

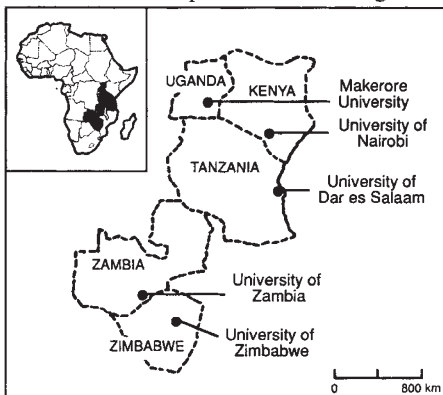
Opening up communications

Washington

FOR medical researchers and doctors in the developing world, one of the greatest handicaps is the lack of communication with their peers. The medical library at Uganda's Makerere University, for example, has had no subscriptions to Western medical literature for more than a decade — it cannot afford journals that require payment in foreign currency. And contact with other countries by phone or fax is generally unreliable and sometimes almost prohibitively expensive.

But starting in October, health workers in five African universities will have an alternative, thanks to a recently launched 45-kg satellite and to SatelLife, a non-profit organization based in Cambridge, Massachusetts.

SatelLife is establishing a communications system that will transmit medical literature, including *The New England Journal of Medicine*, to libraries in developing countries and will allow researchers and doctors in those countries to communicate with their peers around the globe.



The system will begin with ground stations in five locations in Africa: Makerere University, the University of Dar es Salaam in Tanzania, the University of Zambia, the University of Nairobi and the University of Zimbabwe. Within 12 months there should be 20 stations in Africa, says Charles Clements, executive director of SatelLife.

Each \$5,000 ground station consists of a personal computer linked to a radio that can communicate with a satellite launched in July, whose polar orbit takes it around the Earth once every 100 minutes. When it passes over one of the ground stations, it automatically transmits any messages addressed to that station and uploads files waiting in the station's computer. The satellite stores these message files and later beams them down to the other stations to which they are addressed. This 'store and forward' system allows stations to pass messages back and forth. Although the transmissions are not immediate unless two stations are both within range of the satellite at the same time, the satellite passes

over each spot on Earth at least twice a day, so messages are delivered quickly.

A ground station in Newfoundland will send electronic copies of several medical journals to the satellite for transmission and will also allow people on the system to communicate with researchers in North America and Europe through electronic mail connections. The Harvard School of Public Health has agreed to provide consultation on clinical and public health matters through the satellite link.

Firoze Manji of the International Development Research Centre in Nairobi said that although access to Western literature and researchers is important, the most valuable aspect of the satellite system will be the ability of researchers and clinicians from developing countries to communicate with each other. These workers share similar problems and interests, but they seldom know what each other is doing because of unreliable, expensive telephone systems. Sending a six-page fax from

Benin to Nairobi can cost \$300, Manji said, and it is often not even possible to call or send faxes between East Africa and West Africa. "This is one of the single most important initiatives to develop research capabilities in the Third World that has been undertaken since the Second World War," Manji said.

The greatest obstacle to the spread of this communications system may be overcoming government resistance, said Marvellous Mhloyi of the University of Zimbabwe. Some postal and telephone authorities may not want to give up control over and profits from communications in their countries, and some governments may be suspicious of the system because it originated in the West.

Eventually, SatelLife hopes to expand its system across Africa and into other developing countries. The existing satellite can handle 500 ground stations, and a second satellite is planned for 1993 or 1994, which will double both the capacity and the number of times a day that a satellite passes over each ground station.

Robert Pool

NEWS IN BRIEF

Bad loans, good science

Washington

ALTHOUGH the concept is still new, 'debt-for-nature' swaps have helped preserve more than \$60 million of land in developing countries over the past three years. That may not mean much to the Brazilian rain forest, but the relative success of the initiatives have not escaped the notice of US Representative George Brown (Democrat, California), chairman of the House science committee. If such deals can work for conservation, he asks in an upcoming article in *Issues in Science and Technology*, why not research?

Brown inserted language into last year's budget authorization directing the Agency for International Development to spend up to \$20 million on debt-for-science aid for Mexico. But to date, the State Department has simply ignored the request, choosing to focus on higher aid priorities in Eastern Europe and the Middle East instead.

Now Brown is trying again. Last month he introduced a bill that would authorize the National Science Foundation (NSF) to spend \$5 million on Latin American debt-for-science trades. If passed, the bill would instruct NSF to make the money available to universities so that they can buy up foreign debt, which often trades at far less than its face value thanks to the poor repayment histories of many of the Latin American countries.

In return for having its red ink erased, the recipient nation would promise to spend at least 75 per cent of the debt's face value or 20 per cent more than its going price on cooperative research in agriculture, health

and the environment. Given the late introduction of the bill, no action is expected until the 1993 budget comes up for debate next year.

C.A.

Trials by wire

Washington

FOR clinical researchers with enough computer hardware on their desks, the future of scientific publishing is now. This week the American Association for the Advancement of Science (AAAS) launched the first all-electronic peer-reviewed medical journal, *Current Clinical Trials*. Using custom graphics software (based on Microsoft Windows 3.0, and inheriting that package's substantial memory, monitor and processor requirements), a subscriber will be able to view typeset-quality text and figures, see new articles within 24 hours of their acceptance, and search for keywords, authors and data of interest.

Owners of more humble personal computers can receive a text-only version of the journal, and subscribers can arrange to be alerted by fax every time an article on AIDS trials, for example, is published. Readers will be able to view the content of any reference cited in the MEDLINE online database by clicking on the reference, and in future releases will be able to get full definitions of methodological terms the same way. Counting on an all-electronic peer-review and production process to eliminate many of the delays of tradition publishing, AAAS has set an optimal turnaround time of fewer than three weeks between submission and publication. A yearly subscription to the journal will cost \$110.

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