

***Leland Initiative: Africa Global Information  
Infrastructure Gateway project (698-0565)***

***Strategic Objective 3: End User Applications***

***Country Assessment and Implementation Strategy  
Mozambique***

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## ***Executive Summary***

### Assessment

The African Global Information Infrastructure (GII) Gateway Project, known as the Leland Initiative, is a five year, \$15 million project designed to assist up to twenty African nations in connecting to the Internet. This paper presents the Internet end-user assessment and the country implementation plan (CIP) for Mozambique which will help determine the nature of USAID involvement in that country.

Over the course of two weeks in Mozambique, the assessment team interviewed approximately 35 institutions relating to the Strategic Objective areas of USAID/Maputo and established country-level and institution-level findings. At the country level, full Internet service is currently available in the country through the Center for Informatics at the University of Eduardo Mondlane (CIUEM) and through the firm, Teledata; however, CIUEM's full service operates slowly and Teledata does not yet offer services commercially, so access is limited. CIUEM maintains over 1,000 email accounts, so this application is more widely known.

The policy environment is generally favorable to Internet service provision, and most people are anxious to learn more about this technology. The telecommunications infrastructure is good in Maputo and improving in the provincial capitals, but rural access will be longer in coming. Alternative solutions to full Internet access in rural areas should be examined. Particular emphasis should focus on email connections.

At the institution level, commercial organizations and international PVOs are the furthest along in exposure to and use of Internet applications. They also are generally well equipped with computers and modems. Exposure and awareness at the national government level varies, but local government exposure, like the rest of the rural areas, is virtually non-existent. Local NGOs also have little exposure and lack resources to purchase equipment. All levels would benefit from training.

### Implementation plan

In approaching Leland Initiative activities, USAID/Maputo first should consider hiring a local Leland Coordinator to oversee developments and ensure that its staff is well trained in how to use the Internet to support their work. Before equipment is installed, the mission also should encourage the development of an Internet Service Provider (ISP) association or consortium.

Activities to support improved awareness of and access to Internet applications could include:

- An Internet Training Workshop for local development partners
- Support for email connectivity for local NGO partner organizations
- World Wide Web homepage development for select organizations
- Assistance to Mozambique Government, particularly the National Assembly, to build awareness of and access to Internet applications

- Establishing a small grants program to support proposed Internet-related activities of local partners
- Support the development of a Mozambique chapter of the Internet Society
- Encourage Media Use/Promotion of the Internet
- With other donors, support the development of Public Internet Demonstration Centers/Information Technology Resource Center(s)

It will be important to monitor and evaluate the various activities throughout the implementation phase of the Leland Initiative in Mozambique. Not only is this important to ensure that Leland Initiative and USAID/Maputo funds are being used to achieve maximum results, but it will also be important because Mozambique is among the first USAID countries to implement Leland Initiative activities and as such will serve as a testing ground for the activities and a model for other USAID countries.

## ***Leland Initiative: Africa Global Information Infrastructure Project***

### ***Strategic Objective 3: End User Applications***

#### ***Country Assessment and Implementation Strategy for Mozambique***

## **BACKGROUND**

The African Global Information Infrastructure (GII) Gateway Project, known as the Leland Initiative, is a five year, \$15 million project designed to assist up to twenty African nations in connecting to the Internet. Approved by the U.S. Congress in 1995, the project is named in honor of Mickey Leland, a former member of the U.S. Congress who died in a plane accident in Africa. Mr. Leland had done extensive work in African affairs while a member of the U.S. Congress and was a strong advocate of U.S. support to Africa.

The Leland Initiative has three strategic objectives (S.O.):

- 1) foster a favorable policy environment for Internet connectivity and access;
- 2) introduce or enhance full Internet connectivity through the provision of requisite technologies and the strengthening of a private Internet Service Provider industry; and,
- 3) achieve broad-based utilization of the Internet and other information and communications technologies within USAID's development partner community to promote sustainable development in Africa.

The first stage of country level implementation of the Leland Initiative is to conduct assessments in the three strategic objective areas. Assessments of 1) telecommunications policy and, 2) telecommunications technology (specifically, Internet infrastructure and the Internet Service Provider industry), are handled respectively by the US Department of State and the National Aeronautics and Space Administration (NASA).

The Academy for Educational Development's Research and Reference Services (R&RS) Project, funded through USAID's Center for Development Information and Evaluation, has been asked to do the country assessments for the Strategic Objective Three area -- internet end user issues. Based on interviews with relevant institutions, these assessments examine local institutional capacities in terms of:

- Information resources produced
- External information resources used
- Information needs and demands not being met
- Technological capacities

These SO 3 assessments, informed by the SO 1 and 2 assessments, form the basis for the individualized country implementation plans (CIP) that will help determine the nature of USAID

involvement in each country. The CIPs seek to provide a coherent structure for the achievement of Leland Initiative SO 3, which will require activities at several different levels including: 1) the USAID mission, which will direct the Agency's efforts in the country; 2) the mission's development partners, through which USAID will work to encourage the use of the Internet to support sustainable development; 3) the Internet Service Provider industry, which will serve as the backbone to Internet access; 4) and the general public, whose support will be necessary to ensure sustainability of Internet service. This document combines the SO 3 assessment and the Country Implementation Plan for Mozambique.

## **METHODOLOGY**

The process of the Leland SO 3 assessment is straightforward: we need to identify key institutions involved with development in the country, schedule interviews with those we can, and then make our visits. On our first work day in country, we met with each of the three Strategic Objective teams at USAID/Maputo which cover: 1) increased rural income; 2) democracy & governance; and 3) improved health. We gave an overview of the Leland Initiative and then described the goals of our visit, including: to assess the information needs, uses, sources and communication activities of key development institutions in Mozambique; to identify key ongoing or planned activities relating to the Internet; and, to identify potential avenues of support that USAID/Maputo can pursue to promote wider use of Internet applications for sustainable development.

Since the Leland Initiative is geared toward working within the mission's current project structure and following the established priorities and Strategic Objectives of the mission, we relied upon the mission to identify the institutions we should meet. We provided the following criteria for the Mission to use as guidelines in identifying these organizations:

1. Key institutions the Mission works with in their SOs
2. Institutions the Mission feels could benefit from effective use of information on a local, regional and international level.
3. Potential organizations or individuals to form a network for sharing information, ideas, and collaborative working methods around a common theme or sector.
4. Donors who are providing assistance in the telecommunication and electronic networking arena, as well as recipients of their funding.
5. Major collectors or producers of information in country, such as libraries or government sponsored statistical organizations.
6. Private sector organizations who currently make effective use of modern communication technologies, such as satellites, electronic networks, or the Internet.

After meeting with us, each SO team developed a list of priority organizations in its area. Two members of the USAID/Maputo staff, Ana David and Maria Joao Oliveira, provided tremendous assistance by managing the arrangement of appointments for us. They provided regular updates to our schedule using a computerized appointment organizer. We planned on using the fax form developed by the Leland assessment team in Benin to provide institutions with specific information about Leland ahead of our scheduled visits, but we didn't have the resources or time to develop a good translation in Portuguese, and we used the English version only sporadically.

It would be helpful to develop a one page summary of the Leland Initiative to send with faxes in the future rather than the current two page summary which is a bit cumbersome.

## **Visits and Interviews**

Over the course of our two weeks in the country, we met with approximately 35 institutions. Most meetings took place in Maputo either at USAID or at the offices of each group. At the end of the trip, Jim met with about six other groups or individuals in Beira to get an impression of information and communication needs outside of the capital, while Jeff completed appointments in Maputo. All interviews were conducted in English.

### Survey used as guide

The survey form developed by the SO 3 assessment team for previous country visits served as a guide for the interviews but was not used as a formal analytical tool. The form is divided into two parts:

- 1) Institutional Information Resources and Needs -- including, institutional objectives; current projects; print publications and electronic databases produced; information resources used; information needs; and communication technology status.
- 2) Internet End-User Issues -- including, telephone availability and cost; cost and availability of computers, modems and service; and other perceived barriers to Internet access on a country wide level.

These two issue areas helped us structure our interviews, but the form still cannot be used as an official measuring instrument to make formal comparisons between interviewed institutions because the range of these institutions is too varied. Many organizations or individuals interviewed did not fit within the scope of the survey, yet their information was quite valuable and important to the assessment process. We found we could determine the level of computer sophistication and the information and communication needs of each institution through more of a conversational approach rather than asking people to help us fill out the survey form. The questions on the survey form are valid and useful, but it doesn't make sense to try to complete a form for every institution.

## **GENERAL FINDINGS**

### **Country-level findings**

#### What is the current Internet provision situation in Mozambique?

The Internet has been available in Mozambique for some time through the Informatics Center of the University Eduardo Mondlane (CIUEM). Full Internet access is available, but only through a modem speed of 9600 bytes per second (CIUEM's connects through South Africa), rendering World Wide Web access virtually unusable. The group Teledata, partly operated by the national telecom, TDM, has begun providing some full Internet services through an arrangement they have

through Portugal, but they do not offer these services commercially yet, and the number of their users is quite small (about 30). Electronic mail, however, is pretty widely available, through the services of CIUEM primarily (about 1,000 email accounts), but also through proprietary networks of some international PVOs or through a couple of different store and forward networks.

Besides CIUEM and Teledata, two or three other groups appear to be viable, potential Internet service providers including Micronet and Tropical BBS. Others have expressed interest in becoming providers, but this will have to be monitored under SO 2 of the Leland Initiative. NASA's Tony Villasenor has already made an initial visit to the country and has met with some of the potential ISPs. It remains to be seen how many ISPs the market actually will be able to support.

#### What is the level of Internet awareness?

Because of the email services and other activities of CIUEM and other ISPs, word of mouth, and the media (including publicity of the signing of the Memorandum of Understanding between the Government of Mozambique and USAID for the Leland Initiative), there is fairly good general knowledge about the Internet and its benefits as an information and communication resource. Still, most people have never seen the Internet in use and could benefit from further exposure. Most people are hungry for information about Mozambique and the world and anxious to share information about their groups. They are looking forward to learning more about how they can get access to the Internet and are waiting for it to become more widely available.

#### Is the policy environment conducive to Internet growth?

The Government of Mozambique seems very interested in ensuring that the Internet flourishes in the country. The signing of the Leland MOU is probably the best indication of the country's readiness to move ahead with Internet at a policy level. TDM has agreed to allow open and fair access to the Internet satellite node that USAID will set up at their facilities. A post-MOU-signing policy visit is scheduled for December 1996 to address other issues.

#### Is the infrastructure capable of supporting Internet growth?

According to what we have read and heard, TDM has been making important investments in improving the telephonic infrastructure for the country, particularly in converting to digital connections. Connections in Maputo appear to be the most robust, although some people expressed frustration in trying to obtain new or additional lines for their offices. Access in rural areas to full Internet will be slower in coming, but email connections can be made available just about anywhere through alternative solutions such as store and forward systems and the use of high frequency radio signals. For full Internet access to be viable in cities outside of Maputo, arrangements need to be made to allow users to pay for a local phone call when making their connection to a service rather than having to call Maputo. Again, these issues fall mostly under SOs 1 and 2 and should be followed there in discussions with TDM.

#### What other Internet initiatives are active in the country?

The United Nations Sustainable Development Network Programme (SDNP) officially began activities in August of this year. SDNP seeks primarily to establish better networking and sharing of information (through email and a bulletin board service) among institutions concerned with sustainable development in Mozambique. The main participants include the Ministry of the Environment (MICOA -- Ministry for Coordination of Environmental Affairs), CIUEM, and UNDP/UNEP (United Nations Development Program/United Nations Environment Program). The project steering committee includes: the World Bank, TDM, LINK (a NGO umbrella group), and MediaCoop (a journalist's cooperative), among others.

SDNP is being coordinated currently by Teresa Alfaro from MICOA, although she is looking to hire a full-time coordinator who will function similarly to the Leland Coordinator being sought by USAID/Maputo. At our meeting with Teresa, she told us that the main SDNP node will probably be placed at the Center for Technology Transfer in Maputo where a communications center is being established. The relay node for email connections will be maintained by CIUEM. They are planning on placing other nodes in Beira and Nampula that will be connected to CIUEM.

A large part of this program will focus on email training and the supply of appropriate equipment, usually simply a modem, so that trainees can immediately have access to email upon completion of their course. The first training class took place during the first week of November 1996 and involved representatives of some local NGOs, the Ministry of Agriculture, the Rural Development Institute, and MICOA.

The goals of the SDNP complement those of the Leland Initiative quite well. It would seem logical for SDNP to take advantage of the more sophisticated Internet connections that will become available through Leland. Since SDNP builds largely on the Agenda 21 issues that arose out of the 1994 Rio Conference on the environment, and since MICOA is the lead agency in the country for this initiative, it would make sense for the environmental officer at USAID/Maputo to monitor these activities and see where coordination might take place.

The SDNP Mozambique draft project document can be viewed over the Internet at the following address: <http://www.undp.org/sdnf/af/mozambiq.htm>

## **Institution-level findings**

### Which institutions did we visit and are they ready for Internet access?

As mentioned earlier, we visited institutions that work in the areas relating to USAID/Maputo's three strategic objectives: increased rural income/economic growth; democracy and governance; and health. The list of these institutions, broken down by sector, is included in Annex A. Some institutions' activities cut across sectors.

We met with eight international PVOs and/or US contractors; four government ministries, the National Assembly, and the Supreme Court; four local NGOs or NGO groups; eleven commercial or economic growth entities; and ten other groups from other sectors.

To successfully use full Internet applications, institutions need to have, at least, the appropriate technical capacity (phone lines, a 486 computer or better, and a modem) as well as the appropriate know how (basic training in how to use various applications). Most of the institutions we interviewed are fairly well equipped technically with the exception of local NGOs. Twenty-two of the thirty-nine groups with whom we met have email connections. Most institutions, though, need, and have expressed interest in receiving, training on the Internet once full services become more readily available.

#### What are the biggest barriers to using Internet that institutions will face once service starts?

Lack of understanding and training -- Institutions will need to learn where they can get Internet service and how the service can benefit their work. Almost all of the groups we met expressed the need for training on how to use the Internet effectively once it is widely available. Those with prior computer experience will need less guidance than those with little or no computer experience.

Costs -- For most institutions, this will not be a problem as those that currently have email accounts should be able to get full Internet for the same cost or less once the new services come online. Those who don't even have email yet will be able to cover the costs of service with the money they will save through reduced phone and fax bills. Most local NGOs and some other groups will need financial assistance to purchase necessary equipment.

Rural access -- Internet services will be concentrated in Maputo initially. Most groups need to communicate and share information with counterparts in other parts of the country. If those other areas cannot at least gain access to email, then the benefits of Internet service will escape them. Access to full Internet outside of Maputo will not be feasible for institutions if they have to connect to a provider in the capital. Regional nodes are necessary to allow people to make local calls to gain access.

Slow speed/poor quality of phone lines -- This should not be a problem for most people in Maputo, but it may be a problem for those in other areas. TDM will need to maintain its commitment to high quality and wider access to the telephone infrastructure.

Various activities developed in the next section address the above constraints.

## **IMPLEMENTATION PLAN**

#### What needs to happen first in extending Leland activities in Mozambique?

An exact time frame may be difficult to draw, but here's the situation as we see it in December 1996 looking ahead to the new year:

1. USAID/Maputo should consider hiring a coordinator for the Leland Initiative in Mozambique.

At the time of our TDY in Mozambique, the mission was already in the process of assessing several candidates for the position of Leland Coordinator and was a few weeks away from

choosing one person for the job. Implementing pilot activities in the country will demand a great deal of time and attention from mission staff, so having a dedicated point person to coordinate these projects will be crucial to their success.

USAID/Accra and USAID/Antananarivo have already hired local Leland Coordinators and developed some guidance on their roles. USAID/Maputo can follow up on these contacts through the Leland SO 3 e-mail contact list developed by the R&RS Leland Team.

2. USAID/Maputo may wish to consider staff Internet training to get up to speed on this new technology

The USAID Mission in Maputo already has full Internet access through its own VSAT link. The experience of the staff in using the Internet varies -- some are quite advanced in using the Internet to support their work, and others have not ventured very far at all.

