



ECA/RCID/13/98

ECONOMIC COMMISSION FOR AFRICA

MISSION REPORT

ON

**ECA TECHNICAL COOPERATION WITH
THE MINISTRY OF FOREIGN AFFAIRS
OF THE REPUBLIC OF UGANDA**

13-18 April 1998

*Janvier Nkurunziza
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I. INTRODUCTION

The ECA Technical Cooperation Mission to the Ministry of Foreign Affairs of the Republic of Uganda was undertaken by a team composed of three, namely: Mr. Janvier Nkurunziza, expert on international trade and WTO issues; Mr. Lishan Adem, expert on information, communications and connectivity; and Mr. Samuel A. Ochola (Team Leader) and expert on regional cooperation and integration. The Team visited Uganda from 13 to 18 April, 1998.

The Technical Cooperation mission was a follow up on the discussions held between Mr. Samba Jack, Director of Programme, Planning, Finance and Evaluation Division (PPFED) and Mr. Sande Kanyarubona, ECA Expert, with the Embassy of Uganda in Ethiopia, and subsequently with Ms. Cissy Taliwaku, Officer-in-charge, Research Department, Ministry of Foreign Affairs of Uganda. Discussions were on the technical support which ECA could provide to the Ministry of Foreign Affairs in the training of government officials in the fields of economic diplomacy, information technology, regional economic cooperation, and on some specific gender issues¹.

The aim of the ECA technical mission to Uganda was to assess the training needs of Foreign Affairs Officials in the areas outlined above. This is indeed in line with ECA's new Strategic Direction of Serving Africa Better by facilitating capacity building and enhancing effective development management. In this regard it was agreed that a training programme for the Ministry officials would incorporate three principal modules, namely:

- Module 1. Economic Diplomacy:** International trade and investment--including negotiating skills; trade, investment and tourism promotion skills; multilateral trade agreements and the WTO; preparation and presentation of economic briefs and prospectuses to potential business partners, international public procurement, etc.
- Module 2. Regional Economic Cooperation:** Opportunities and avenues for regional cooperation, regional and subregional economic cooperation and integration institutional arrangements (including the African Economic Community), protocols and facilities for promoting intra-regional trade and investment, time-frames for intra-regional trade liberalization, South-South cooperation, etc.
- Module 3. Information and Communications Technology:** Use of computers and networks (i.e. effective use of E-mail and the Internet, and possible development of a Ministry-wide local area network (LAN) and Intranet, and possibility of establishing electronic connectivity of the Ministry of Foreign Affairs and all its diplomatic missions abroad) etc.

¹ This will be the subject of another follow-up mission

II. SPECIFIC OBJECTIVE OF THE TECHNICAL COOPERATION MISSION

The specific objective of the mission was to identify the critical issues that should form part of the core course elements in each of the three modules. These would provide the basis for preparing the actual training programme. In addition, the mission was also expected to establish the modalities and timing of the proposed training programme.

Indeed, in order to facilitate its work, the mission thought that by extending its consultations to other Ministries and institutions whose work impinge on the principal areas which were to be covered, it would have a better understanding of the training needs of the Ministry of Foreign Affairs and how best the training would be provided. In this connection, the mission held discussions/consultations with the Ministries of Public Service, Planning, Trade and Industry, and institutions such as Uganda Investment Authority, Uganda Management Institute, Uganda Tourist Board and Uganda National Chamber of Commerce. The mission also held discussions with UNDP whose development programme has a direct bearing on the capacity building within the country.

While the specific objective of the mission remained that of identification of critical areas of the Ministry of Foreign Affairs' training needs, the extension of visits to other ministries and institutions was necessitated by the fact that their programmes have direct links with the Ministry of Foreign Affairs. As such, the training programme cannot be conducted without the involvement of these ministries. Furthermore, the existing training institutions were also visited with a view to ascertaining their capacity to offer the required training. It is against this background that the mission is of the opinion that, coordination in the training programme across the board would end in creating the maximum required impact in the workings of not only the Ministry of Foreign Affairs, but also that of the Government as a whole. This notwithstanding, the mission continued its mandate of drawing up training requirements for the Ministry of Foreign Affairs.

