

Linking African Scientists to the Information Highway

THE ELECTRONIC era has changed the way many people in the world view information. Many countries in West and Central Africa had communication problems even when science was communicated in print, now national scientists may be forgiven for feeling even further left behind. WARDA is rectifying that by connecting national agricultural research institutions to the Internet and bringing their scientists into the information age.

As we approach the turn of the millennium, it seems that the gap between the 'haves' and the 'have nots' is growing wider rather than narrower. Computer technology, especially the global network known as the Internet, has revolutionized communications and information sharing, to the extent that the average school child in the 'north' or 'west' today would be lost if placed in a school with the facilities of, say, 15 years ago. But the multiplication of information technology has not been at an even rate on a global scale. In particular, the poor telecommunications facilities in many West and Central African countries, exacerbated by their general financial status, have severely hindered their ability to hook in to the information age.

The value of agricultural research is seriously limited if that information is not distributed to potential users. In the past, many national agricultural research systems (NARS) did not have access to up-to-date and relevant research information. In addition, much of the work conducted by the NARS researchers was lost, as they had no way to disseminate the information to their peers in other countries, and even had problems getting the results to their own farmers. These communication

problems were (and in many places continue to be) complex, resulting from poor 'public' communications networks and poorly developed information infrastructure within the NARS themselves. Indeed, the latter was often a result of the former. With erratic and unreliable international (and national) postal systems, it is difficult for researchers and libraries to obtain the publications they need to keep abreast of new findings. Without access to bibliographic databases, researchers do not even know what other research is going on around the world! Without good communications, scientists do not know where to publish their results so that others may read them—and, even if they do, there is no guarantee that the results will be efficiently recirculated within their own region.

Information networking

The CGIAR approach of initiating networks like the WARDA Task Forces (see page 9) provides a way of sharing information on a wider scale. However, traditional travel for meetings and print publishing are both costly and time-consuming. The Internet provides

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a means of rapid communication at relatively low cost. With funding from USAID, WARDA initiated the AfricaLink project in 1997 to give NARS and extension services access to the Internet, to improve their abilities to access and distribute information, and to communicate with their peers world-wide.

“In collaboration with the Conférence des responsables de la recherche agricole en Afrique de l’Ouest et du Centre (CORAF), we dispatched letters and faxes to more than 80 heads of research and extension institutions, network coordinators and agricultural scientists throughout the region in October 1996,” explains project coordinator and WARDA documentalist Alassane Diallo. “We also advertised the project through various regional meetings in late 1996 and in 1997. As a result, we received responses from 51 institutions.” These institutions requested WARDA to connect some 142 sites to provide electronic-mail access to between 1000 and 1500 research scientists. By the end of 1998, funds had been allocated to connect 91 of these sites.

“AfricaLink is more of a capital grant than operational funding,” explains Diallo, “with the addition of installation and on-site training.” The project pays for the hardware—usually just a modem—to establish the

connection. But, if the site doesn’t have a computer with enough capacity to handle the connection, then the project will even supply the computer. Project staff then install the hardware and software, and configure the system to operate through the local Internet provider. The project also pays the subscription fees and a lump sum to cover the initial period of connection (one month, semester, quarter or year, depending on the provider). After this, the recipient institution is expected to carry the expense of continued connection and use of the facility. In fact, commitment to continue the service after project funds are used up is a prerequisite to the allocation of the funds.

AfricaLink staff from WARDA or USAID follow up the installation with site visits to verify the smooth running of the system, and to provide training for at least two users.

Spreading the word

In collaboration with the Technical Centre for Agricultural and Rural Co-operation (CTA), WARDA organized a workshop on *Information and Communication Technologies and Agricultural Institutional Development* in November 1998, at the

Table 4. *Internet/e-mail connections provided through the AfricaLink project to end 1998*

Status	Countries	Institutions	Sites
Connected	15	29	91
Funds provided	4	7	8
Being processed	6	4	14
Information needed	8	10	10
Request under review	1	1	6
Total†	26	51	125

† Totals are not simple sums of columns, as there are overlaps.

Training is an important component in bringing information technology to West African researchers



Observations on the AfricaLink Project

The AfricaLink Project enabled the Agriculture, Forestry and Fisheries Sector of the Council for Scientific and Industrial Research (CSIR) and two of its agricultural-based research institutes—the Crops Research Institute and the Savanna Agricultural Research Institute—to be hooked to the Internet and to have access to electronic-mail. Being connected to the Global Village has increased our communication links with international research centers and national agricultural research systems. It has also enabled us to communicate faster and cheaper with these bodies, and to transmit large volumes of data. Access to the information superhighway has also provided us with the opportunity to share relevant information, which can be utilized to achieve our common objectives.