#### *Development Information and Communications Training in USAID/Maputo*

The Internet aptitude of the USAID/Maputo staff is vital to the success of SO 3 of the Leland Initiative because they will need to learn how to incorporate Internet resources into their programs and how to serve as advocates of the Internet to their development partners. Formal training provides staff with the chance to learn about the history of the Internet, and its many potential uses and contributions to sustainable development.

The Center for Development Information and Evaluation Research and Reference Services Project has designed a workshop for USAID field Missions on "Development Information and Communications Training." This workshop has been successfully implemented in USAID field Missions looking to integrate information and communications more effectively into their programs (most recently, USAID/Kingston and USAID/Jakarta). The five-day workshop can be customized to meet the needs of particular Missions, but typically includes training in USAID information sources and various Internet applications as they apply to meeting the information and communication needs of Mission Strategic Objective teams. Workshop sessions have also included discussions of how to incorporate technical assistance in information and communication technologies, such as the Internet, into development projects (this element could be a special focus of the training in USAID/Maputo), as well as how to assist USAID development partners in the design of institutional communications strategies. The mission could invite a few key institutional partners to participate in this training exercise. These institutions would then serve as models for others in the country.

Annex B contains a "generic" Scope of Work for the Development Information and Communications Training Workshop, as well as a sample summary agenda for the workshop. If this is a model which USAID/Maputo wishes to explore further, Mission-specific documents may be developed in consultation with CDIE.

Funding for the Development Information and Communications Training Workshop can be arranged via a buy-in to CDIE's Research and Reference Services Project and may be wholly funded by USAID/Maputo program funds, by Leland Initiative funds, or through joint

USAID/Maputo-Leland funding. Again, CDIE management staff can provide details on funding mechanisms.

3. Encourage development of ISP association or consortium.

As discussed by Tony Villasenor in his report on the technical aspects of the Leland Initiative in Mozambique, it is important to consider some kind of forum through which ISPs can communicate and cooperate on various issues that affect their industry. Tony reported that the ISP representatives with whom he met prefer a more informal arrangement through an association rather than through a consortium. All expressed a willingness to work together to create a proper environment for the success of the Internet. USAID/Maputo's encouragement of continued communication among this group would be helpful, especially in the time leading up to and during the installation of equipment.

What activities should USAID/Maputo seek to support and how can that support be provided?

1. An Internet Training Workshop for local development partners.

After the Leland-supported national Internet node is in place and ISP's are ready to begin offering services, the mission can then concentrate on encouraging local development partners to use the Internet by helping to arrange an Internet Training Workshop. Properly organized, such a workshop could serve the multiple purposes of introducing organizations to the utility and power of the Internet, providing them with information on how to get Internet access through existing ISP, and teaching them the basics of Internet use.

It is essential that this type of workshop be held in a facility that allows for effective demonstration and training. The facility should have space for plenary sessions and several breakout sessions for the various conference tracks. Electrical wiring should be sound and reliable and, clearly, the potential for establishing Internet connectivity at demonstration and training workstations will be critical. The TDM training center, located near the USAID offices in Maputo, is an excellent facility for this type of workshop.

The workshop should include a large main session, where attendees are informed of the general services available through the Internet, as well as smaller breakout sessions on topics such as e-mail use, researching via the Internet, and file management basics (how to download data files).

The workshop should include the following elements:

- a. ISPs or other service providers should be present to offer their services; alternatively, participants should be given clear information about how to get these services, including information about the kind of equipment they will need and where they might be able to obtain it;
- b. Each participating local NGO should be given a modem, purchased locally, as part of the conference so that they will be prepared to access the Internet from the moment they leave the workshop;

c. The workshop should include hands-on use of the Internet. Each participant should be able to spend at least some time "surfing the Web."

The workshop could begin with lectures on the Internet in general and the basics of connecting to the Internet. Subsequent breakout sessions could be targeted to a number of issues, including:

- **Development Sectors.** This session would cover using the Internet for specific development sectors. For example, a session on democracy and governance could highlight use of Internet for newspaper publishing, while a session on economic growth could highlight on-line advertising and commerce. For these breakout sessions, mission personnel could be tapped, along with speakers from organizations that are using the Internet for development-related purposes.

- **Document Delivery.** This session would cover maximizing document delivery through the Internet. It could focus on advanced e-mail features such as document encoding and the basics of attaching files, file compression (which all users should definitely know about, since it can dramatically reduce the size of files, speed up transmission and cut costs), and uploading/downloading files to and from servers. A representative from CIUEM might be a good candidate for heading this session.

- **Creating Listservs.** This session would cover creating listservs and virtual conferences via the Internet. Topics could include the basics of setting up and configuring servers, tips on maintaining lists, guidelines for moderating listservs, and strategies for increasing web presence.

- **Publishing via the Internet.** This session would cover the specifics of publishing Web pages through the Internet. It could include basics of Web design (with specific focus on efficient page design for low bandwidth/low speed networks, which are currently the norm in Mozambique), determining what information and documents to include on a Web page, introduction to hypertext markup language (HTML) code, and an introduction to commercial Web page software (such as Microsoft's FrontPage or Adobe's PageMill). If they are willing, a speaker from Pangolim could be tapped for the "publishing on the Internet" session to discuss their development of Web pages, how they are used, and what problems have been encountered.

- **Internet as a Research Tool.** This session would cover techniques for finding information on the Internet. Speakers for the breakout sessions could be identified from key Mozambican institutions that have been using the Internet for this purpose for some time. It is difficult at this time to estimate the budget for such a workshop. Facility and equipment rental fees will have to be explored, as will the possibilities of corporate sponsorships and assistance/cooperation from other international donors which may wish their development partners to participate in the workshop. Participation will be limited by the capacity of the training facility, but a fee structure for participants could be explored as well. The Leland Initiative SO 3 in R&RS could work with USAID/Maputo information resource management staff to investigate the arrangements and local costs for such a workshop. USAID/Maputo

Senior Management could explore with other donors their possible interest in collaborating on such an effort.

2. E-mail connectivity between local NGO partner organizations should be nurtured as a first step to helping them utilize the full power of the Internet.

For organizations in Maputo that have adequate equipment, a decent telephone or direct connection, and a real need for it, the World Wide Web will be an excellent tool for them once new ISPs are offering this service. Many of the smaller NGOs we surveyed, however, simply do not have the resources to currently justify having their own Web access or a clearly-defined reason for having it. For these organizations--and for those that are in remote regions, where the poor quality of telephone lines would make surfing the Web an arduous process--email makes more sense. (For more details on a plan for improving e-mail connectivity, see Annex D for the paper entitled "Electronic Networking in the Internet Age". Although prepared for the USAID Regional Center for Southern Africa in Gaborone, the same themes apply to Mozambique).

Listservs, or discussion groups, could be started in USAID's program areas--a listserv for child health, one for AIDS awareness, one for agricultural export marketing, and others, for example. Through these listservs, e-mail connected organizations can:

- a. Glean who is working in similar areas;
- b. Start regular correspondence with like-minded individuals and organizations;
- c. Exchange full-text documents (including any that Web-connected members download from the Internet), obviating the need for costly faxes.

Any of the ISPs should be able to provide the technology to run a listserv. USAID mission staff may wish to establish listservs just for their direct partners, and then participate in wider listservs that include other national and international actors. The Leland SO 3 team can provide information on existing international listservs of interest in different sectors.

LINK seems to be the obvious choice for serving as a central point for the creation of listservs that serve the local NGO community. They know who the key actors are, have the means to organize these actors, and have the ability to train users. In order to make the listservs as useful as possible, the mission could support one or more full Internet connections for LINK. If necessary, the mission may wish to consider utilizing new technologies, such as wireless data transfer, to circumvent the poor Web performance resulting from inadequate local telephone lines. LINK staffers could then field research requests received via e-mail from Mozambican NGOs, use the Internet where possible to gather the requested information, and send that information to the requester via e-mail. In this way, partner organizations throughout Mozambique can benefit from the Internet's full capability without having to deal with the performance limitations resulting from poor telecommunications infrastructure.

3. World Wide Web homepages could be funded for select organizations.

In the course of our interviews, several organizations stood out as being able to clearly benefit from having their own Web presence. Web pages could be funded for the following groups:

- a. Cashew Working Group. Cashew nuts are a key agricultural export for Mozambique, and an Internet presence for the Working Group could help the expansion of exports into existing or new markets. The Executive Secretary for this group, Irene de Souza, has taken advantage of her Internet connection through Teledata and already has invested valuable hours looking at other WWW sites devoted to cashews from other countries. With a small amount of support and training, she could probably develop a page herself for this group.
- b. U.S.--Mozambique Chamber of Commerce (COC). They would like to be able to offer full Internet service at the Chamber for use by members and to improve connections and promotions with the United States. A COC Web Page could highlight Mozambique business opportunities.
- c. LINK. Rather than attempting to provide Web pages for individual NGOs, a central Web site could be maintained by LINK. This site would post Web pages for member NGOs. This would be a more cost-effective and speedier way to introduce Mozambican NGOs to the world development community. Furthermore, any e-mails that come through these Web pages could then be effectively forwarded to the NGOs and relevant listservs.

Pangolim is the only company we met that currently provides high-quality, professional web page design services. Others may develop as the Internet expands in Mozambique.

#### 4. Assistance to Mozambique Government.

Better Internet connections for the various ministries and divisions of the Government of Mozambique (GOM) could vastly increase the ability of public officials and civil servants to do their jobs more effectively. The GOM recognizes the potential of the Internet as indicated through the strong support given to expediting the negotiations surrounding the Leland Initiative.

The government's recognition of the importance of the Internet is a significant step for Mozambique; at this time, however, only small pockets of the government appear to have much of an awareness of the technology and how it can help. As the coordinating government agency for the UNDP Sustainable Development Networking Program, the Ministry of the Environment (MICOA) seems to be the furthest along in terms of awareness of the Internet and in taking steps toward training people in how to use it (limited right now to email use). The Office of Internal Commerce in the Ministry of Industry, Commerce and Tourism would like to set up a network to connect its offices in Maputo with its offices around the country, but it doesn't have the means at this time. Still, this shows the office is thinking strategically about its communication and information needs. The Ministry of Agriculture, on the other hand, according to the representative we met, needs to develop a more open culture of information sharing in which the Internet could play an important role. Support from the highest levels of the ministries and other government groups is needed to

encourage investment in this new technology. Support will only come when key decision makers become aware of the benefits of the Internet.

USAID/Maputo's SO 2 -- *Government and civil society are effective partners in democratic governance at the national and local levels* -- focuses on civil society, the National Assembly, and elected local assemblies and does not directly address the judicial or executive branches of government. Despite this arrangement, USAID/Maputo should consider sponsoring, perhaps with the support of other donors, a separate Internet training workshop for the government to which decision makers from the three branches of government could be invited. This type of workshop should be designed to introduce decision makers to the communications and information advantages of the Internet. This could serve as a catalyst for further national and/or donor investment in expanding information technology capabilities for the government. The workshop would follow a similar structure to the one outlined earlier for development partners. The UNDP/SDNP has already started to sponsor some training activities for government officials which might serve as a useful model. This training has been provided through CIUEM. Incorporation of other ISPs would be desirable.

USAID/Maputo might also consider approaching the GOM about establishing some form of national information infrastructure (NII) plan, similar to the framework established by the U.S. government through its Information Infrastructure Task Force (IITF -- see this web site at <http://www.iitf.nist.gov/index.html>). Another valuable reference for NII plans is an article by Celine Walker entitled "Telematics for Development: A Caribbean Perspective on National Information Infrastructure Planning" (Appearing in *International Forum on Information and Documentation*, vol. 20 no. 2, April 1995). Through USIS, we met with the Director of Mozambique's Gabinete de Informaçao, Arlindo Lopes, who expressed interest in exploring the establishment of a more formal NII plan. He may be a good reference for looking into this proposal. The Leland SO 3 team can provide further reference on the concept of a NII plan as needed.

### *The National Assembly*

USAID/Maputo already is involved with support for the National Assembly through a project managed by SUNY. Other donors (Danish and Dutch, in particular) have begun to investigate needed communications and information reforms at the Assembly focusing largely on infrastructure needs. In conjunction with these other donors, USAID/Maputo could seek to support the establishment of a local area network (LAN) with an Internet connection at the National Assembly Headquarters. The Internet then should be accessible from any computer connected to the LAN.

The Assembly is not ready for these connections at this point, so a long term plan should be explored in which infrastructure, equipment, and training needs are defined more explicitly. Long term goals should include connections in rural areas that would allow members of the Assembly as well as the general public to stay informed about pressing issues or general information through the development of an Assembly Web Page. Several parliaments from countries around the world have developed this capacity and can serve as models.

## 5. Small Grants.

To encourage and promote Internet use among institutions who may not have the financial and/or technical capacity, USAID could establish a proposal-based small grant mechanism for new users to buy equipment and training and or explore Internet-related projects..

## 6. Mozambican Internet Society.

USAID could facilitate the creation of a professional discussion/support forum for new users, perhaps involving the Internet Society. This type of forum could do much of the marketing and awareness raising that will need to occur in Mozambique as long term follow-up to the national workshop.

The Internet Society (ISOC) has begun to explore setting up national level Internet Society chapters. A local chapter in Mozambique could perform numerous functions, including:

- **Information Clearinghouse.** The Mozambican ISOC chapter could serve as a clearinghouse to fill Internet-related jobs with qualified applicants. It would be relatively easy for job descriptions to be kept on file for jobseekers to examine. At the same time, these listings could be placed on the Society's Web page--the perfect place to look for Internet-related work! The chapter could also maintain rosters of computer/Internet training courses, computer/telematics equipment and software suppliers, and e-mail/Web addresses for local and regional Internet users.
- **Organizational Tool.** Perhaps the greatest advantage offered by a local Internet Society would be its ability to organize the Mozambican Internet community. Acting as a united front, Mozambican Internet users could more effectively promote their goals in the political process, giving them more leverage to effect changes such as lower tariffs on computer equipment and lower phone fees. The chapter would also provide a convenient mechanism for group purchases of computer equipment and software, which can make possible quantity discounts from vendors. Finally, the solidarity made possible by a local chapter would allow Mozambique to be better represented at international and regional Internet conferences.
- **Higher-Level Advice/Problem Solving.** Much as technology resource centers could provide advice and problem solving services for Internet end-users, Mozambique's ISOC chapter could provide advice and troubleshooting services for higher-level Internet-related organizations. These services could include information on how to become an Internet service provider, technical information about setting up local area networks, and government-targeted information such as the pros and cons of specific telecommunications policies.

Although Mozambican Internet users can and should be offered advice and support to start a local chapter, the success or failure of the undertaking (and whether it is even undertaken) ultimately will rest on their shoulders. The impetus to start a local chapter can come from informal meetings at Internet conferences, where Mozambican participants can get together to begin discussions on the matter.

The Internet Society provides some guidance for establishing local chapter, including organizational requirements, funding obligations, reporting requirements, and so forth. These guidelines can be found on the Web at <http://info.isoc.org:80/chapters/chapter-guide.txt> and <http://info.isoc.org:80/chapters/chapter-policy.txt>. As the guidelines state, the first step for a prospective ISOC chapter to take is to contact the international ISOC. At that point, ISOC will determine the feasibility of a local chapter and will suggest next steps.

## 7. Media Use/Promotion of the Internet

In the United States the media have played a substantial role in raising the level of public awareness about the Internet. While one could question the focus of much of this coverage, it is clear that the media are largely responsible for making "Internet" a household word in the U.S. Newspapers, radio stations, national television networks and local television stations have carried stories about the types of information available on the Internet and the contribution the Internet is making to social, political and economic trends. For those who already have Internet access, this media coverage often points out interesting Internet resources of which users may not have been aware. For those without access, the media provides a sort of indirect, though clearly incomplete and sporadic access to Internet resources, and serves as an indirect "marketer" of Internet access by raising public awareness and interest. The media (i.e., newspapers, television and radio) in Mozambique can serve these same functions.

