of support

- ❑ Risk of infecting others
- ❑ Lack of health care
- ❑ Suspicion (e.g., when symptoms begin to show)

In sum, Ms. Odongo strongly encourages HIV-positive individuals to consider a planned, informed disclosure, and recommends the development of university policy guidelines to facilitate and support such disclosure.

SESSION VII: Introduction to Grant Writing

Mary Ann Evans and Mary Wilberg, representing IWISE, presented a brief guide to project development and grant writing. Some of the key points of the advice given included: plan for the project itself, not just the proposal, and consider fully what resources will be needed; don't do all the work alone, but seek advice from program officers and colleagues; be persuasive that your project meets a real need or solves an important problem, with specific details of how the work will be done; try to leverage funds where possible with matching grants; follow guidelines to the letter; make your presentation clear and logical, with section headings; show clearly how the project will be evaluated and what the measures of success will be; include qualifications of the organizations and key individuals involved.

SESSION VIII: Components of a SENCER Model

David Burns and Karen Oates presented a review of the components of the SENCER educational model. The core of the concept is to teach science through the "lens" or "doorway" of a compelling social issue. The SENCER approach requires students to engage in serious scientific reasoning, inquiry, observation, and measurement, and to connect scientific knowledge to public decision-making, policy development, and effective citizenship. More information about the SENCER initiative and all its activities can be found at the website:

<http://www.aacu-edu.org/SENCER>.

Day Three: December 5

SESSION IX: Proposal Development

Note that this session began on the afternoon of December 4 and continued for the first part of the morning on December 5, the third and final day of the workshop. Participants broke out into groups according to university affiliation and began to work on generating proposals for the small grants competition that represents the follow-up activity plan for the workshop. IWISE and AAC&U representatives worked with the groups and provided advice on what the evaluators would be looking for in a successful proposal.

Each group reported back at the end of this process on the direction in which their proposals were headed. Most of the universities had some curriculum reform in process already, and proposed to continue and expand these efforts, either by incorporating an

explicit HIV focus into existing courses or by establishing new required courses, e.g., on virology, microbiology, and socioeconomic aspects of AIDS. In addition, most of the universities proposed community engagement activities and special awareness-raising events, as well as short courses and workshops designed to assist faculty members in adapting their curricula to reflect HIV/AIDS issues. Those universities without peer education programs indicated a desire to establish such capacities. Other proposal elements included AIDS awareness days, weeks, festivals, and so forth, and mechanisms such as science congresses, to focus on HIV and highlight science education at the same time.

In short an impressive variety of creative approaches was generated. In acknowledgement of the difficulty of the task of selecting only four universities from among the eight anticipated proposals, project leaders agreed that, in the case that all proposals are deemed highly worthy, additional funding could be sought to sponsor more universities. Unfortunately it was not possible to make any guarantees with regard to additional funding, but the group did agree in any case to stay in close communication as an East African consortium and to share information and experience in the months and years ahead, and voted AWSE to serve as the coordinating body. Finally, in order to allow sufficient time for additional fundraising before SENCER 2002, the group agreed to move up the deadline for proposals, from an initial target date of April 15 to the new deadline of March 1, 2001. Proposals are to be submitted to AWSE by that date. Electronic submissions will be accepted but hard copies must also be forwarded as well.

The workshop closed with words of appreciation from all the organizers for everybody's hard work and dedication, and for the wonderful hospitality of the local organizers, the exceptionally capable women of AWSE.



**AFRICAN WOMEN IN SCIENCE
AND ENGINEERING**



**ADVANCEMENT OF SCIENCE
AMERICAN ASSOCIATION FOR THE**

INITIATIVE FOR WOMEN IN SCIENCE, HIGHER EDUCATION AND HIV/AIDS

Call For Proposals
HIV/AIDS Implementation Awards

BACKGROUND

African Women in Science and Engineering (AWSE), in a collaboration with African institutions of higher education and U.S. organizations, is undertaking an initiative to 1) confront the HIV/AIDS pandemic plaguing the African continent; 2) improve science education in East African universities; and 3) strengthen the role played by African women scientists and educators on these issues.

Central to this undertaking are campus-based efforts to reform undergraduate science education, foster civic engagement with HIV/AIDS, strengthen campus-community partnerships around HIV/AIDS, and strengthen the role of women in these efforts. To strengthen ongoing initiatives in these areas and catalyze new ones through Africa-U.S. partnerships, AWSE requests proposals from African teams to initiate new or strengthen ongoing HIV/AIDS initiatives involving curriculum reform and/or local community outreach. Each team will be eligible for an award of up to US\$2,400. In addition, each team will receive travel support to participate in the **2002 Science Education for New Civic Engagements and Responsibilities (SENCER) Institute**, to be held in August 2002 at Santa Clara University, California, U.S. Four awards will be made.