III. SUMMARY OF THE FINDINGS OF THE MISSION

In the context of the current changes which are taking place at the global level, the need to enhance the capacity and capability of all Government officials in the areas of technical analysis and policy formulation is an imperative of the time. It is, therefore, necessary to hold from time to time, short-term training courses in order to apprise the Government Officials on the current global issues which have direct impact on their own country's development efforts and programmes. Indeed, for those working within the Ministry of Foreign Affairs, the need for short-term orientation courses is so critical that a more structured form of this kind of training need to be built into the system.

The findings of the mission in the three specific areas are as follows:

In the area of Economic Diplomacy the Government has shifted its policy emphasis from political diplomacy to economic diplomacy as a result of the current changes that are taking place in the global economic system. The need to keep abreast and to understand the changes which are now reshaping new economic and international relations requires constant upgrading of knowledge in these new areas. The officials working at the Ministry appear to lack the relevant skills that are required in the new area of economic diplomacy. However, in view of the wide spectrum of issues involved, the need to focus on specific areas of training which would enhance the country's capacity to be more competitive within the global economy should be addressed. The need for training the officials within the Ministry is therefore self-evident.

In the area of Information and Communications Technology, the mission found that the government's preparedness to jump into the new information age was handicapped by the:

- paucity of infrastructural facilities
- inadequacy of skills and understanding in computer technology
- absence of a holistic strategy for the development of new information technology
- tendency of donor-driven development of information technology which is not focused and does not reflect the country's priorities, and
- limited utilization of the existing worldwide web-site facilities which have been set up by the Uganda Investment Authority and Uganda Tourist Board for example.

Indeed, as a result of these bottlenecks, a great deal of interest was expressed by all sections of the people working within the Ministry of Foreign Affairs, and those of other ministries, on the need for computer literacy, and on the need for increased use of the new information and communications technology. It was equally evident that use could be made of the existing local training facilities to assist in providing training in some of these new critical areas of development.

External training program that focus on information technology and diplomacy such as the Mediterranean Academy of Diplomatic Studies of the University of Malta should be explored. The University of Malta organizes courses to promote computerization for African diplomatic studies and Ministries of Foreign Affairs. A course is planned to be organized in August 98 at the Institute for Diplomatic Studies in Nairobi. Staff of the Ministry could consider participating in the training.

In the area of Regional Economic Cooperation, the need to increase awareness on the concept and working of regional integration schemes needs to be promoted at three levels, namely: the public sector, private sector and the general public at large. The need for increased awareness on regional economic integration schemes was made much more urgent as a result of the tendency towards growing regionalism in the world. It was found that the effectiveness of the existing regional groupings within the region and the subregion had somehow been diluted as a result of:

- lack of clear-cut understanding of the costs and benefits involved in belonging to a regional grouping and what is expected of them;
- lack of coordination of regional and national economic policies;
- poor coordination among the national institutions in the implementation of regional integration schemes;
- absence of implementation mechanism

Indeed, it was apparent to the team that some of these problems could be resolved by offering training to the government policy makers in particular and the public in general of what their respective role is in the whole process of economic integration and how they can effectively make use of these regional integration schemes.

IV. RESULTS OF CONSULTATIONS ON TRAINING NEEDS

The Mission was informed of the change in foreign policy focus of the Republic of Uganda. The country is undergoing a transition from its traditional political diplomacy to economic diplomacy. This change requires a comprehensive training of the country's civil service, especially officials of the Ministry of Foreign Affairs. Following is a summary of the main results of consultations held with different entities within the Ministry of Foreign Affairs regarding their training needs. These findings are complemented by results of discussions held with different ministries and other institutions in the country.

Ministry of Foreign Affairs

The need for training in *Economic Diplomacy* is very much justified at least on two different grounds, the first one relating to domestic and the other to external factors. The domestic factor pertains to the country's current shift of its focus from political to economic diplomacy. Several officials within the Ministry expressed the view that change was taking place rather slowly due to past habits. Training is, therefore, needed to help prepare everyone in the Ministry, both junior and senior officials, to adjust to the new policy framework. The second factor is the fact that Uganda, like many other African countries, has not yet adapted its

institutions to the changing world environment characterised by globalisation and overall economic competition.