In an informal meeting at the USAID mission with representatives from local newspapers and a radio station, the SO 3 team demonstrated examples of how the media currently use the Internet in other countries. The team also raised the possibility of "advertising" the Internet through print and radio format. While the representatives seemed to be genuinely interested in both using the Internet and raising Internet awareness among the public, they raised an important question: "What are the financial incentives for providing their services over the Internet or for advertising Internet services?" This is a valid concern, and the answer to it may be that the mission could provide some computer hardware support (which the representatives mentioned they need) in exchange for promoting the Internet through their various media.

## 8. Public Internet Demonstration Centers/Information Technology Resource Center(s)

Ongoing demonstrations of the Internet and other information technologies and access to these tools could be provided through the establishment of two different types of centers: Public Internet Demonstration Centers (PIDCs), and Information Technology Resource Centers (ITRCs). PIDCs generally would serve as sites where people could learn about the Internet and its different applications through demonstrations and small seminars. The U.S. Information Service (USIS), for example, has expressed keen interest in serving this capacity for the general public (USIS also expects to provide some research service, but it remains to be seen how well they could meet demand). The National Library, although our team did not visit here, might also serve this function.

ITRCs would serve the above functions as well, but they also would provide fee-based services for those who lack the resources to purchase their own computer equipment and full accounts. The Best Practices study prepared by R&RS Project staff for the Leland Initiative indicates that these types of centers can serve several important purposes:

- provide free Internet and other information technology demonstrations to raise awareness on an ongoing basis
- provide access, on an equitable, fee-based system, to technologies which are typically unaffordable
- extend access to information technologies to rural and remote communities

Specific types of services that such centers could supply to users include:

- free Internet and other technology demonstrations
- fee-based Internet accounts and access to Internet workstations
- fee-based Internet and other information technologies end-user training
- fee-based Web page development and related training
- free communications strategy consulting
- free proposal development consulting for Internet and other information technology activities

In a competitive ISP market such as the United States', many of the above services are provided by ISPs as a means of building a customer base. One can anticipate that ISPs in Mozambique may also begin to offer some versions of these services as their businesses grow. CIUEM already offers some public access to Internet email at the University for a fee.

Fees for the services provided in these centers would be designed to recover costs of operation and maintenance. Different fee structures could be set for non-profit and educational/health institutional users as opposed to business and for profit corporate users. While the centers will need initial investments to acquire adequate space, equipment and trained staff, they should be able to become self-sustaining within twelve to eighteen months of opening for business. Equipment should consist of standard office communication and information technology tools, including typewriter, telephone, fax, and computers with Internet email and, if feasible, World Wide Web access. Staffing could likely be maintained at one or two persons and the centers could have limited hours (designed to accommodate as best as possible the schedule of the majority of users) to save on operating expenses. Again, the private sector and other donors with an interest in extending Internet access may wish to collaborate on the initial start-up of these types of centers.

It is doubtful, though, that local ISPs or other groups will extend these types of services to rural and remote communities on their own initiative since there is little to gain financially in doing so. The establishment of regionally based demonstration and information technology resource centers could extend access to rural and remote areas where such needs exist. The areas most likely to benefit from these types of regional centers include rural areas of high population concentrations and agricultural areas where growers and buyers need access to up-to-date market information.

Project SCOPE is a non-profit organization that has begun to develop community access centers in several developing countries. For more information about their experience, see their web site <http://www.tiac.net/users/xur/>. Also, in the summer of 1996, the World Bank sponsored an electronic conference on the topic of community communication centers. The discussion through this conference provides valuable insights to the process of establishing centers and associated issues. The conference archives can be viewed at <http://www.vita.org/technet/cccarch/>.

### How will progress be monitored?

It will be important to monitor and evaluate the various activities throughout the implementation phase of the Leland Initiative in Mozambique. Not only is this important to ensure that Leland Initiative and USAID/Maputo funds are being used to achieve maximum results, but it will also be important because Mozambique is among the first USAID countries to implement Leland Initiative activities and as such will serve as a testing ground for the activities and a model for other USAID countries.

#### 1. Proposed Indicators

Suggested indicators of whether Leland Initiative SO 3 is being met in Mozambique include:

- **Number of Internet Users.** This indicator would measure the increase in the number of institutions with Internet access in Mozambique. It need not be limited to development-related institutions as a whole, since wider Internet use by commercial organizations, government agencies, and other groups also can benefit society as a whole.
- **Internet Presence.** An organization's Internet presence refers to its posting of Web pages, the existence of links to these pages at other Web sites, its hosting of listservs or virtual conferences, and any other activities that make the organization "visible" to other Internet users. Although it would be prohibitive to monitor all these activities for Mozambican organizations and institutions, a suitable proxy would be simply tracking the number of Mozambican Web sites.
- **Comprehensive Use of Internet.** Although e-mail alone is a very useful Internet tool, the goal should be to prod users to take advantage of a range of the Internet's features. This indicator would measure the amount of time spent using advanced functions of the Internet such as the World Wide Web or listservs.
- **Coordination and Outreach Via Internet.** This indicator would be used to assess the degree to which organizations are using the Internet for communication purposes, which for many is the Internet's most powerful and useful feature. The indicator could cover participation in listservs, numbers of e-mail messages sent and received, and participation in virtual conferences.

#### 2. Measuring the Success of Implementation Activities

Some of the activities proposed within this report lend themselves to fast and easy appraisal. For example, short tests of Internet skills and knowledge could be administered to a sample of

participants at the Internet workshops both before the workshops begin and after they end. Both tests would be identical and would be administered to the same participants. Results of the tests could then be compared to determine how much participants learned at the workshop. In this way, areas of weakness within the program could be identified and adjustments could be made. Statistics regarding the number of Internet users, the number of local Web pages, and the existence of listservs should be readily available from the ISPs in Mozambique.

Other statistics, such as the level of Internet awareness and the degree of advanced Internet use, will be more problematic to gather. To determine the level of Internet awareness in Mozambique, a polling firm could be enlisted.

To determine how organizations use the Internet, the Internet itself would make an ideal tool for gathering the information. Emails containing short questionnaires could be sent out to specific organizations on a periodic basis. Sample questions include "Does anyone in your organization participate in a listserv?"; "How often do you use the World Wide Web?"; and "How many hours, on average, does your organization connect to the Internet per week?" Most of the answers to these questions can be quantified--even more subjective questions, such as "How satisfied are you with the quality of service provided by your ISP?" could be quantified by dictating a "1-5" response (i.e., "5" means "very satisfied and "1" means "not at all satisfied"). Therefore, user responses to such a questionnaire would lend themselves well to comparison across organizations over a period of time and could be easily stored in electronic format.

## ***Annex A -- Organization List***

### **Pop/Health/Nutrition**

Action Against Hunger (Action Contre le Faim)  
Christine Lacan  
Rue Sa de Miranda, #64  
CP 1506 Maputo, Mozambique  
tel: 42-63-19; email: aicf@aicf.uem.mz

Adventist Development and Relief Agency  
David Tejel  
Av. Eduardo Mondlane, 2091  
Maputo  
tel: 42-36-82, 43-01-98; fax: 42-04-87

AMODEFA (Associacao Mocambicana Para o Desenvolvimento da Familia)  
Isabel Lena Muchanga  
Av. Armando Tivane, #890  
Maputo, Mocambique  
tel: 49-38-64; fax: 49-12-36

CARE International em Mocambique  
Beat J. Rohr  
Av. Mart. de Mueda, 596  
C.P. 4657  
Maputo, Mozambique  
Tel: 49-20-64/6; Fax: 49-20-77

### **FHI**

Population Services International (PSI)  
Clayton Davis, Representante em Mocambique  
Av. Patrice Lumumba, 204  
C.P. 4059  
Maputo, Mocambique  
tel: 430-638/307; fax: 430-636  
email: cdavis@psimz.uem.mz

Save the Children  
Jim Wright, Deputy Director  
1489 Av. Tomas Nduda  
C.P. 1854

Maputo, Mocambique  
Tel: 49-32-83, 49-31-40; fax: 49-31-21

University Research Corporation  
Mary Ann Abeyta Behnke  
Chiefe do Projecto  
Av. Julius Nyere 657, 1 Andar  
Caixa Postal: 1622  
Maputo, Mozambique  
fax: 49-41-44 phone: 49-44-86  
email: phcs@urc.uem.mz

### **Economic Growth/Agriculture**

Austral

Cashew Working Group  
Irene de Souza  
Executive Secretary  
tel: 43-12-06, 40-06-86/7; fax: 40-00-17  
or  
Assessora para Recusos Humanos e Relacoes Publicas  
Grupo Entrepoto  
Av. do Trabalho, 2106  
Caixa Postal 1153  
Maputo, Mozambique  
email: 100077.1566@compuserve.com

CBE, Consultores Mocambique  
Nuno Sidonio Winge and Gabriel Tomaz Machado, Directors  
Av. Ahmed Sekou Toure, # 1919, 8 Andar  
Caixa Postal 636  
Maputo, Mocambique  
tel: 42-61-34; fax: 42-41-71  
email: cbe@cbemoc.uem.mz

US - Mozambique Chamber of Commerce  
Paulo Guilherme Negrao  
Gabinete de Estudos e Projectos  
Grupo Joao Ferreira dos Santos  
Av. Samora Machel, 47  
Maputo, Mozambique  
C.P. 1600 Tel: (258-1)426175/77/79 Fax: 420129  
email: pnegrao@gruposjfs.uem.mz

Commercial Association of Mozambique  
Mario Amad Ussene, Presidente  
Insta. FACIM  
Pavilhao #30  
C. Postal #1761  
Maputo, Mozambique  
fax: 42-43-88 phone: 42-43-87

Credicoop, Cooperativa de Credito e Investimento  
Alkis Macropulos, Director  
tel: 42-13-75, 42-12-91, 42-13-72; fax: 47-52-18

Entrepoto  
Dr. J. Vincente da Cruz  
Administrador  
Grupo Entrepoto  
Companhia de Mocambique, S.A.R.L.  
Av. do Trabalho, 2106  
P.O. Box 1153  
Maputo, Mozambique  
Tel: 40-03-21, 40-05-45; Fax: 40-11-64

Equator  
Lisa M. Audet, Assistant Vice President  
Rua da Imprensa, #256  
5 Andar, Suite 522/523  
Predio 33 Andarres  
Maputo, Mozambique  
tel: 43-19-19; fax: 43-19-18

Seabord (Beira)

UTRE (Unidade Tecnica Para a Reestruturacao de Empresas)  
Arahni Judith Sont, Consultora em Marketing  
Ministerio do Plano e Financas, Republica de Mocambique  
Rua da Imprensa, 256  
Predio "33 Andares", 7th Andar  
C.P. 4350  
Maputo, Mozambique  
Tel: 258-1- 426514/5/6; Fax: 421541  
Email: rani@utre.uem.mz

World Vision (Maputo and Beira)  
Jon White, Director  
Av. Paulo Samuel Kankhomba, 1170  
Caixa Postal 2531

Maputo, Mocambique  
Tel: 42-63-12, 42-29-22, 42-67-43; fax: 42-14-46, 42-86-24  
email: jon\_white@wvi.org  
and  
Eric Schmidt, Ag engineer  
Fernaõ Magalhaes, 62  
Ponta-Gea  
Beira, Mocambique  
tel: (h) 03-31-29-95, (w) 03-32-93-89; fax: 03-32-90-60  
email: eric\_schmidt@wvi.org

### **Democracy/Governance**

Technical Secretariat for Electoral Administration (STAE)  
Armenio Correia, General Director  
100, Dr. Almeida Ribeiro Street  
Maputo, Mozambique  
Tel: 42-77-23; fax: 42-77-40

Forum Muhler (Coordination for Women in Development)  
Cidia Monteiro, Coordinator  
P.O. Box 3632, Maputo 3, Mozambique  
Rua Pereira do Lago, 147, sobre-loja  
tel/fax: 493437

SLIM (National workers syndicate)  
Jeremiah Timane  
Av. 24 de julho, 2341 - 5th floor  
Predio do Ministerio do Trabalho  
tel: 42-11-59

### **Environment**

IUCN  
Simon Anstey and Maria da Luz Duarte  
The World Conservation Union (IUCN)  
Rua Armando Tivane, #971  
Maputo, Mocambique  
tel: 49-28-15; fax: 49-08-12; email: mld@uicn.uem.mz

### **Others**

Centro de Informatica da Universidade Eduardo Mondlane (CIUME)  
Venancio Massingue, Director  
Americo Muchanga

ph: 49-15-57 email: venancio@bravo.uem.mz

Catholic University of Mozambique (Beira)

Fundo Nacional do Turismo (FUTUR)

LINK

Gil Manuel, Information Officer

Augusto Pinto Novo, Program Manager

Rua Mariano Machado, 56

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Maputo, Mocambique

tel: 42-41-00, 42-36-96; fax: 42-33-77;

email: gil@link.uem.mz & novo@link.uem.mz

Pangolim

Joao dos Santos, Director Geral

Av. Agostinho Neto, #17

tel: 49-06-74/5; fax: 49-24-93

United Nations Sustainable Development Networking Program

SATCC

TDM

Luis Mhula, Director of Network Mangmnt & Technical Support

Antonio Sousa

TDM (Telecomunicacoes de Mocambique)

Av. Kim Il Sung

P.O. Box 3696

Maputo, Mocambique

Tel: 49-22-36, 43-19-21; fax 49-22-43

USIS

Adrienne S. O'Neal, Director of Information & Culture

Embaixada dos Estados Unidos da America

Av. Mao Tse Tung, 542

Maputo, Mozambique

Telephone: 49-19-16, 49-11-16

Various media reps

## **Government**

Ministry of Agriculture

Clementina Machungo, Eng. Agronoma, Directora Nacional

Direccao Nacional de Estensao Rural  
Ministerio da Agricultura e Pescas  
Praca dos Herois Mocambicanos  
Maputo, Mozambique  
Tel: 460232; Fax: 460027

or

Emmy Bosten (Information and Communications person)  
Min. of Agriculture  
tel: 460280; fax: 460027  
email: emmy@fem.uem.mz

Ministry of Commerce Internal Trade Office  
Ministerio da Industria Comercio e Turismo  
Luis Eduardo Siteo, National Director  
Praca 25 de Junho  
Maputo, Mozambique

Ministry of Communications

Ministry of Environment (MICOA)  
Teresa Alfaro  
tel: 465708, 465843/51, 466059; fax: 465849

National Assembly  
David Sibambo, Secretary-General  
Assembly of the Republic (National Assembly)  
Av. 24 de Julho, #3573  
Maputo, Mocambique  
tel: 40-08-70, 40-08-69

Supreme Court  
Norberto Carrilho, Vice-President  
Av. Vladimir Lenin, 103  
tel: 42-66-42

***Annex B -- Development Information and Communications Training  
Workshop***

Documents

Scope of Work

Summary Agenda

## **Development Information and Communications Training Workshop**

**Conducted by Staff of the Research and Reference Services Project  
and the Economic and Social Data Services Project**

**USAID Center for Development Information and Evaluation**

### **Scope of Work**

#### **Background**

USAID/\_\_\_\_\_ is preparing itself to assist the host country to develop its capacity as an information and knowledge-based society and economy. To increase the Mission's capacity in this effort, it has been determined that Mission staff capacity in the use of information and communications as development tools needs to be increased. Staff need training in information access, analysis and dissemination. Staff need training on how existing and emerging information and communications tools, such as CDIE information services and the Internet, can be used to support an integrated agenda of research, project planning and design, and support to local institutions in their own development of information use and communications skills.

#### **Proposed Training Design**

The Mission proposes that a TDY team from CDIE assist the Mission in developing its internal capacity to use information and communications and to integrate their use into the Mission's program of assistance to host country institutions. The TDY team will consist of two individuals from the CDIE Research and Reference Services Project (R&RS) and one individual from the CDIE Economic and Social Data Services Project (ESDS). The three TDY team members are requested to travel on -----, 1997 in order to perform information resources surveys in local institutions identified by the Mission. The TDY team members will conduct interviews in the institutions in order to: 1) determine the nature and extent of information and communication resources available in the institutions, including print and electronic resources; and 2) determine if and how these resources may be made available to the Mission. TDY Team members will also conduct information needs surveys among technical staff in the Mission. Development information and communication training in the Mission will be held for all Mission staff beginning on Monday, -----, 1997.