SENCER INSTITUTE

The SENCER Institute, under the auspices of the Association of American Colleges and Universities, will be a five-day, residential intensive faculty development experience that draws together campus-based teams implementing innovative approaches to teaching science “through” public issues with teams that want to adopt such approaches. Teams from 30-35 U.S. and four African colleges and universities will participate and include educators, graduate students, and academic leaders. The Institute will: (1) describe and analyze approaches and models for science education “through” public issues; (2) identify the organizing principles that can serve to improve all science education; (3) place these approaches within the broader context of academic reform and renewal; (4) explore implementation of new approaches, the change process, and sustaining reform; (5) develop pedagogical capacities with special emphasis on assessment; and (5) identify opportunities for collaboration among participating teams, program improvement, expansion, and further development.

At the 2002 SENCER Institute, the African teams will both learn from similarly composed U.S. teams adopting new (SENCER) approaches to science education and,

through dedicated workshops, work with them to explore in depth critical issues surrounding

- how these approaches might be applied to the advantage of current academic reform and renewal efforts at their universities;
- how SENCER approaches might be implemented on African campuses in context-appropriate ways and in ways that create new or strengthen existing linkages off-campus;
- the pedagogical capacities at the African universities with special emphasis on assessment for change and reform; and
- opportunities for U.S.-Africa collaboration in the service of curricular innovation and reform for undergraduate science education for civic engagement in both regions.

By the end of the Institute, each African team will be expected to pair with a U.S. team willing to launch an international collaboration to enhance and strengthen initiatives at each other's institution. The eight teams so paired will meet at the Institute's close with SENCER staff to discuss identified areas of mutual interest and collaboration, next steps for implementation, ongoing communication, etc.

Funds for HIV/AIDS implementation (up to US\$2,400) will be made following approval by AWSE and partners of a one-year work plan developed by each African team with its partner U.S. team. These funds are to be used to support activities between September 2002 and September 2003.

PROPOSAL GUIDELINES

Each African team should be comprised of four people and represent an institution of higher education. Ideally, each team will include:

- two educators: one from a science discipline with direct bearing on HIV/AIDS (e.g., biology); and one from a professional discipline with relation to HIV/AIDS (e.g., community development, social work, public health, medicine);
- someone from outside academia working on HIV/AIDS interventions, preferably at the community level (e.g., informal education, counseling) and with an interest to partner with formal educators; and
- an academic administrator with direct influence over curricular matters.

The team approach is specifically chosen to overcome, to the extent possible, the fact that innovators are often "alone." Beyond that, the team composition will insure some diversity of experience, incorporation of campus-community connection, and that someone in a capacity to support reform administratively is working hand-in-hand with the innovators.

Successful proposals will demonstrate the assurance of "strong commitments" from the home institution that the described efforts will be sustained and that support will be

provided to enhance them through international collaboration; the quality and diversity of the team; and the likelihood of strong post-Institute attention to implementing change (with evaluation and assessment) by the team. Members of teams selected for participation will be named "SENCER Associates."

To apply for an award, each team must submit a proposal to AWSE describing:

- 1) ongoing initiatives at their institution, with special reference to reforming undergraduate science education, fostering civic engagement with HIV/AIDS, strengthening campus-community partnerships around HIV/AIDS, and strengthening the role of women in these efforts;
- 2) how their team's participation in the SENCER Institute and receipt of a supplemental award will strengthen ongoing HIV/AIDS initiatives involving curriculum reform and/or local community outreach; OR
- 3) how their team's participation will support the development of new HIV/AIDS initiatives involving curriculum reform and/or local community outreach;
- 4) how they would envision collaboration with a similarly composed U.S. team as supporting these efforts and creating mutual synergies between U.S. and Africa initiatives.

Complete proposals must include:

- a narrative, not to exceed five single-spaced pages, addressing the points enumerated above;
- a work plan;
- an evaluation plan;
- brief biographical sketches of team members (not to exceed one-half page each), highlighting professional accomplishments as they relate to the themes of this competition and including a brief description of their role in this project;
- curriculum vitae of team members (two pages maximum each); and
- a letter of support from the home institution that addresses the criteria for selection given above.

Proposals should be received by AWSE at the address below by **1st March 2002**. Awards will be made by 1st June 2002.

African Women in Science and Engineering
United Nations Avenue
ICRAF House
P.O. Box 30677
Nairobi, Kenya
Tel. 254-(0)2-524000, Ext. 4750
Fax 254-(0)2-524001
E-mail awse@cgiar.org