Prior to our being hooked to the Net, the means of communication for research institutions was through facsimile, telephone, ordinary mail, and through traveling several kilometers to deliver whatever information was meant to be disseminated. This was often slow, expensive or time-consuming. Access to the Net has revolutionized our means of communicating with each other. Furthermore, an information gateway has been opened that can help reduce the shortage or absence of magazines, encyclopedias, books and databases in places where they should abound, such as libraries of research institutions. Though we realize that the Internet is not a panacea to the lack information resources at our research institutions, we appreciate the complementary role that it can serve.

Initially it was thought that the first phase of the AfricaLink Project would have provided for Internet connectivity for the 8 research institutes of the CSIR and the Faculties of Agriculture of the 4 universities. Realizing the enormous potential that we stand to gain from this facility we were spurred on to explore the possibility of securing funding for the computers in our institutions to be networked and connected to the Net. We believe that when this is achieved it will enable as many scientists as possible to have access to electronic-mail addresses so they can also communicate with their peers effectively—sharing ideas and discussing whatever research activities that they may be engaged in. It would also provide them with an opportunity to have access to a wealth of information on the Internet.

We look forward to the day when the information resources within the sub-region can be shared and exchanged electronically. It is hoped that with a tap of the keyboard it would be possible to look up information on a particular commodity that is cultivated in another country in the sub-region.

Having access to an electronic-mail address and the Internet has been exciting and it is hoped this revolution that is sweeping across the world will become available to a lot more scientists in Ghana.

—Prof. J.C. Norman, Deputy Director-General (Agriculture, Forestry and Fisheries), CSIR, Ghana

The presence of the Ivorian Minister of Research, Prof. Francis Wodié (second from left), highlighted the importance of the workshop for member states



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Regional Training Center of Winrock International in Abidjan, Côte d'Ivoire. Some 30 senior NARS personnel (mostly directors) from 11 West and Central African countries attended the workshop, along with 10 resource persons from WARDA, CTA, the Centre de suivi écologique (Senegal), the Centre de coopération internationale en recherche agronomique pour le développement (CIRAD, France), the Food and Agriculture Organization of the United Nations (FAO), the Gondwana Africa Regional Office (South Africa) and Côte d'Ivoire. The national decision-makers were briefed on the potential of modern information and communication technologies, to encourage them to adopt policies and strategies to promote institutional development. The workshop focused on access to the Internet and its services, agricultural databases, electronic publishing and communication, geographical information systems (GIS), management information systems, multimedia, and other information technologies.

With vital funding from USAID, WARDA has given the opportunity for Internet and electronic-mail connection to some 91 national agricultural research and extension sites in West and Central Africa, providing access to nearly 1000 national researchers. A second phase of the project has been proposed to take the next

What our partners say about the project

"The e-mail connection rendered us a great service—no more expenses for sending reports by express mail or courier. Also, ordinary mail takes such an unthinkable time!

"A baby must grow up. We now wish to have a server to make communication link with other agricultural research centers within the country."

—K. Tetevi, Scientific Director, Institut togolais de recherche agricole (ITRA), Togo

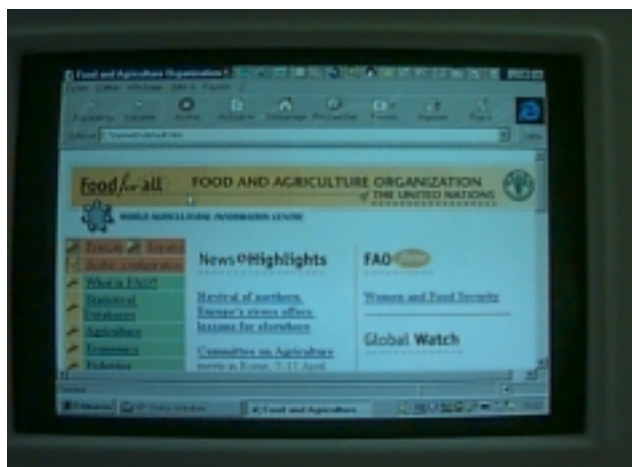
"Thanks to our Internet connection, we are no longer isolated from the rest of the world. We advertised scientist positions on the ABG Web-site, and received a lot of applications."

—Odile Tahouo, Sous-directeur de l'information scientifiques et techniques, Centre national de recherche agronomique, Côte d'Ivoire

"This project has been beneficial for our institution. I hope that the second phase will be just as satisfactory."

—Dady Demby, Responsable du Département de l'information et de la communication, CORAF-Dakar, Senegal

step of training the connected scientists in information retrieval and management. This second phase is due to be under the aegis of CORAF, but with continued input from WARDA. As we enter the third millennium, more and more national scientists and extension agents in West and Central Africa can feel part of the global information network, with all that implies to the quality of their research results and personal performance.



With an Internet connection, national researchers can access global agricultural information