The purpose of the proposed training is to introduce to Mission staff important information resources and to demonstrate to staff how these resources can best be used to improve the results of the Mission program. Training sessions with Strategic Objective teams will emphasize information resources vital for that particular sector. One TDY team member will meet in a special session with each Strategic Objective team to discuss how the Mission can transfer its increased capacity in information use and communications to local institutions supported by the Mission. A detailed agenda is attached. A daily summary of the training follows:

#### Monday, -----, 1997

TDY team members will first meet with the Mission Director and invited Senior Staff for a briefing on the training agenda, and then will make a short presentation at a Mission full staff briefing in order to introduce the training and its value and encourage active participation. The

training day will begin with a day of presentations, discussions and demonstrations on CDIE information resources and services as provided by the R&RS and ESDS Projects. The importance of Mission participation in CDIE's document acquisitions agenda will be emphasized. The first day will conclude with a brief slide show on the Internet, emphasizing the wealth of information resources this global service provides and the challenges of using it efficiently and effectively as a research tool. This will serve to introduce Mission staff to the Internet Resources Workshop which will be expanded in the remaining days of the TDY.

Tuesday, ----- 1997

The focus of day two is on how Mission staff might best take advantage of information resources available to them through their USAID-provided Internet email connection. The bulk of the day will be spent in small group sessions where TDY team members will meet with Strategic Objective teams to discuss Internet email resources important to their sectors, and in individual sessions where TDY team members will work one-on-one with Mission staff to help them locate specific Internet email resources for their current and planned information needs. TDY team members will emphasize how these resources can assist staff in their varied tasks. The ESDS TDY team member will conduct ESDS database demonstrations and training throughout the day.

Wednesday, -----, 1997

The Internet Resources Workshop will continue in day three of the training with a focus on Telnet, FTP and Gopher sites useful for the Strategic Objective teams' information and research needs. In the afternoon, the TDY team will introduce Mission staff to useful World Wide Web sites and services as additional Internet resources which can be valuable research and reference tools. The ESDS TDY team member will continue to conduct ESDS database demonstrations and training during day three.

Thursday, -----, 1997

This day will be dedicated to individual sessions with Mission staff to provide individualized training and attention to individual information and research needs. TDY team members will review any of the resources covered in the training with Mission staff who sign up for individual sessions. TDY team members will also set up meetings with key Mission personnel to further promote Mission participation in CDIE's document acquisitions agenda.

Friday, -----, 1997

The final day of the training will begin with sessions on USAID's role in promoting the strategic use of information and communication in the host country. The role of information in institutional capacity building will be discussed and observations based on the earlier information resources surveys in local institutions will be made. The day will then continue with additional individualized sessions in electronic information resources and the strategic use of information. The day will conclude with two briefings: 1) a full staff briefing to summarize the TDY team's observations and put forward ideas for possible follow-up to the training which the Mission may wish to consider; and 2) an exit briefing with the Mission Director.

## Development Information and Communications Training Workshop

Conducted by Staff of the Research and Reference Services Project  
and the Economic and Social Data Services Project  
USAID Center for Development Information and Evaluation

### Summary Agenda

Time	Monday	Tuesday	Wednesday	Thursday	Friday
<b>8:00 a.m.</b>	<i>TDY Team Meets with Mission Director</i>	<i>Internet Workshop - Advanced Email - Mailing Lists</i>	<i>Internet Workshop - Telnet - FTP - Gopher</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Communication, Institutional Capacity Building and Sustainability, USAID's Role</i>
<b>9:00 a.m.</b>	<i>Full Staff Briefing  Sign up for Individual Sessions</i>	<i>Small Group Sessions in Advanced Email along SO Team Lines (repeated at 1:30 p.m.)</i>	<i>Small Group Sessions in Telnet, FTP, Gopher along SO Team Lines</i>	<i>Individual Sessions in Electronic Information Resources (DCS,</i>	<i>USAID Support of Improved Communications in Local Institutions</i>
<b>10:00 a.m.</b>	<i>Seminar Introduction -Info. &amp; Reengineering -Devel. Communications -USAID's Role</i>	<i>Individual Sessions in Advanced Email (repeated at 2:30)  ESDS Demos</i>	<i>Small Group Sessions in Telnet, FTP, Gopher along SO Team Lines</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Individual Sessions in Electronic Information Resources and Communications Planning</i>
<b>11:00 a.m.</b>	<i>CDIE's Research and Reference Services Project</i>	<i>Individual Sessions in Advanced Email  ESDS Demos</i>	<i>Individual Sessions in Telnet, FTP, Gopher  ESDS Demos</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Individual Sessions in Electronic Information Resources and Communications Planning</i>
<b>12:30 p.m.</b>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
<b>1:30 p.m.</b>	<i>CDIE's Economic and Social Data Services Project</i>	<i>Small Group Sessions in Advanced Email along SO Team Lines</i>	<i>Internet Workshop - World Wide Web - Internet Relay Chat - Audio and Video</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Individual Sessions in Electronic Information Resources and Communications Planning</i>
<b>2:30 p.m.</b>	<i>Small Group Training Sessions - ESDS Demos - R&amp;RS Help - CD-DIS Demos</i>	<i>Individual Sessions in Advanced Email  ESDS Demos</i>	<i>Small Group Sessions in WWW along SO Team Lines  ESDS Demos</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Individual Sessions in Electronic Information Resources and Communications Planning</i>
<b>3:30 p.m.</b>	<i>Internet Introduction &amp; Quick Tour Slide Show</i>	<i>Individual Sessions in Advanced Email  ESDS Demos</i>	<i>Small Group Sessions in WWW along SO Team Lines  ESDS Demos</i>	<i>Individual Sessions in Electronic Information Resources</i>	<i>Final Full Staff Briefing - Findings and Recommendations</i>
<b>5:00 p.m.*</b>	<i>End of Training</i>	<i>End of Training</i>	<i>End of Training</i>	<i>End of Training</i>	<i>End of Training</i>

## ***ANNEX D -- Electronic Networking in the Age of Internet***

# ***ELECTRONIC NETWORKING IN THE AGE OF INTERNET: A FRAMEWORK FOR IMPROVED COMMUNICATION AND COOPERATION***

by Jeff Bland  
for the Regional Center for Southern Africa  
USAID

## **INTRODUCTION**

As stated in the *Strategic Start-Up Framework for the ISA*, strategy will focus on:

- a) Getting key regional stakeholders to search for new ways of promoting regional cooperation;
- b) Creating new ways to identify and respond to important unmet needs of underserved stakeholders;
- c) Mobilizing financial and technical resources from many sources;
- d) Developing innovative program management and implementation arrangements; and
- e) Enticing increased collaboration amongst regional stakeholders, between regional stakeholders and USAID constituent groups, as well as increased collaboration between USAID and other donors.

To some degree or another, the Internet can be an effective tool for achieving the above results. It can do so first and foremost by making communications between all Internet users easier, faster, more flexible, more powerful--and cheaper. Within five years, E-mail (at the least) and Internet (at the most) will be as essential to most organizations, governments, and businesses as word-processing programs are now. In a sense the Internet is bringing the world together in a way barely dreamed of just five years ago. Schoolchildren routinely communicate with peers worldwide (translation software will soon make language barriers irrelevant as well). News travels almost instantaneously and up-to-date editions of newspapers and journals are available anywhere there is Internet. Considering the myriad of ways in which the Internet is making the world a smaller place, it holds great promise for bringing southern Africa together as well.

### **Benefits of/Barriers to Internet Use**

In brief, a few of the benefits offered by the Internet include:

- a) Improved communication, administration, and logistics;
- b) Ability to share experiences and lessons learned;

- c) Ability to create a regional knowledge base;
- d) Encourages cooperation for solution to regional problems; and
- e) Ability to disseminate research and publications relevant to regional joint projects.

Barriers to Internet use include:

- a) Poor telecommunications infrastructure/telephone lines;
- b) Outdated (or simply obstructionist) telecommunications policies, often advanced by a state-owned telecommunications company that stands to lose from liberalization;
- c) High telecommunications costs, often resulting from "b" above;
- d) Lack of/high cost of telecommunications equipment;
- e) Lack of technical knowledge for installation and maintenance of computer systems and hardware;
- f) Countries--as well as organizations--at vastly different levels within the region. Existence of computer "haves" and "have nots;"
- g) Lack of widespread experience with and use of computers; and
- h) Lack of an "information culture" within society (i.e., widespread lack of appreciation for the value of information or an understanding of how it can be used effectively).

## **STEP ONE: E-MAIL CONNECTIVITY**

Bringing full Internet connectivity to a wide range of organizations within a country can be a long and difficult process. This is especially true when policy is ill-suited to advanced telecommunications, when a "computer/information culture" is nascent or non-existent, and when information infrastructure is poor; unfortunately, such is the case in most of southern Africa. Nonetheless, organizations can benefit from more advanced telecommunications and information exchange in spite of these constraints. In most cases, any individual with a computer, a modem, and a telephone line can connect to others via E-mail.

1. The mission should identify key SADC partners that would be the best candidates for basic E-mail. There are scores of organizations across the twelve ISA countries and four SOs, so only select organizations will be able to receive assistance. Assistance could be provided on all four SO fronts at once, or one specific SO could be targeted as a "test bed" for initial efforts. Lessons learned could then be incorporated into subsequent work in the other SO areas. The following criteria could be used to make selections:

- a) Selected organizations must have the basic computer infrastructure to use E-mail, in terms of machines and human skills. USAID needs to target organizations that can "hit the ground running" and that can help other organizations once they are up to speed. It may not be cost

effective to supply computers and basic training for E-mail connectivity, but if an organization would appear to benefit enough from E-mail alone, providing computers might be worthwhile.

b) AfricaLink is the best resource for this activity; however, in the interest of getting as many organizations access to E-mail as quickly as possible, the mission should not hesitate to use other projects such as "Toolnet" and "Healthnet."

c) One possible target to aim for would be to hook up one organization in each SO in each ISA country, yielding about 50 organizations to be connected--this seems like a reasonable number to strive for in, say, six months.

2. Once the 50 or so groups have E-mail access, there must be ways to ensure that:

a) They (or at least one person in the organization) know how to use the system;

b) They use their E-mail instead of letting the system gather dust;

c) They know how to contact one another and have access to useful applications (like discussion groups, etc.)

3. One organization or even individual should operate as an electronic communications "clearinghouse". Its functions could include:

a) Maintaining a directory of current E-mail users, adding new users/organizations to the directory as they come on-line. This list could be distributed--via E-mail of course--to all SADC participants on a weekly basis or as needed;

b) Maintaining a "listserv" on general issues germane to SADC members. This listserv could be general at first, generating interest in the concept. As demands for additional listservs arise, other groups/individuals could take on the responsibility of maintaining those (i.e., an NGO focussed on agriculture could maintain an agricultural listserv);

c) Serving as a central "help desk" for E-mail related questions (hopefully, most of these questions could come via E-mail);

d) Maintaining a repository of electronic documents on the general use of E-mail, listservs, etc.

These functions together constitute a fairly large responsibility for one individual/organization. It should not be expected that a group could or would be willing to take this on without additional resources. Funding for a full-time person knowledgeable in this area--who could keep this resource center (actually, the "center" could simply be a computer with all the electronic information in its hard drive) going--would represent a wise investment indeed. The rewards of an E-mail connected SADC using the tools described above would not only yield immediate payoffs in administrative efficiency and new-found communication, but would also lay the groundwork for more effective use of full Internet once it becomes available.

## **STEP TWO: BUILDING ON THE E-MAIL FOUNDATION**

E-mail connectivity represents a first step on the path to harnessing the Internet's considerable potential for information dissemination, exchange, and retrieval. It is a benefit that can be provided to a significant number of partners in a relatively short period of time. Full Internet connectivity will be longer in coming for most SADC countries, but the technology offers several very useful services in addition to E-mail.

### **"Full" Internet Applications**

a) Local access of remote databases and the ability to retrieve files from those databases. For example, a user in Gaborone could use the Internet to identify "servers" (remote databases) dealing with sorghum research. With a click of the mouse, the user could then choose a server from the list and connect to it--let's say this particular one is at the USDA offices in Greenbelt, Maryland. He or she could then search the database for occurrences of specific "keywords"--let's say he or she is looking for documents on "drought resistance". The remote server would then search all the full-text documents that reside in its database for the occurrence of those two words. It would then fetch the relevant documents and send a list of the applicable documents to the searcher in Gaborone. The searcher could then retrieve one or more of these documents--the document now resides on the user's computer in Gaborone. The user can now do whatever he or she wants with it--print in out, send it via E-mail to another person, load it into WordPerfect and manipulate its contents, etc.

b) The ability to "publish" documents on the Internet. The flip-side to getting information as described above is making your own information available to other Internet users. Publications can be disseminated in a highly-polished form through the use of "Web pages". Especially with the advent of commercial software packages designed for formatting documents for this purpose, posting documents on a Web page is simple once the proper hardware is in place. With a Web page presence, organizations can not only make their research available to the tens of millions of other users on the Internet, but can also advertise their presence as well.

c) Provide searchable directories of data and information. The Internet's World Wide Web feature can be used to solicit information from users and put this information into database format. For example, a web site could utilize the web's "forms" feature to gather general information on related organizations. When the form feature is invoked, an electronic form appears with blank areas where the user can type in appropriate information (name, phone number, address, etc.). When the user clicks on the button labelled "done", the info he or she has placed on the form is automatically stored in the appropriate database; since the information is already categorized, the database's contents can be easily manipulated, transmitted, and printed. This represents an extremely powerful tool for generating user directories, mailing lists (E-mail or otherwise), and so forth.

d) In the long-term, the Internet will certainly be commonly used for "teleconferencing". Long-term actually means now in certain parts of the world where bandwidth can support the application. In Southern Africa, the capacity for this is probably at least two years away, but when it becomes available, it will offer considerable cost savings (from reduced airfare) for organizations willing and able to make the investment.

Full Internet connectivity generally requires the presence of Internet Service Providers (ISPs). Unlike E-mail, where FIDONET connections currently exist in most SADC countries, ISPs exist on a commercial level only in South Africa and Zambia. Mozambique and Zimbabwe have full

Internet as well, but only at their universities. Thus, widespread use of full-Internet services in most SADC member-states will first require the formation of ISP industries. This can be a complicated process and, in many African countries, involves overcoming government policy barriers that act as an immediate brake on provision of the Internet. The Leland Initiative is working on effecting these policy changes and is addressing technical and training issues as well.

Once ISP networks are in place, SADC partners can be given the assistance they need in connecting to the Internet. Technical assistance could take the following forms.

### **First Steps for Internet Connectivity and Use**

a) Identification of ISPs within the partners' geographic areas. To connect to the Internet, an organization must first contact a business that offers Internet connectivity. Preferably, the ISP will be within range of a local phone, thereby reducing phone charges while connected to the Internet. In some cases, however, Internet connectivity may be worth a long-distance phone call to a neighboring country if the service is not available locally. Whatever the case, if only one ISP exists, then choosing is simple. However, if the partner has the luxury of choosing from more than one ISP, then choosing the best service could be complicated as ISPs typically offer a number of different pricing/service packages to satisfy a range of needs.

b) Provision of basic computer hardware. Again, as with E-mail connectivity, it may not be feasible to provide new computers to organizations for Internet access alone--this is especially true for full Internet use, since Internet use beyond E-mail generally requires a 486-class machine or above. However, modems might be a good investment if they are the only barrier to a partner connecting to the Net.