Ugandan officials recognise that the importance of this change and the challenges it poses to the country are not yet fully understood, as evidenced by the country's poor participation in the recently concluded Uruguay Round of Multilateral Trade Negotiations. However, there is growing awareness of this fact and the posting of a trade official in Uganda Mission in Geneva shows that the country is beginning to accord importance to multilateral trade negotiations for its future trade policy and performance. On the other hand, the Ministry of Planning informed the Mission that work is already underway to organise a training workshop aimed at raising skills in the area of loans and grants negotiation. The training will target officials of the Ministries of Finance and Planning.

In the light of the above and in the context of the current challenges posed by the international economic environment and in view of Uganda's new policy options, there is an obvious need to review the profile and job descriptions of the Foreign Affairs civil servants. Indeed, the Ministry of Public Service confirmed this same view. The country obviously needs a core of negotiators who understand fairly well the workings of the new global economic environment. However, as issues involved in negotiations are usually quite diverse and in view of the fact that the country cannot have the resources to handle all of them, Uganda needs to identify areas of prime importance to its economy and focus on them. Within the main goal of reinforcing the country's economic diplomacy, sectoral goals need to be identified and training objectives would be set accordingly. The main thrust of the training in this area should be to enhance the country's knowledge of the economic environment, in which it is operating, with the overarching objective of increasing Uganda's participation in the world economy. Most specifically, the training programme should be based on the following elements:

- Identification of Uganda's place in the current international economic system: it is in light of this that the country's sectoral objectives would be identified;
- Setting up a core group of negotiators --mostly economists and lawyers--and help them develop their basic negotiations skills in international multilateral trade agreements;
- Provision of general basic training to all or most Ministry officials in the workings of the international multilateral trading system;
- Exposing Ministry officials to the main results of the Marrakech Agreement on the Uruguay Round of Multilateral Trade Negotiations

- Helping the country prepare its position on future issues for negotiations within WTO. These would include issues spelt out in the Marrakech Agreement built-in-agenda and new issues such as Government Procurement and trade and Investment Policy;
- Training in the field of tourism and investment promotion could be based on the past model whereby two or three officials from the Ministry were attached to the Uganda Tourist Board and Uganda Investment Authority, respectively, for a period of 3 to 4 months. Uganda investment Authority is considering reviving this training package, an initiative that needs to be encouraged. In this context, the issue of resources to finance the attachment programme needs to be addressed.
- Ad hoc training programmes should also be organised, as in the past, in order to update those trained earlier. As the last 5 years have focused on "image building", it is high time that the current training focused on the ways of targeting potential investors.

Continuity and sustainability of the negotiators was very much emphasised as key to successful negotiations. Failure to keep the same core group of negotiators both in missions like Geneva and Brussels and in the capitals has been acknowledged to be one of the reasons why many African countries, including Uganda, have had marginal contribution to multilateral trade negotiations.

Regarding trade, investment and tourism promotion, it was noted that the country is making remarkable progress. This is due to a collaborative effort between the government and the private sector. At the political front, the effort is led by the President of the country himself who does not miss any opportunity during his travels around the world to "sell" Uganda. On the other hand, the private sector is very active in promoting Ugandan products through business tours, most of them being entirely privately financed. According to the President of the Uganda National Chamber of Commerce, 200 business trips have been already completed and, by the time the Mission was holding discussions with him, 40 business people had just come back from the United Kingdom on a business tour.