Dealing with hardware problems will be an ongoing issue since servicing is unavailable, inadequate, or relatively expensive in much of southern Africa. There are currently no easy answers to this issue--considering maintenance problems, however, the choice of relatively simple (i.e., with few "bells and whistles," such as CD-rom drives, sound cards, microphones, etc.) machines of good reputation and with external modems (easier to access and send off for servicing than internal modems) would be desirable. Laptop/notebook computers can be good choices in terms of maintenance, since they can be shipped off for repair easily and cheaply relative to much heavier and larger desktops.

c) Training and improvement of end-user applications. Getting connected is simply the first step. The Internet's eclectic nature can also make it daunting to use, especially for individuals and organizations with little prior computer experience. New software, such as Netscape Navigator and Microsoft explorer, go a long way towards alleviating this problem through their ease of use and intuitive control panels. These programs could be likened to "Windows" software for the Internet--just as the difference between Windows and DOS is huge, so is the difference between using Netscape to surf the Web and doing the same with UNIX line commands. Even so, finding the information you need can often be like finding a needle in a haystack. There is simply a vast, vast amount of information available on the Internet, and new users would benefit greatly from learning about the best strategies for sifting through all this information.

## **STEP THREE: GETTING THE MOST FROM**

## **THE INFORMATION SUPERHIGHWAY**

By the time an organization is ready to really use the Internet to its fullest, it almost certainly will have done the following, not necessarily in this order:

- a) It has been using E-mail for some time and incorporates its use as an important daily tool.
- b) It has an extensive portfolio of routine E-mail contacts and knows how to seek out organizations/individuals for which it doesn't already have addresses.
- c) It knows what organizations in its field of interest are "teleconnected," how to contact them via E-mail, and what they have to offer.
- d) It has a certain level of understanding of what the Internet has to offer. Staff members know it exists and some feel comfortable with "surfing" the Web. At this stage, there will probably be a small number of "technology embracers" on staff who are enamored of the technology, but in general the Web is used for simple file downloads and for news.

### **"Leapfrogging"**

The series of steps described above is not always applicable. Unlike most of the developed world, where information technologies such as computers and E-mail have been in use for some time and where progress in information utilization has generally occurred as soon as the technology becomes available, most of Africa is only now beginning to take advantage of this technology. While lack of computerization certainly represents lost opportunities thus far, it does have a bright side.

With the advent of Internet, southern Africa countries can "leapfrog" the incremental steps towards computerization that have occurred in the developed world. This means that partners not only gain the most advanced information tools at once, but--since many are only now beginning to computerize--they also can buy the most appropriate hardware to do so right now, thus avoiding the hardware "obsolescence" that organizations in developed countries now grapple with.

### **Progressing to the "Second Level"**

Using the Internet to its fullest becomes mainly a question of training and organization at this point. Most users have developed a general familiarity with the technology and are comfortable using it. In other words, "first level" barriers--connecting to the Internet, learning how to use its basic applications, and getting as many staff as possible to use it--have been overcome.

Addressing "second level" applications is more complicated. These second level applications include using the World Wide Web as a powerful research tool, harnessing the Internet's power for management/organizational improvement, disseminating organizational information and publications to other Internet users (effectively creating an Internet "presence." These applications are more problematic for two reasons:

- a) Unlike first level applications, higher-level Internet uses can be as varied as one's imagination. Accordingly, each institution must decide for itself how it will use the Internet most

effectively. Something like videoconferencing may be extremely useful and cost-effective for one small business, yet may represent a waste of money for another. Moreover, an organization would benefit from an information/communications strategy that is broader than the Internet alone (but which should certainly include the use of Internet to its fullest).

b) Since second-level applications are typically much more targeted to particular "special interests," appropriate training and resources are less widely available than for first-level uses such as E-mail. Accordingly, it is vital that information/communications strategies and procedures be "institutionalized". In other words, an organization's effective use of Internet and information technologies should not depend upon or reside in one individual alone. If this happens, then the organization's effective use of information may vanish as soon as that one individual leaves. Thus, it is vital that advanced Internet/information technology use become a daily routine for as many users as possible rather than simply a mandate forced from somewhere above.

Fortunately, once individuals and the organization as a whole realize what the technology offers, it will become an integral part of the daily routine because in the long-run it makes everyone's job easier and makes the organization more efficient and effective.

## **AN AGENDA FOR ACTION**

### **Connectivity/Identification/Communication**

a) Work closely with the AfricaLink project to provide SADC partners with E-mail connectivity. Consider providing funding--if necessary--to assist in this step. Enlist the aid of organization such as Toolnet if the demand for E-mail connections requires. Internet connectivity beyond E-mail, as stated before, depends on a variety of factors. A number of donor efforts to bring full Internet to sub-Saharan Africa are underway and, combined with movement towards telecommunications liberalization by several SADC countries, will hopefully lead to widespread Internet availability within a few years.

b) Designate an organization(s) or individual(s) as coordinator(s) for E-mail/Internet users. There could be one coordinator for all four ISA strategic objectives, a coordinator for each of the four SOs, or even a coordinator or coordinators for some or all of SADC's seven foci. The point is, coordination of this effort is critical; otherwise, partners that are E-mail connected will not be utilizing the system to its maximum.

### **Coordination**

c) Make the coordinator's first priority the identification of SADC partners' Internet status. The coordinator can do this in coordination with USAID missions, the AfricaLink project, the Leland Initiative and by using published mailing lists, and other resources--all this could be done via the Internet as well. Step two could be bringing these organizations together by sending directories of SADC E-mail/Internet users to all users, by soliciting and disseminating announcements of upcoming events and meetings, by forming listservs, and by providing helpful information on Internet service availability, training resources, etc.

d) Ensure that the coordinator's role remains a fluid one. In other words, although E-mail coordination and utilization will be important and useful initially, the need for this basic service

should eventually decline or become self-sustaining. From that point, the coordinator's role could evolve into that of an Internet facilitator. The coordinator would then move into helping out with the "second level" applications and issues discussed earlier. SADC partners' transition from first level to second level Internet applications should be much smoother and more fruitful if they receive guidance throughout the process.

## **Training**

e) Provide assistance in the form of training/funding for training for Internet users. The Leland Initiative will be addressing this area for full Internet users, but there are a number of current E-mail users who could benefit from this at present.

## **POTENTIAL INTERNET APPLICATIONS BY STRATEGIC OBJECTIVE**

### **Strengthened Democratic Processes and Values**

a) Newspapers can publish on the Web, thus reaching a much larger potential audience and spreading word of democratic injustices quickly and broadly.

b) Constitutions, legislation, and judicial rulings can be made available over the Internet. The information can be released essentially at once and at little cost. Furthermore, it will be much more "searchable" and user-friendly than reams of hardbound text are.

c) Special interest groups can organize and advertise via the Internet, making their existence known to users worldwide and disseminating the information they feel is valuable to millions.

d) The Internet could prove invaluable as a coordinating tool for regional and intracountry initiatives concerning human rights, voting, and so forth. It could also serve to make the monitoring of human rights, voting, etc. much easier and quicker. Instances of human rights abuses can be widely reported quickly and forces can be marshalled to deal with the situation quickly.

### **Increased Indigenous Business Development and Ownership**

a) Businesses and associations can "advertise" for capital using the World Wide Web. In fact, many innovative SMEs in the United States and elsewhere have found the Web to be a useful tool for advertising their wares (as doing a search for "ostrich farm" on the Web will prove). Investors world-wide are surely beginning to appreciate the power of the Internet as a research tool, so having a presence there could prove fortuitous.

b) The World Wide Web provides an ideal vehicle for marketing and selling goods. In the short-term, it would be relatively easy for even the smallest of businesses to post a Web page. In the longer-term, with the availability of "secure transaction" lines (allowing for safe use of credit cards for Web purchases), businesses could even take orders on the Internet and ship products to consumers worldwide.

c) Business associations can benefit from the communications, research, publications, and organizational/administration capabilities of the Internet. Broad use of the Internet by association

members would cut down on costs previously incurred by faxing/phoning long-distance, as well as travel costs. The association can make its publications available to members on a Web page. The Internet could be used to gather and process general information on member activities. Finally, the Internet can be used as a research tool for designing association activities and policies.

### **Sustainable Increase in Productivity of Agriculture and Natural Resources by Smallholders**

a) The Internet would prove valuable to agriculture research organizations in a variety of ways. It could be used for basic research on crops and livestock, since many other agricultural research organizations make their publications and research available on the Internet. The Internet could be used to coordinate agricultural research--a single Web page, for example, could serve as a central depository for relevant organizations' research, thereby allowing instant access to--and feedback from--similar organizations within and without the SADC network.

b) The Internet could be used as a powerful monitoring and reporting mechanism. Data from far-flung regions could be electronically sent to a central site for synthesis and analysis. Furthermore, if the data is of a time-sensitive nature (such as weather reports and disease outbreaks), use of the Internet offers a considerable advantage over any other method of data delivery.

c) Smallholders themselves would benefit from information readily available on the Internet. A few examples of available information include weather information (even satellite images); current international prices for commodities of all types; projections and analysis for commodity prices (although much of this information would surely be fee-based); information on innovative farming techniques; information/alerts on disease and pest infestations; and many others. Considering the isolated nature of farming, the Internet represents an ideal way to bring the outside world to a smallholder's remote corner.

### **Increased Efficiency, Reliability and Competitiveness of Regional Transport and Telecommunications**

a) Telecommunications infrastructure and the Internet are obviously closely related. Improvements in Internet access would itself constitute an improvement in telecom infrastructure and vice-versa.

b) Shipping can be coordinated via the Internet. Whether by rail, road, or water, the Internet's advantages in terms of speed and (in the near future) ubiquity will make it a first choice for identifying the most efficient means of transporting goods and tracking those goods as they cross check-points en route to their destination, however far away that may be and regardless of a change in modality (for example, if the product is transferred from the road to rail at some point). This can be particularly important for many agricultural goods, where spoilage can result from bottlenecks in distribution. Furthermore, if southern Africa is to harness the power of "just in time" manufacturing techniques (also known as "lean manufacturing"), the Internet should be enlisted to enable the precision timing and coordination critical to the process.

## SUPPORT OPTIONS

Leland - The Leland Initiative will be enhancing the environment for an infrastructure to support the commercial viability of Internet in the Southern African region. This will clearly be an asset to RCSA as it develops a regional program. The work of the TELCOMS project will also be very supportive in creating this environment. The Leland team should keep Wade Warren informed of all work being done in the region so they can support each other in their talks and negotiations.

The Leland Initiative is also prepared to provide training to Mission staff and their partners on the use of Internet as a development tool.

AfricaLink - AfricaLink is uniquely equipped to provide initial hook ups to email or Internet for individual organizations, with start up training. It has extensive experience in this field and is already doing so in the agriculture sector.

CDIE/Research and Reference Services Project - Remember RCSA currently has \$15,000 "in the bank" for R&RS services. R&RS has experience in communication/information strategy development; establishing and maintaining networks; writing, editing, publishing and disseminating both paper and electronic publications; managing electronic conferences and discussion groups; creating Regional Information Clearinghouse for Central America as well as the Africa Bureau Democracy/Governance Information Center; training in Information as a Development Tool; and basic research and information services. The R&RS contract allows for buy-ins in any of the above areas and also has a provision for development of additional regional information centers. This could be very helpful in providing guidance and support to RCSA's coordination needs in the networking, information dissemination and training arenas.

## INTERVIEW SUMMARIES

### **Action Contre le Faim (Action Against Hunger)**

Christine Lacan  
Rue Sa de Miranda, #64  
CP 1506 Maputo, Mozambique

tel: 42-63-19  
email: aicf@aicf.uem.mz

#### Overview

Action Contre le Faim is a French organization that works in rural areas to support nutrition, water, and agriculture work. Its main offices are in Beira. They work with Food for Health International, World Vision, and some local NGOs. Technical information is obtained through donors (80% of funding comes from USAID). They would be interested in full Internet link if it could be had at a "reasonable" cost (they spend about \$25/month for e-mail only right now).

#### Interesting Points

- Christine operates solely with a laptop, and she indicated that this works very well for her.

#### Inventory

- They have an e-mail hook-up with UEM, but have had some difficulties with connections.
- ACF is setting up an internal, proprietary system that will link offices in 27 countries with Paris. This system will be designed to address difficulties in coordinating activities resulting from communications shortcomings.

### **ADRA (Adventist Development and Relief Agency)**

#### Overview

ADRA manages a water project in Chomoio and also does some work in cashew forestry and other rural development work. It does some of its work in remote areas. ADRA has been in Mozambique for 7 years and currently has a staff of about 100-150. Works with smallholders, agroforestry engineers and nutrition workers, providing technical assistance. Some of its work is financed through Title II. The information produced by ADRA consists mainly of contractual reports (quarterly, monthly updates, etc).

#### Interesting Points

- Currently using Compuserve for communications through the local company, Dataserve, but this costs about \$600/mo. Uses Compuserve to: communicate with Washington through which

they receive some technical information; communicate with other ADRA country offices and with other relevant groups around the world and in Mozambique (World Vision, CARE).

- Does not currently participate on any listservs.
- Previously had an e-mail account with CIUEM for three months, but they dropped it because it did not work properly.
- Has a small resource center that serves in-country employees.

### Inventory

- Three telephone lines;
- One 9,600 baud modem;
- Seven 386-class PCs;
- Four 486-class PCs.

### **AMODEFA (Associacao Mocambicana Para o Desenvolvimento da Familia)**

Isabel Lena Muchanga  
Avenue Armando Tivane, #890  
Maputo, Mocambique

tel: 49-38-64  
fax: 49-12-36

### Overview

AMODEFA is a family planning association for Mozambique. It is affiliated with International Planned Parenthood Foundation, through which virtually all its support derives. AMODEFA works with NGOs, the Mozambican government (Ministry of Health), and in schools to promote family planning and condom use for the prevention of AIDS/STDs. It is currently trying to expand more into other provinces. Uses a network of volunteers, including doctors, nurses, and other health care workers.

AMODEFA uses radio and video (they have their own audio/video equipment--including a television and videocassette recorder) for presentations at factories and schools. They are a member of LINK, the NGO consortium, so they have a network at the ready there for sharing resources. Also have contact with regional groups for annual meetings, but e-mail network would clearly be a big help for maintaining closer contacts and sharing of information.

### Interesting Points

- Relies mostly on fax and phone for communications with IPPF in Nairobi and London, as well as for communication with field staff within Mozambique.
- IPPF (International Planned Parenthood Foundation) is their main sponsor.

- Has never seen or used the Internet before--also has little experience with e-mail. Really in need of training.

### Inventory

- Just got an e-mail account with IUECM, although they had yet to use it;
- Has 3 computers (two donated by IPPF and one by Medecins Sans Frontiers);
- Has a TV and VCR which they take with them to schools for training purposes.

### **Assembly of the Republic (Mozambican National Assembly)**

David Sibambo, Secretary-General

Avenue 24 de Julho, #3573

Maputo, Mocambique

tel: 40-08-70, 40-08-69

### Overview

There are 250 Ministers of Parliament (MPs) in the Assembly who are in Maputo for only 90-120 days out of the year. There are not enough offices for them right now, so (with possible support from the Chinese) they are exploring the addition of two annexes to allow for additional meeting rooms and offices. When MPs are not in Maputo, communications among them out in the country are difficult and expensive. Accordingly, they would like to have at least one office in each province that would serve as a contact point for the MPs to get information, make requests, and basically stay in touch with what's happening.

Denmark and the Netherlands may possibly help to upgrade the communications infrastructure for the Assembly, and they prepared a report on it that we were able to pick up from Carole Martin at the USAID mission. They're looking at funding microphones, a public announcement system, and training of documentation center personnel. The State University of New York is USAID's principal link for Assembly support, and they are also looking at various issues relating to communications.

The documentation center is too small and poorly organized. They have about 3 or 4 people to staff it, but Sibambo says it is not used very much. The center receives donations of material from various organizations, but much of this is not even written in Portuguese. Within the center, it is difficult to find information. They are beginning to explore the possibility of implementing a computer cataloging system, but these efforts have a long ways to go.

### Interesting Points

- The Assembly could really benefit from an Internet connection and Internet training for the staff so it could serve as a resource for the Assembly, a mechanism that could supply important information on pressing issues being considered by the Assembly.
- The Assembly would like to establish a network within the assembly with future potential for TV transmission (video transmission).

- Various donors have in the past donated different types of PCs--this has led to compatibility problems.

### Inventory

- Fourteen 486-class PCs;
- One modem (unsure of baud rate);
- Wiring system for a LAN is in place, but they have not yet set it up fully, as they need a server for the LAN.

### **Associacao Comercial de Mocambique**

Mario Amad Ussene, Presidente

Insta. FACIM

Pavilhao #30

C. Postal #1761

Maputo, Mozambique

fax: 42-43-88

phone: 42-43-87

### Overview

The climate for business in Mozambique is improving, but more needs to be done (not related to IT, but the security issue is very important for creating a favorable environment for business to come in--people won't come in if they don't feel safe). This trade association represents the voice of businesses--a voice they are trying to make stronger--to the government. There are 450 companies represented by the Commercial Association in Maputo, while other trade associations represent firms in Beira and elsewhere. Seeking assistance from donors to help set up offices and improve capacity.

Mario told us that the association is very interested in and hungry for information of all types, from general information on Mozambique to laws, duties, and economic statistics from around the world. It would also like to be able to provide to others information about itself and the companies it represents, hopefully increasing regional cooperation at the same time.

### Interesting Points

- Fax and phone are main lines of communication right now.

### Inventory

### **CARE International em Mocambique**

Beat J. Rohr

Avenue Mart. de Mueda, 596

C.P. 4657

Maputo, Mozambique

Tel: 49-20-64/6  
Fax: 49-20-77

### Overview

CARE is working in water, health, and rural development in 3 provinces of the country. Much need for institutional training for local NGOs on computers, technical support training, and language. THE PVO SUPPORT PROJECT WOULD PROBABLY BE A GOOD AVENUE FOR COORDINATING SOME INSTITUTIONAL TRAINING ACTIVITIES. Public access points would be important. Would be worth looking into store and forward systems for those in rural areas and those without much resources to devote to this.

### Interesting Points

- CARE (Beat) participates on a couple of listservs including "Dev-L."
- CARE has problems communicating with local NGOs that do not have e-mail and no longer does business with vendors that do not have e-mail.
- Uses "Fax-Away" to send its faxes. "Fax-Away" involves sending an Internet e-mail to an office in New York, where the electronic file is then faxed to its destination. Advantage to this system is that it is much, much, much cheaper than trying to send the fax straight from Mozambique.

### Inventory

- 25 PCs in Maputo offices--about 25 more in provincial offices (unsure of machine types, but almost certain that they are all 486s or above);
- Have UEM email accounts for offices in Maputo and for two of the provincial offices;
- Maputo office set up on a Novell LAN. Probably would only have one Net access for office rather than at everyone's desk.

### **Cashew Working Group**

Irene de Souza  
Executive Secretary

tel: 43-12-06, 40-06-86/7  
fax: 40-00-17

or

Assessora para Recusos Humanos e Relacoes Publicas  
Grupo Entrepoto  
Av. do Trabalho, 2106  
Caixa Postal 1153  
Maputo, Mozambique

email: 100077.1566@compuserve.com

## Overview

The CWG is a group of private companies and individuals with support from various donors. The Trade Minister is the coordinator, and participants include the World Bank, USAID, the Commonwealth, EU, French, the Ministry of Agriculture, some NGOs, and commerce associations. The CWG is very interested in making available information about economic and agriculture situation and opportunities in Mozambique. Would like for people to be able to find Web page through various net search engines then be able to contact the group by building in a link to their email (no problem). Also would like to be able to track who visits the site. Wants to have a few graphics on there as well. Would like to have bilingual site (she's picked up a lot of information on cashews from Brazil). Would like local media to be able to download information on cashews and other commodities from the Internet and make this information available to others in the rest of country who will not have direct Internet access themselves.

Smart woman. Really ready to go with this.

## Interesting Points

- Irene is one of the most dynamic people we've met concerning the Internet. She is a strong, strong believer in the value of the communication tools offered by the Internet. She has a deal with Teledata allowing her free access to the Web for a couple of months. Thus, she's done a lot of surfing, particularly in search of information on cashews. She is also looking into how she can share data with the FAO on cashew growing in Mozambique.
- Irene would very much like to create a Web page for the Cashew Working Group, and she has already spoken with Rich Newberg about doing this, so has support already from mission for this activity.

## Inventory

### **CBE Consultants Mozambique, Ltd.**

Nuno Sidonio Winge and Gabriel Tomaz Machado, Directors  
Avenue Ahmed Sekou Toure, # 1919, 8 Andar  
Caixa Postal 636  
Maputo, Mocambique

tel: 42-61-34

fax: 42-41-71

email: cbe@cbemoc.uem.mz

## Overview

CBE Consultants is an affiliate of a Dutch consulting firm that has offices in Amsterdam, Rotterdam, Ankara, Suriname and Harare. They have been operating since 1994, and their services to local businesses encompass training, human resources development work, translating, and other services. They have supported some training for local NGOs, developed some community-based training projects, and provided support for small and medium sized enterprises.

They are working on a pilot project with the Ministry of Education to provide basic informatics training to local schools. Will assess feasibility for transferring this to other schools after the pilot phase is over. Good base of skilled staff, but would like access to other information sources and communication avenues, so excited by Internet prospects. Plenty of support from the home office.

CBE works with about 15 NGOs per course of 40 hours for a fee of \$500. Most NGOs participating in this training received support through donors. The school training project involves basic computer skills such as word processing, Lotus, etc., but they'd love to help bring Internet training into schools. They'd also like to provide professional training for individuals and businesses in Internet work. Connecting to the Internet won't be a problem when connections are available, but training will be important for them to get up and running. They'd also like to begin moving services to other parts of the country where more needs exist. Communications with these other parts of the country need improvement. They'd like to see demonstrations, seminars, and workshops for Internet-related work. ISPs will need to provide better customer service than UEM has for their e-mail account.

### Interesting Points

- CBE rents space at TDM for their training work with NGOs.

### Inventory

- They have a widely-used e-mail connection through UEM.

**(CIUEM) Centro de Informatica da Universidade Eduardo Mondlane**  
Venancio Massingue, Director

ph: 49-15-57

email: venancio@bravo.uem.mz

### Overview

Massingue is basically known as the godfather of Internet in Mozambique. Currently, UEM is the only real Internet provider in the country. They have been receiving support from the Dutch (about \$300,000 per year) since about 1989. They have very sophisticated equipment and several computer training classrooms (only for basic computer applications--these computers are not hooked up to the Internet).

Massingue began the interview by trying to explain to us the technical connections that exist for the University to get its Internet access. This is through a leased line through South Africa. We tried to direct his comments away from the technical aspects of their activities (covered better by Tony's report) and more towards the end-user realm.

UEM provides e-mail service to its clients right now. Users include NGOs, government offices, the private sector, PVOs, etc. We asked about Internet accessibility for university students and professors, but this does not seem to be a big priority. UEM has other campuses and buildings

scattered through the city. The plan is for each unit within the University to have at least one connection for e-mail. Does not seem to be very widespread at this for faculty at this point.

The university provides professional training on computer skills in WordPerfect, Lotus, and other software applications. UEM is a primary contractor for work with UNDP on their Sustainable Development Networking Programme (SDNP). For more information on this program, see the SDNP report for Mozambique, drafted in part by Massingue. The SDNP aims at three main user groups: decision makers, users, and technical personnel.

Massingue and CIUEM will continue to provide Internet services. As the only providers currently in the country, they seem to be well ahead in terms of experience and capacity, especially with the support they receive from donors. They have many similar goals to the Leland, especially in their work with SDNP (although this is more oriented toward environmental concerns). Need to explore the role he will play in the development of Leland. They seem to be natural considerations for offering training seminars. Not clear how this will play out with other hopeful Internet service providers.

## **CIUEM**

Americo Muchanga

Second visit to UEM at Americo's request (don't know Venancio's take on this), to discuss a little more what USAID is looking to do through Leland and keep UEM better informed since they are the main players right now and how some insight into the best places to direct efforts. Wanted to clear the air a little bit to let them know that we are not trying to threaten their dominion.

Americo recommends targeting commercial and academic groups since these are the ones who will be able to support growth of the net. A better national backbone is needed to reach rest of country, but this can be accomplished through wireless technology in many cases. The government is committed to seeing this develop. It really is important to approach ministers and get their input on how this develops so that they feel empowered and informed. Can even go to approaching the Prime Minister, Americo says, to keep them on board. We told him that we agree and plan on inviting ministers to seminars on the Internet to expose them to it and show them how it can benefit the work of their sectors.

He informed us about what happened with Healthnet in the country, that it began in late 80s, but then the radio transmitter broke down. Then when UEM came on board with email, nothing really done to get the healthnet system working again. But, this still could be a really valuable tool for rural based groups with few resources. Perhaps investment in new connection could be worth examining. Would need to get in touch with SatelLife to see about this.

UEM is planning on setting up a trial wireless link between campuses in Maputo that will allow for 2 megabyte connections among the connected buildings as opposed to the 64 kilobyte lines that TDM has built in the city. Venancio told us about this plan when we met with him earlier. So, they are investigating new technologies and arrangements. how they plan to share this , i don't know.

They are very interested in how the national node will be managed and domains administered. Since they have the experience doing this, they'd like to continue to do it when the Leland node is put in at TDM. It makes sense to have domain held at TDM, but could still be managed by UEM.

### Interesting Points

- The University hosted a symposium on information technology earlier this year. Massingue invited us to attend a ceremony later in the evening to announce the unveiling of the proceedings of this symposium. We attended, but language barrier was a real problem as the whole ceremony was conducted in Portugese. Still, we did receive a complimentary copy of the proceedings, some of whose entries were in English (most in Portugese) including some very interesting pieces on rural connectivity.
- UEM has developed a plan (called EMUnet) designed to link all campus units to the Internet using wireless technology. It is receiving assistance for this from a South African consulting firm and expects to complete the system within 12 months.
- Venancio and Americo are members of the Internet Society. They can (and in fact do) manage some listservs already, including one on Mozambican news called "Notmoc."

### Inventory

- He gave us a brief tour of the facilities that included areas for software development (they've done some work to help PVOs keep track of returning refugees, plus other contracts); classrooms for computer training; computer resource room for students of CIUEM to use for their own work; a help desk area managed by Americo Muchanga, for user services -- getting set up with the accounts, going out to deal with any troubles, etc.; then, the main monitoring room where they take care of accounts, track statistics etc. -- run by guy named Rob Poland; finally, a small public area where people can come in to get email accounts or log on to the full Internet. This is essentially a public kiosk type operation, but only three terminals at current time. Would like to expand this.

### **Credicoop, Cooperativa de Credito e Investimento**

Alkis Macropulos, Director

tel: 42-13-75, 42-12-91, 42-13-72

fax: 47-52-18

### Overview

USAID help set up this financing institution. Right now it is operating simply as a bank, a place where small business owners can keep their money and feel secure about it. Credicoop plans to soon expand into lines of credit and exchange. It started with small group of investors (ten) and has now expanded to about thirty investors, including a few high-profile firms such as Coca Cola. Credicoop does work with grassroots businesspeople, but currently its main clients are medium-sized businesses. It is trying to find a way to associate with an American or European bank (First Union Bank from the US was in visiting at the same time we stopped in. They were

demonstrating an electronic banking system). It would like a technical partner/contractor to take over its daily operations, at which point the founders would serve as the board of directors.

Alkis believes the Internet will be a necessity for doing business in the future. They would love to have a Web site and be able to provide information to their partners and clients from the Web, as well as provide Web marketing of businesses in Mozambique. Would really benefit from training seminars and workshops on getting connected when services are available.

### Interesting Points

- Alkis uses e-mail through the University at his office, but has had mixed results with it. Sees e-mail as a great way for business to reduce communications costs (mentioned the travel agency at the Polana as an example).
- Mr. Macropulos first heard about and saw the Internet at Harvard a few years ago, and he is well aware of the benefits it can bring. He indicated in interest in obtaining information on regional, national, and international business issues. Looking to expand operation in future to other parts of the country including Nampula. Mentioned working with World Vision in this area.

### Inventory

- Have had some computer assistance from a local company affiliated with Siemens, setting up basic system to keep track of transactions;
- Has about a dozen computers (unspecified type), used mainly for administration and tracking of accounts;
- Has a couple of e-mail accounts with CIUEM, although they had to wait a long time to actually get hooked up.

### **Equator**

Lisa M. Audet, Assistant Vice President  
Rua da Imprensa, #256  
5 Andar, Suite 522/523  
Predio 33 Andarres  
Maputo, Mozambique

tel: 43-19-19  
fax: 43-19-18

### Overview

Equator has been operating in Mozambique since 1980. Lisa arrived in 1994. It is a financial services business in Mozambique based out of London but part of a group headquartered in Hong Kong. Equator is involved in banking, trade finance, and lines of credit for import and export business. It currently provides short-term credit now. A trade division grew out of the financial services whereby they make the links to supply vehicles and other products needed by businesses in the country. This work exclusively in Africa. Getting into investment banking now and corporate finance.

Equator has a total staff of 115, with 6 staff in Mozambique. Other African countries in which it operates include Ghana, Angola, Zambia, Uganda, and South Africa.

### Interesting Points

- Communications is a big challenge for the company especially for confidentiality/security of transactions.
- Doesn't use e-mail for important messages because of security concerns.

### Inventory

- They recently hooked up an internal banking system (called "Hexagon") that allows for real-time transactions and includes e-mail, but the system is not as sophisticated as Equator would like, and performance in Mozambique has hit some snags;
- Lisa is on UEM e-mail for personal use and has found it to be fairly reliable. Would welcome Internet availability for access to business news and information and for better communications within the country. Seminars for business people would be a big help to promote awareness.

### **Forum Mulher (Coordination for Women in Development)**

Cidia Monteiro, Coordinator

P.O. Box 3632, Maputo 3, Mozambique

Rua Pereira do Lago, 147, sobre-loja

tel/fax: 493437

### Overview

Forum Mulher is a women's interests forum that includes NGOs, PVOs, government offices, and donors. Its main goal is to circulate information on their activities and on women's issues. They have meetings regularly on certain subjects for which they will have a speaker to present and lead discussion. Forum also coordinates some networking among member organizations. It is apparent that e-mail alone could help this forum much like LINK (of which they are a member) in allowing its members to communicate with one another more easily and regularly. Instead of just monthly face-to-face meetings, members could have ongoing discussions over e-mail. For this to happen, however, they will need a lot of technical assistance.

Went to the Beijing conference where they met many other like-minded groups, obviously, but not easy to stay in touch. Very pleased to be able to present what positive things women in Mozambique are doing. After the conference they organized seminars to share what they learned. Also used the media to help get their message out. Held programs on violence against women. Most of their members are in Maputo, but also have need to communicate with people in other provinces. Mulher is trying to lobby the government on gender issues as well.

### Interesting Points

- Mulher produces a small quarterly newsletter/magazine on women's activities in Mozambique. We received a copy of it and it is very well done. It could certainly be placed on a Web site (only available in Portuguese at these point because can't afford translation work).
- They use mail and fax for most informational exchange now, but these get pretty expensive.

### Inventory

- Mulher has 2 computers right now, but no e-mail.

### **Gabinete de Estudos e Projectos**

#### **Grupo Joao Ferreira dos Santos**

Paulo Guilherme Negrao  
Avenue Samora Machel, 47  
Maputo, Mozambique  
C.P. 1600

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Fax: 420129

e-mail: pnegrao@gruposjfs.uem.mz

### Overview

Paulo works with three groups. The first is this Grupo Joao Ferreira dos Santos which is involved with agricultural trading, including production of cotton, tea, citrus, and cashews. He would be very interested in the Internet for obtaining information on commodity prices, new technologies, markets, and sharing information on Mozambique business.

He also represents the Mozambique-US Chamber of Commerce (Vice President), but encountering some barriers including language and high costs of communications.