In the field of *Information technology (IT)*, the main objective is a change in work habits from paper-based to computer-based culture. Most people in the Ministry are computer illiterate and need to get basic training in the use of computers. There are currently 32 computers in the Ministry (8 of them using 386 and the rest 486 processors). The computer unit within the Ministry (with 5 computers, out of which only 3 were functional at the time the Mission visited

the Unit) is organising some ad hoc basic training. Only one of the computers is connected to the Internet. The Ministry deplored the fact that most of the few officials who currently use computers do not go beyond simple word processing. In order to help the Ministry optimise its operations through maximum use of computers, there is a need for:

- Introducing every official to computer use, word processing, spreadsheet, some data processing and the use of e-mail and Internet;
- Computerisation of the Ministry's Accounting Department
- Setting up a computer-based data management for the Personnel and Finance Department as well as establishing a data bank for the Protocol Department;
- Setting up a Local Area Network (LAN) linking-up all the Ministry's departments;
- Creating a web site within the Ministry and training officials in its management;
- Computerisation of the Ministry's registry;
- Since the ultimate goal of the Ministry is to have electronic link with all its diplomatic missions abroad, there is a need to reinforce its Internet and E-mail capacity.

To achieve the above there is a need for an adequate infrastructure that integrates new technologies such as Internet, existing equipment base around a Local Area Network (LAN). The infrastructure and training should be supported by information system that takes the information flow, clients (missions and other institutions) and their geographic locations into the account. The system should tie together documents, users, technologies, information, tasks and processes. Such a system should enhance collaboration and provide secure information transfer. A ministry-wide Intranet is ideal to meet such requirements; and people from the Ministry should be trained to service the network.

Obviously implementation of this requires financial resources. The Ministry has indicated that it does not have the necessary resources to implement such a project and requested the mission to develop a project proposal for Ministry-Wide Intranet. A draft project proposal is attached (annex II).

In the area of *regional economic cooperation*, it was emphasised that Uganda belongs to a number of regional integration institutions. These include IGAD, COMESA, the East African Cooperation, Kagera Basin Organisation (KBO) and, at the continental level, the African Economic Community. The country's participation in these economic groupings is seen as a

building bloc for Uganda's strategy for wider cooperation. However, despite the potential benefits that the country can derive from regional integration, which would facilitate its integration into the global economic system, all stakeholders within the country have not understood very well the whole concept of regional cooperation. It is felt that neither bureaucrats nor the private sector nor the general public at large are fully aware of the advantages the country can derive through its membership to such regional cooperation and economic integration groupings. A general sensitisation campaign is, therefore, needed to educate the civil service and the public on the virtues of regional cooperation. Specifically, training is needed in:

- Identification of the nature of integration scheme needed by the country and the type of cooperation or integration that would be the driving force of the whole integration process (private versus government);
- Identification of benefits to be obtained and cost to be incurred by joining regional integration institutions;
- Defining the speed of the movement towards integration (the current experience shows that in some cases the movement is perceived to be too slow while it is too fast in others);
- Training bureaucrats, the private sector and the public at large so as to help them appreciate better what is at stake in the integration process;
- Providing basic training on the workings of regional integration and help interpret provisions of some of the legal instruments governing the integration process in a selected number of specific integration schemes. The majority of stakeholders does not know what integration is all about and, therefore, needs to be apprised of its significance.

Other Institutions visited

As this is shown in the Appendix, a number of other institutions were visited. They were all, in a way or the other, supporting ideas put forward by the officials from the Ministry of Foreign Affairs. In addition, they presented their own specific training needs. However, since the objective of our visit to them was to assess how much their work related to that of the Ministry of Foreign Affairs, this report has only taken into consideration the findings that are of relevance to the mandate of the Mission.

It should also be pointed out that the Mission visited the Uganda Police's Unit in charge of childcare and family protection. After it was briefed on the work of the Unit, the Mission informed the Officer responsible for the Unit that a colleague from ECA would visit it in June 1998 to discuss much thoroughly its training needs relating to family protection and the safety of the girl-child.

Discussions with UNDP Kampala

Discussions were also held with the UNDP country office in Kampala. The aim of the discussions was to explore avenues for collaboration between ECA and UNDP in the implementation of the training project. The Mission was informed that UNDP is working on the Integrated project for the country following the High-Level Meeting on Integrated Initiatives for Least-Developed Countries' Trade Development (Geneva, 27 October 1997) at which Uganda held a Round Table on the country's trade-related technical cooperation needs assessment. It was suggested that ECA should participate in this project, more specifically in providing training in the area of economic diplomacy. In the framework of this project, training should be provided not only to officials from the Ministry of Foreign Affairs but also to others from different Ministries and institutions. ECA was assured that financial resources for carrying out this activity could be found either from bilateral donors, trust funds or multilateral institutions that will be involved in financing the implementation of the integrated project.

The Mission discussed also ECA's possible collaboration in the implementation of UNDP projects in the area of information development, networking and dissemination. The Mission agreed that modalities for collaboration should be directly worked out between UNDP and ECA's Development Information Services Division since the heads of both institutions had already agreed in principle on closer collaboration. Among others, possible collaboration in the establishment of an electronic network in the context of the country's Resource Profile Project was being considered.

V. POSSIBLE AREAS AROUND WHICH TRAINING MODULES COULD BE ORGANIZED BY ECA

From the foregoing analysis, it is obvious that there is need for thorough training in order to sharpen skills in the context of changing global scene. However, ECA alone would not be able to provide it. On the basis of the three areas covered by the Team, it is being proposed that, in the field of **Economic Diplomacy**, training module could be organized around five sub-themes, namely:

- In the workings of the multilateral trading system and the development of negotiating skills and modalities

- Need to build in continuity in the conduct of international relations
- Need for coordination of donor-driven projects
- General familiarization for the whole government machinery and organs with the policy shift from traditional political diplomacy to economic diplomacy.
- Training policy for the upgrading of skills of government civil servants at all levels.

Project Title: **Proposal for The Establishment of an Intranet at
The Ministry of Foreign Affairs**

Implementation Agency: **Ministry of Foreign Affairs, Republic of UGANDA**

Project start Date:

Implementation Period: **18 Months**

Estimated Total Cost: **\$300,000**

I. Project Broad objective

The objective of the project is to set up a campus-wide information system for the Ministry of Foreign Affairs of the Republic of Uganda based on Intranet technologies. The project aims to establish an Intranet based on a Local Area Network with necessary content to be used by staff, foreign missions and other local institutions and ministries that supply information to the Ministry of Foreign Affairs. It also aims to put the necessary infrastructure in place, train users in new information and communication technologies, and build a capacity to run a secure ministry-wide information system.

II. Specific objectives

The specific objectives of the project are:

- To establish an Intranet at the Ministry of Foreign Affairs that provides publishing, collaboration and communications, information access and data base applications
- To train users in new information and communication technologies
- To train technical staff in new methods of information and network management as well as publishing on the WWW

III. Background and Justification

The new communications technology has created new ways of communications between countries. It has spanned distance, lowered the cost of accessing information and made it easier to integrate information resources world-wide. This has had a profound effect on diplomatic activities in terms of representation, negotiations, information management and management of information systems. Information technology has therefore become critical in the field of diplomacy. While it plays a prominent role in diplomatic circles and in the various Ministries of Foreign Affairs of the developed countries, its utilization in the context of African countries has remained limited.

The use of Internet has facilitated diplomatic activities in a number of ways. First, it has made representations of countries in cyberspace through official World Wide Web sites possible. A number of embassies, consulates and permanent missions have created web sites to disseminate information and promote foreign policy, tourism, and investment opportunities. It has made it easier for users to access information regardless of location, time and resources.

Secondly, Intranet has become a resource for the exchange of diplomatic documents through secure virtual private networks. Web sites have actually become crucial in providing information about functions of missions, their business hours, locations, press releases, as well as offering information about host country and nationals living in the host country. Lastly, Intranet provides the means for conducting international negotiations. The use of communications technology has made it possible to conduct conferences prior to negotiation and to gather ideas and support for post negotiations follow-up actions. It has indeed made it literally feasible to translate verbal agreements into written documents.

In other words, fast and precise access to information makes it easier for the Ministries of Foreign Affairs to undertake successful activities. Since the success of diplomatic functions rely on information, the new information and communication technologies make gathering, organizing, indexing and cataloguing of data on specific information more manageable.