Paulo and his wife are also involved with running a private school which runs on the Portuguese curriculum, as opposed to the Mozambican curriculum which doesn't fly with European schools. Portuguese recognition of this curriculum gives students right to be considered for further schooling in States or Europe. Private schools were not possible until three years ago. They have about 150 students @ \$100/month for 10 months of classes. They are close to reaching the break-even point. Would like to get up to about 300 students. Have received donated computers from Portugal on which to show students some applications. They love it. He is very proud of having done this alone, and doesn't want hand outs. But he is a strong advocate of giving people exposure to computers and Internet. Might be interested in signing up to be a GLOBE school. Should send him some information about this.

### Interesting Points

- The Chamber of Commerce is a one room shop, but they've fixed it up pretty nicely and have a good computer. They just need the Internet hook-up and some training.

### Inventory

- The offices have PCs plus a connection from Nampula to Maputo. Have been hooked up with Teledata for Internet services for 4-6 weeks;
- Got an e-mail account with UEM about a year ago and found service to be pretty reliable. He would like to be able to offer full Internet service at the Chamber to make available to members and improve connections and promotions with the United States.

### **Grupo Entrepoto**

#### **Companhia de Mocambique, S.A.R.L.**

Dr. J. Vincente da Cruz  
 Administrador  
 Av. do Trabalho, 2106  
 P.O. Box 1153  
 Maputo, Mozambique

Tel: 40-03-21, 40-05-45

Fax: 40-11-64

### Overview

There are 19 companies involved with Entrepoto including those selling cars, soap, vegetable oils, cashew processing, cotton, lumber, and security services (very eclectic group!). Most definitely interested in the Internet and aware of the opportunities it can open for business. Just waiting for better service to come along. Cited the lack of good phone lines and poor speed of service--plus the lack of good technical expertise within Mozambique--as the biggest constraints to Internet services right now. They also have doubts about TDM's abilities/competency since they have had trouble getting straight answers on costs and technical issues.

Also met with their information manager--a Mr. Bell (younger guy, very knowledgeable about computers and systems; no nonsense attitude). He told us that IBM is talking about setting up their own Global Networking System with a link in Maputo in February 1997, but he had no cost information on this or details about what is involved (also active in South Africa). Is there information about this available from IBM on the Internet? Mr. Bell has doubts that the local community can support more than one service provider--not a big enough market yet.

### Interesting Points

- Most of the PCs are now standalones, but they plan to set up a LAN.
- Mr. Bell was signed up through Compuserve, but they sent him a bill for about \$1,000 and couldn't explain to him how they arrived at that, so he got rid of them. Did not get good service from UEM either.
- All computer repair is done in-house.
- Has a vision for eventually using the Internet to communicate with their factories in remote areas, especially to coordinate orders for goods.

### Inventory

- Fifty telephone lines for the building;
- Two dedicated computer support staff;
- Has about fifty PCs total (one for every employee)--not sure about exactly what types they are, but strongly suspect they are all 386s or above.

### **LINK, NGO Forum**

Gil Manuel, Information Officer  
 Augusto Pinto Novo, Program Manager  
 Rua Mariano Machado, 56  
 C.P. 2187  
 Maputo, Mocambique

tel: 42-41-00, 42-36-96

fax: 42-33-77

e-mail: gil@link.uem.mz & novo@link.uem.mz

### Overview

This is a group we were very anxious to meet since they are the umbrella organization for such a large number of local Mozambican NGOs (about 450). They provide institutional strengthening services for their members and really seem to have a good setup.

LINK maintains a database to track information about its members. This is really well done because information is tracked by sector, by region of the country, and other ways so different groups can find out about what each other are doing. They also maintain file folders on each organization. They have room to set up some computers in the center for use by their members. They have submitted a proposal to UNICEF for a couple of new computers that they could use to set members up with e-mail communications. Obviously, this would be useful only for those NGOs that can get to the LINK office easily (i.e., those in the Maputo area). They also have general materials on various issues by sector (35 breakdown sectors from education to agriculture to health to environment to democracy/governance).

### Interesting Points

- They would be very interested in an Internet connection. In fact, Gil saw a demo of the Web at the USAID mission when Jonathan was in the country. We think they could do with the Web what they already are talking about doing with e-mail, which is serving as a link for those members who can't afford their own connections. Such a publicly-accessible resource would greatly benefit the local NGO community. Another option to look at with them is helping to hook up their members with individual e-mail accounts so that they don't have to come in to LINK to use e-mail and then LINK could use e-mail more to disseminate information to the NGO community.

### Inventory

- They have an information system set up to relay information to their members on relevant events and news. Presently, much of the distribution is done by hand because that is more reliable and cheaper than using fax or phone, although these are also used (weekly fax bulletin

sent to international organizations, donors, PVOs etc concerning LINK activities and important issues). E-mail is used more for out-of-country contacts because most of their members in-country are not equipped with e-mail. ;

- LINK is hooked up to a LAN at their office, and so share their e-mail account with UEM among the staff. E-mail has been very helpful for receiving information from outside the country to support activities. They produce a quarterly bulletin on NGO strengthening with support from African American Institute.

## **MICOA (Ministry of Environment)**

Teresa Alfaro

tel: 465708, 465843/51, 466059

fax: 465849

### Overview

The main purpose of our meeting with Teresa was to find out more about the UNDP SDNP plan which is being run out of MICOA.

The project involves: MICOA, UEM, UNEP/UNDP. A group including the World Bank, LINK, TDM, environment groups, press/media group, and the government statistical agency serves as the steering committee offering guidance and recommendations on how to proceed. Looking to place a node in Beira right now. Were going to place it at the ministry of Planning office there, but many argue not a good idea to have it at a government office in terms of sustainability. Want to get it in more of private sector hands. How will resources be generated to keep this kind of network going??? Some kind of user fee charge, but this is up in the air. The SDNP plan is to reinforce a Mozambique national development plan too which includes environmental education.

Teresa would like to see stronger connections made with universities in other provinces for use in distance education. This project has been in planning stages for two years and is just now getting off the ground. No equipment in country yet. Training will be a major component of the project, provided through UEM. An information coordinator will help users identify networks and how to use applications. They already finished their first training course at UEM for NGO reps, Min of Ag, Rural Dev Inst., others. Keep an eye on this. The activities here can only be enhanced by and help enhance the goals of Leland. Once full Internet is linked in, they should be able to tap into this directly rather than have to go through the old UNEP satellite that she mentioned.

### Interesting Points

#### Inventory

- There will be three nodes for this network with the main one centered originally at MICOA but now looking like it will be at the Center for Technology Transfer where a communications center will be established (CTT has a project with Denmark for satellite link to UNEP-NET activities). Other node will be at UEM which will be connected to CTT through a leased line (by July 1997 she is told). Also will have nodes eventually in Beira, Nampula, and Zambezia.

The main idea of this project is to provide e-mail links for NGOs and others concerned with sustainable development. This is fleshed out much more detail in the country project paper of which jeff and I both have copies and which is posted on-line.

**Ministerio da Agricultura e Pescas**

Clementina Machungo, Eng. Agronoma, Directora Nacional  
Direccao Nacional de Estensao Rural  
Praca dos Herois Mocambicanos  
Maputo, Mozambique

Tel: 460232

Fax: 460027

Emmy Bosten (Information and Communications person)  
Min. of Agriculture

tel: 460280

fax: 460027

e-mail: emmy@fem.uem.mz

Overview

A little bit of a scheduling mix-up here, but we finally said hello to Clementina and then met with Emmy who was the key person to talk to anyway. Weak information and communication infrastructure makes it difficult to do the work of the Ministry efficiently. Get written information through mail, magazines, etc. There are poor habits among the Ministry for using information, making it available, using the small library that exists. Information that is collected does not get widely disseminated. They have a network, but not used very effectively. So, large need for training on information use and sharing, the value of this.

The fishery department is better at this. Pretty good network with access to database and to e-mail. There is no general strategy though with other offices or departments.

The provincial offices use phone and letters, but phone lines can be problematic and fax is expensive. Again, lack of awareness of communications possibilities is a problem.

The Ministry of Environment has a project dealing with e-mail training (SDNP stuff), so this is good. There are a couple of research institutes, but poor sharing of research with extension workers. The World Bank was going to look at some of this through PRDSA, PRDA, and IFAD. Want to put in e-mail. FAO, Canada, GTZ, UNICEF are working on various projects to improve information for extension workers. PROAGRA is program for agriculture sponsored by the Bank for communications work.

What's needed? Spreading awareness of information and communications technology (Internet) through courses, demonstrations, workshops (directed at decision makers would be a big help), media (newspapers columns in particular). Training.

Interesting Points

## Inventory

### **Ministry of Commerce, Internal Trade Office**

### **Ministerio da Industria Comercio e Turismo**

Luis Eduardo Siteo, National Director

Praca 25 de Junho

Maputo, Mozambique

tel: 43-11-37

fax: 42-13-05

## Overview

Joining us for this meeting was the information coordinator/computer guy for the office whose name I do not have.

The information guy would like to connect five of the provinces so that information could be shared among them almost simultaneously (could have the provinces be able to telnet information into a central database, probably). At least want to establish e-mail accounts for the provinces. This information guy appears to be pretty sharp and has good ideas for promoting broader cooperation within the ministry through the use of information technology.

Currently rely on newspapers, magazines for information. Would love to have quicker access on information relating to prices, crop prospects, harvests weather, joint venture possibilities, tourism, currency exchanges.

Feel that demonstrations for govt. ministries, workshops could be very helpful to familiarize decision makers with this technology and show the importance IT has for business.

## Interesting Points

- Applying for two e-mail accounts through CIUEM. Will connect to a name server to provide e-mail for everyone on their LAN.

## Inventory

- The office operates out of 2 buildings, each on a Novell LAN but not connected between buildings. About 20 workstations in each building;
- Ten divisions of the office manage different types of information through various databases. Provinces currently submit information through regular mail.

### **Pangolim**

Joao dos Santos, Director General

Av. Agostinho Neto, #17

tel: 49-06-74/5

fax: 49-24-93

## Overview

This guy set up originally as an advertising agency, still operates in that capacity, but is developing, really cornering the market for the time being in professional Web page design. He's got top of the line equipment and software for doing graphic design, posters, etc. Does radio, TV. Clients include 2M (Mozambique beer), Bank of Mozambique, PSI (condom promotion work), others. Even did some animated stuff for the Ministry of Health and on mine awareness.

Has 15 staff of whom 1 is non-Mozambican (besides himself -- Angolan). His is biggest ad company in town -- more the next 4 combined. Got started doing a lot of work for the PVOs after the war: SAVE, PSI, USAID funded activities for civic education, etc. Working on the next volume of a book on Mozambique, sort of glossy overview of the country.

He trained all of his staff in how to use the equipment because training was not available elsewhere in the country. Found folks from the visual arts school with no computer training, but some good talent has emerged. The work really does look good, professional, like something you would see in a Western country.

He has a big contract with UEM to produce and design the home pages for people who come to UEM for their net services. Will be working on the Mozambique home page which UEM holds but hasn't fleshed out yet. He has a nice arrangement with UEM in this regard in terms of a percentage based on the amount of space the clients need on the server. He already has 4 other contracts at \$5,000 a piece for Web page development that includes 40 pages including images, text; no video or sound yet, but will have capacity for it. He's a very sharp guy and has come along with the talent at the right time. He even states that he essentially has a monopoly on Web page design for the next six months (that is until other ISPs get into business) because he has the contract with UEM and UEM is the only current provider.

He will market his company's Web page design abilities to the business community. Says that UEM will have the advantage in the ISP hunt because of all of the support they've received over the years and the level of their expertise. The three priority areas for Internet in Mozambique will be education, business and then entertainment.

It will be interesting to see what sort of new competition rolls in once the net connections are established.

## Interesting Points

### Inventory

- 15 Pentium-class computers
- In process of hooking up machines via local area network
- State of the art scanning equipment
- E-mail service through UEM
- Assorted state-of-the art software for graphic design and Web publishing. For Web design work, they use Pagemaker 6 which has HTML conversion available, so they just have to draw up what they want, get the text they need, and fire it out. It's really not very complicated.

## **PSI (Population Services International)**

Clayton Davis, Representante em Mocambique  
Avenue Patrice Lumumba, 204  
C.P. 4059  
Maputo, Mocambique

tel: 430-638/307

fax: 430-636

e-mail: cdavis@psimz.uem.mz

### Overview

PSI runs social marketing programs for the promotion of health, primarily promotion of condom use for prevention of HIV/AIDS and other STDs. PSI works through the commercial sector and with the national AIDS control program. Develop all kinds of media exposure from radio and TV to theater groups and posters. Would like to be able to link into districts more easily. PSI also does other work on iodine deficiency disorders, mosquito net promotion (social marketing again) and oral rehydration therapy. They get a lot of information through e-mail right now, a lot passed on from person at HQ in DC who gets information off of the WWW. Links with other PVOs would be helpful (what they need is a local listserv for PVOs).

--Communicates with many local condom distributors, as a national distributor of condoms does not exist

--Wants Internet access to get latest news, etc.

--Would like to identify and communicate with similar PVOs through Internet

--Collaborate with actors from all sectors--private, NGOs, PVOs

--Do not participate in any discussion groups

### Interesting Points

· Gets information from the Internet through contacts in the US, who download relevant information and pass this along via e-mail

· Would love to have full Internet access, especially if at same or less cost than current e-mail (\$50/mo).

· Mentioned resource center at the Ministry of Health, but I never got over to look at it.

### Inventory

· Has a competent computer support person at the office in Maputo.

· Uses CIUEM e-mail to connect with offices in Chamoio and Tete, which also have e-mail.

· Maputo office is LAN-equipped.

· Uses e-mail to communicate with all kinds of organizations.

· Has a node in Beira to provide e-mail for offices there.

· Three phone lines.

## **Save the Children Mozambique**

Jim Wright, Deputy Director  
1489 Av. Tomas Nduda  
C.P. 1854  
Maputo, Mocambique

Tel: 49-32-83, 49-31-40  
fax: 49-31-21

### Overview

SAVE/Mozambique's work ranges from child survival to food security, agriculture extension, nutrition, roads, and AIDS. They have a Women and Children in Development project as well. SAVE is undergoing a transition right now to a new country director. SAVE is not as conversant in electronic communications as we were anticipating. However, they do seem anxious to improve their knowledge in this area and are in touch with SAVE International to get this taken care of. Would like to be able to communicate more easily with other PVOs in country. They are interested in formalizing a bit more their lessons learned and case studies. For example, they want to set up a database on literacy, agriculture, or health from which they can produce short pieces to send out to interested partners. The Internet would be a great way to do this. They'd love to have their office in Tete hooked up.

### Interesting Points

- About a year ago they tried to get hooked up with UEM e-mail, but did not have a good experience and never got connected.
- They spend about \$500/month on faxes!

### Inventory

- SAVE has a proprietary e-mail system, but don't seem to rely on it too much. They claim the system has difficulties linking to the Internet.
- Twelve PCs (all 486 or above).
- Two modems (9600 baud).
- Have a LAN, but haven't hooked this up with internal e-mail yet. They basically just need a good deal of training and some better support and communications with the home office.
- Have some computers in provincial offices.

### **SLIM (National workers syndicate)**

Jeremiah Timane  
Av. 24 de julho, 2341 - 5th floor  
Predio do Ministerio do Trabalho

tel: 42-11-59

### Overview

SLIM represent workers from three economic sectors: construction, mining, and wood working (lumber, carpentry etc.). It receives support from the African American Institute. SLIM represents over 45,000 workers, 36,000 of whom are officially paying members of unions. Each province has a union branch, this is the HQ. Formed independent union in July 1992. SLIM is affiliated with international labor organizations such as the International Federation of Wood Workers, the International Miners Federation, and a regional organization (SAMF--the Southern Africa Miners Federation).

SLIM is trying to build solidarity of unions for improved position for negotiating with employers and the government. The Finns are funding a project to support them, and they're at the halfway point right now. Support has included educational/training activities on how to organize, leadership training, and so forth at the district, provincial and national levels. SLIM has links to Canadian unions including steelworkers union in Toronto. Would be interested in improved links with offices in North, Center and South of the country. They have a computer in Maputo and one in Beira, but none in the other provincial offices (Nampula). This would be very helpful for them in being able to communicate and provide support for workers in these parts of the country.

#### Interesting Points

- Rely on mail and fax, which are slow and expensive respectively, for most communications.
- Using an e-mail account from UEM, but found it to be too expensive and not effective if other offices are not linked.
- Seeking additional support from Finns for improvements for other offices. Would need assistance with training. Total intake from membership fees is \$33,000. Positive outlook on future development in country.

#### Inventory

- One fax machine, but lines are often too busy to use it.
- One computer in Maputo office and one computer in Beira office.
- Has e-mail account with CIUEM--felt the service is too expensive, however.
- Unspecified number of computers "on the way" for Nampula office.

#### **STAE (Technical Secretariat for Electoral Administration)**

Armenio Correia, General Director  
100, Dr. Almeida Ribeiro Street  
Maputo, Mozambique

Tel: 42-77-23

fax: 42-77-40

#### Overview

STAE is responsible for directing and overseeing elections in Mozambique. Related activities include ballot counting, supplying polling equipment, establishing voter districts, and publicizing elections. It is currently looking into establishing an e-mail connection with UEM as a way to

improve communications between provincial offices and the central office and to speed of transmission of election results. Right now data is shared through the exchange of disks which must be sent through regular mail. They receive information from and belong to the International Federation of Elections Systems (IFES). Funding from international community (the United Nations and others, including Nordic countries, the EU, USAID, France, and Portugal) supported elections in 1994.

In 1994, USAID supported logistics work and civic education--radio spots, pamphlets, television spots, training schools/classes, and cultural civic outreach (mainly community theater)--through the National Democratic Institute. The next elections will be in 1997 for local bodies and 1999 for general national elections. Computers and telephone lines will not be a problem for this group. He wants to set up a 4 terminal LAN for sharing the Net when it becomes available. Training will definitely be needed and the provinces will need support for equipment.

--Would like to communicate with IFES (International Foundation for Electoral Systems) via e-mail since they have much contact with them

--Benefits of Internet to the Secretariat would be sharing of information (receiving and sending) and communication

--Reasons for not getting the Internet:

- a. Equipment for the provinces
- b. Training on Internet use

### Interesting Points

- Currently not on the Internet or using e-mail.
- Applying for an e-mail account with CIUEM.
- Told us that the Ministry of Environment is working with CIUEM to set up a satellite-based communications system.

### Inventory

- Provincial offices are equipped with computers (type unspecified);
- Communication with provinces is handled through phone, faxes, and diskette exchange;
- "Plenty" of phone lines;
- Twelve computers (all 486 class or above);
- Not hooked up to a LAN;
- Wants 4 terminals connected to the Internet.

### **Supreme Court**

Norberto Carrilho, Vice-President  
Av. Vladimir Lenin, 103

tel: 42-66-42

### Overview

We met initially with the Supreme Court's information coordinator. They have three staff to maintain the Court's information center/library/reading room, which began operating in 1989. The information center maintains law decrees, official documents, Bulletin de Republica dating back to the 1800s, accords, and various legal texts. They use a CDS-ISIS management database system, supported by UNESCO and assisted by the Faculty of Law from UEM, in which they have their library book collection, a summary of all laws since 1968 (plan to get back to '65 online). Copies of law summaries are sent out to district and provincial courts. People can make requests to the center for copies of the full laws to be sent out by fax, but this gets to be very expensive. The reading room is used mainly by lawyers, students, and judges.

They'd like to be able to hook into the Supreme Court, the Constitutional Court, and the Attorney General's Office in Portugal. They'd like to have information from elections available online. Better connections with the provinces is vital to the work of the justice system. Right now it takes about 2-3 months to get laws out to the provinces after they've been passed in Maputo. They also need to have better contacts with justice systems of countries in the regions to improve cooperation in areas of law (i.e., trade law). They know of a computer system in South Africa which helps them track court proceedings and criminal histories. Mr. VP has been to Minnesota where he saw a corporation that designed a system to track legislation of the 50 US states (no info on name of system).

They would very much like to have support for improved computer connections for Internet and CD-ROM. Again, the DANINDA effort is focused more on facilities at this point (\$8 million). The EU is looking into an assessment of information/communications needs for the Court.

To reiterate what their thinking was on possible assistance, they seemed to want to get the Courts' (provincial and district) buildings up to snuff first, and then worry about getting the computers in (there is no reason this can't be planned at the same time; USAID can support computer connections for the provinces). There are 11 provincial courts and 130-150 district courts.

### Interesting Points

- The Supreme Court would like to use the Internet to get legal information from other countries (to have access to South Africa's criminal tracking database, for example).
- Edmundo participates in a listserv for ISIS users which he finds to be very useful.
- The judges at the Court have e-mail and were trained in informatics basics by Norway and the Danes (DANIDA), who also have a project to renovate the court buildings in the districts and the provinces because they are in horrible shape.
- We were told that having different donors approaching the Court about their respective communications projects gets confusing. They indicated that it might be a good idea to establish some kind of informational network among the donors to discuss information technology issues and areas of cooperation.
- Any improved computer system would be housed in the new Supreme Court building, which is currently under construction.

- They want an outside expert to integrate computer systems in the Court's buildings as a way to avoid compatibility/technical problems (which occur when different donors put in different systems without first coordinating).
- They rely on a local repair firm to fix broken computers.

### Inventory

- They have four PCs in four provincial offices, but these are not connected to e-mail/Internet. Want to upgrade computers with modems and CD-ROM. Phone connections are often difficult to obtain to some areas;
- Currently trying to get three computers from the US State Department;
- The computers they currently have a very old (286s with 2 megabytes of RAM);
- Keeps track of book collection through a computerized OPAC (CDS/ISIS). This OPAC tracks and contains summaries of all laws enacted since 1968 and also tracks law books in the library;
- Provincial courts have hard copies of all legislation, although slow printing means it may take awhile to get there;
- The library has e-mail--Supreme Court justices contact the library to have them send e-mails for them.

### **TDM (Telecomunicacoes de Mocambique)**

Luis Mhula, Director of Network Management & Technical Support  
 Av. Kim Il Sung  
 P.O. Box 3696  
 Maputo, Mocambique

Tel: 49-22-36, 43-19-21  
 fax 49-22-43

### Overview

We set up this meeting so that we could get a look at the TDM training facilities to see how well they might work out as a center for training workshops sponsored by Leland. TDM is just up the block from USAID. Before getting there, we learned that 64 kilobyte lines will be available to people in Maputo and Beira.

At a later date, we with with Antonio Sousa, another of TDM's representatives. This was really Tim's meeting and they talked about policy questions most of the time. We got a look at Teledata's Internet connection, and it worked pretty well until abruptly disconnecting after only 15 minutes. We gave Antonio a short description of our trip at the end of the meeting.

### Interesting Points

- We were told that TDM plans to install a fiber optic link between Maputo and Beira by 1998.
- TDM is exploring the placement of satellite links in all provinces through asynchronous transmission mode (ATM). Teledata will seek to have nodes in Beira, Nampula and Maputo, linking satellite nodes to fiber optic trunks for further dissemination of Internet access.

## Inventory

- The training facility looks great. The main hall can fit about 300 people. Ability to project stuff up to a screen for wide demonstration. Plenty of smaller breakout rooms for meetings, smaller demonstrations, perhaps by sectors, etc. Even making plans for accommodations on the TDM area. Excellent shape.

### **University Research Corporation**

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Chiefe do Projecto  
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Maputo, Mozambique

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## Overview

URC runs USAID/Mozambique's main health programs, mainly in child survival and maternal health. Its programs are mainly in Gaza, Zambezia, and Nampula. Communications with project staff in these areas is difficult because of bad phone connections.

Not much information sharing taking place because it is difficult to get the information. Mary Ann has some books and other materials on hand in Maputo. She relies on e-mail, fax and mail for technical information. She saw Internet access as being a big boost for access to information to support activities, as well as a tool to improve regional communication. She saw the biggest Internet needs/impediments as being greater awareness and training.

## Interesting Points

## Inventory

- The central administrative office in Maputo has an e-mail account through the University that Mary Ann uses widely, although has found it to be some what unreliable for receiving and transmitting information from and to other countries. The average e-mail bill for the office is about \$50/month. URC has 5 other individual accounts for field staff at \$15/month.
- Ten Pentium-class PCs. These computers are used for word processing, statistical record-keeping and analysis, training, etc.

### **USIS, United States Information Service**

Adrienne S. O'Neal, Director of Information & Culture (I guess)

USIS

Embaixada dos Estados Unidos da America

Av. Mao Tse Tung, 542

Maputo, Mozambique

Telephone: 49-19-16, 49-11-16

### Overview

USIS provides public access to a library collection that includes some information on CD-ROM, mostly of public affairs nature (PAIS, Facts on File), but the collection consists mostly of donated books and magazine subscriptions. Adrienne introduced us to two computer proficient staffers, one of whom USIS brought to the States for Internet training in Maryland (Adrienne also went). He does searches for requesters by using USAID Internet access at the mission.

USIS was planning to have Internet service installed through Teledata. They expected to have the service available within a couple of weeks. They have one computer set up for this access. Most use of this will be for demonstration purposes. The room lends itself well to this, as they already have an overhead projector to which they could connect the Internet-connected computer for large demonstrations (the room could hold about 20-25 people). They might try to get more terminals. Pedro would probably still most of the searching, but at least people could get a look at the Web. Difficult to have untrained people searching the Web given the costs of using it beyond 10 hours, currently.

USIS is interested in providing a demo for the press on the Internet once they establish their connection. This is a really good idea. We mentioned the possibility of doing a demo at the USAID mission if time allowed on our trip. Such a demonstration was subsequently given.

### Interesting Points

- USIS wants to provide public Internet access at their building. Told her about the importance Leland places on this idea, providing access to those who would not otherwise be able to afford their own equipment and connections. Told her about plans for doing this in other countries through demonstration centers such as universities or through public kiosks.
- Adrienne spoke about the media's keen interest in the Internet--there seems to be quite a bit of excitement and high expectations about the Leland Initiative. However, she also made a point of saying that the media in general knows little about the Internet.
- Wants to disseminate information through a Web page.

### Inventory

- USIS currently has no Internet access, but will soon be getting access through TeleData;
- USIS has a nice training room with space for several computers. This room also has an overhead projection system, although it is unclear whether a computer could be readily connected to this.

**UTRE (Unidade Tecnica Para a Reestruturacao de Empresas)  
Ministerio do Plano e Financas, Republica de Mocambique**

Arahni Judith Sont, Consultora em Marketing  
Rua da Imprensa, 256  
Predio "33 Andares", 7th Andar  
C.P. 4350  
Maputo, Mozambique

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Fax: 421541  
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### Overview

Sont is heading up privatization efforts for Mozambique through World Bank funding at UTRE. She places information on Mozambican business and economics to Business Monitor publication (London). Tenders for privatization are advertised in The Economist. She has an e-mail account set up through the University through which she receives some responses to the tenders (mostly from American companies, few from Europe or Asia), but most come in through fax or phone or mail. She mentioned the services of Televisa-Marconi through Portugal (this is the Teledata service, but it is not commercial yet according to Tim).

E-mail is used also to communicate in Maputo. Sont was very interested in the possibilities of using the Internet to market the privatization effort and to learn about other privatization efforts in other countries.

About 29 privatization transactions have occurred with about 1/2 under foreign control. About 20 more companies remain to be privatized.

### Interesting Points

- No Internet experience.
- UTRE has hired Joao dos Santos of Pangolim to build an UTRE Web page on the UEM server.
- UTRE is well equipped through World Bank support and would little trouble getting additional resources needed for better Internet access.
- No dedicated computer support staff at this time; instead, they rely on a staffer at the office, who helps with computer related matters.

### Inventory

- Three telephone lines;
- One dedicated fax line;
- Twenty computers (unsure of type);
- Computers connected to a LAN.

### **World Conservation Union (IUCN)**

Simon Anstey and Maria da Luz Duarte  
Rua Armando Tivane, #971  
Maputo, Mocambique

tel: 49-28-15  
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### Overview

IUCN serves primarily as a facilitator and networking center for NGOs, the government, and other actors involved with environmental issues. The objectives of this office are to facilitate and strengthen an integrated approach for the sustainable and equitable use of natural resources and the conservation of biodiversity in Mocambique. It supports numerous natural resource management projects and tries to influence policy decisions by providing information to stakeholders and decision makers. It recently sponsored a course on environmental assessments for government officials and also sponsors other workshops to facilitate regional exchanges.

There is a communications component for IUCN activities out of Harare. Also have information on a USAID e-mail related project in Malawi relating to community based natural resources management. With support from the Swedes, they recently implemented a course for journalists on environmental issues. There were to be follow-up meetings in December as journalists worked on projects in their home districts and were to return to present their findings. The course relied mainly on local experts, namely professors from the University.

The Ministry of Environment (MICOA), which is also the coordinator of SDNP in Mozambique, would like to establish e-mail links with provincial offices. They are receiving support (from the United Nations Development Programme through the Sustainable Development Network Programme) to begin offering e-mail training classes for ministry staff.

Ecotourism has definite potential in Mozambique, but not in immediate near future. Zimbabwe and South Africa have a lot of experience with this that could probably be shared.

### Interesting Points

- IUCN headquarters in Washington, D.C. has a Web page, on which there is information on Mozambique. Their Mozambican office could add to this more easily when Internet connections come to the country. Other groups interested in this area include a Mozambican environmental working group (composed of government and university personnel) and the local arm of the South Africa-based environmental NGO IMPACTO.

- IUCN is using e-mail consistently right now, and they are also trying to organize a documentation center that will serve the Mozambique environment community.

### Inventory

- Equipped with computers and modems on a Windows '95 system--these are ready for Internet connectivity when it becomes available. Would need and appreciate training in how to best use the resources. Would consider offering public access to the service.

- They don't operate on a LAN yet.

### **World Vision International, Mocambique**

Jon White, Director  
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Caixa Postal 2531  
Maputo, Mocambique

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fax: 42-14-46, 42-86-24  
e-mail: jon\_white@wvi.org

#### Overview

Also met with Jim Chapman, in from the Johannesburg office. Very interested in possibilities of hooking up to the Web. They have communications with offices in rest of country including Tete, Beira, and Nampula, through the e-mail system. They obtain technical information through USAID and other donors and the home office.

WV operates a Title II program worth \$45 million that includes work on roads, rural development, and health. Also work in agricultural extension with farmers' groups and associations and some local NGOs. English training would be helpful for many of these individuals (even through the Internet). Role for marketing the cashew growers on the Web. Most helpful things for them would be for awareness and training program activities.

#### Interesting Points

#### Inventory

- World Vision uses a proprietary e-mail system (Lotus CC Mail). Used primarily for administrative work, document transfer, etc.

### **World Vision**

Eric Schmidt, Ag engineer  
Fernaõ Magalhaes, 62  
Ponta-Gea  
Beira, Mocambique

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fax: 03-32-90-60  
e-mail: eric\_schmidt@wvi.org

#### Overview

World Vision director up in Beira. He's hooked up on World Vision proprietary network for e-mail, so he gets a lot done this way. Other group in the area offers store and forward service though that is much better than trying to connect to UEM called Hopenet. It's \$75 to enroll, and then \$10 per month. It's run by an Australian Christian organization called Lifeline.

World Vision would be very interested in possible Internet connection if reasonable access could be provided to Beira. Would be interested in ability to use e-mail out in the more remote areas in which they work through radio links. Also interested in solar powered computers. How well does this work?

### **Other Beira meetings**

Popped in on the Lifeline people, but they couldn't talk due to lack of time. Met Director of the new Catholic University at Beira, which is just starting this year but certainly would benefit from Internet connections. USAID will not be able to fund them directly, but Tim would like to look into other funding possibilities (maybe the Danes). Went out to dinner with Hotel Mocambique owner Zaide Aly, and tourism official Zacarias T. Sumbana. Spoke a little about tourism possibilities for the country which should grow in the coming years.

Stopped in at Seabord mill, but they are just getting their feet on the ground and are focused on the mill rather than on computers. Definitely interested in getting hooked up to e-mail and/or the Internet when it comes around. Just needs some time and some education.