In its desire to be part of the global-wide development in the new information technology, the Ministry of Foreign Affairs of the Republic of Uganda has made it a priority objective to upgrade its existing information system. This would require the establishment of adequate infrastructure that integrates new technologies such as Intranet and the existing equipment based on a Local Area Network (LAN). The infrastructure will have to be supported by an information system that takes information flow, clients (mission and other institutions) and their geographical locations into account. The aim of such a system is to enhance collaboration and to provide secure information transfer. A Ministry-wide Intranet would be appropriate for such requirements, since it is based on the communication standards of the Internet and the content standard of the World-Wide Web. It is within this context that the tools used to create an Intranet are identical to those used for Internet and Web applications. The distinguishing feature of an Intranet is that, access to information published on it will be restricted to the staff of the Ministry and its client institutions in Uganda. Missions would be provided with passwords to access the resource. Traditionally this has been accomplished through the use of LANs protected by Firewalls.

The major advantages of Intranet are that it will make both unstructured information in the form of documents, and reports, and structured information at the Ministry available to users. Through Intranet the staff of the Ministry would equally be able to:

- access existing management information systems on staff, programmes and resources
- create and update data and information on activities to be available to users
- disseminate information to missions, local staff and collaborate with other relevant agencies in a cost effective way
- improve effectiveness using office automation products
- access published information through the use of passwords

The core of Intranet applications at the Ministry of Foreign Affairs will fall into three main categories: publishing, communication and collaboration, and database applications.

- Publishing involves the creation, and management of Ministry-wide documents associated with graphics, audio, video, and other content on a web site. This begins with intensive use of desktop applications and conversion to HyperText Markup Language (HTML). Published documents could be instantly available throughout the TCP/IP network to anyone with a browser and sufficient access rights, regardless of the client platform. A few examples include policy and procedure manuals, tourism information, project, programmes, plans, newsletters, announcements, etc.
- Communication and collaboration applications on the other hand, enable private and public communication, collaboration, and discussions among staff of the Ministry and their clients. A few applications for collaboration include electronic messaging, newsgroups, online discussion groups and online forums.
- Database applications are also necessary in the operation of the Ministry. In addition to databases on programmes and projects, staff, resources, and protocol related data on countries needs to be developed. This can partially be achieved by developing links to government sites worldwide and building a local knowledge base on an Intranet. These applications could be managed by database engines such as Microsoft SQL server and authored using such programs as Visual Basic Java, JavaScript, C/C++, or Common Gateway Interface (CGI), etc.

The successful application of Intranet requires a good infrastructure, definition of information flow, strategies for using technologies for interaction and collaboration. This will necessitate the development of the appropriate skills to support the network. In other words, the Government of the Republic of Uganda, through its Ministry of Foreign Affairs will have to train a core group of individuals to ensure the proper development and management of Intranet. The training should be organized around server management, application development, publishing of document to HTML, conversion of existing data sources like spreadsheets, simple databases etc. into acceptable format for Intranet. In addition, basic training in desktop publishing and word processing skills, will equally be important to the staff of the Ministry. The acquisition of knowledge in this new area of information will enable the Ministry of Foreign Affairs to organize, store and manage information resources; besides making it easier to dispatch messages, memos and guidelines to its foreign missions.

The Ministry will in addition need to develop a strategy for network management. This would cover policy on security procedures, directory management, information accessibility, replication and administration of the information system. The provision of secure, centralized database of network users, application-specific resources, access control, verification of the integrity of information and protection of resources against unauthorized access is necessary. This could be implemented by using encryption or authentication keys and firewalls. Cipher protocols are also useful. The fundamental need to modernize the information infrastructure and exchange documents in secured and efficient format at the Ministry of Foreign Affairs underlines the justification for this project proposal.

IV. Design consideration

Intranets run on TCP/IP networks, which typically consist of server machines and client workstations using a mix of platforms (such as versions of Unix, Windows, and Macintosh), applications and network services. The network backbone (LAN/WAN) consists of connections, cables, routers, repeaters, and other components. Standard Intranet services that can be available through the Intranet include hypertext Transport Protocol (HTTP), Domain Name Service (DNS), File Transport Protocol (FTP), Usenet news, Wide Area Information Servers (WAIS's), remote login services (Telnet) and electronic messaging. However, the art of the Intranet is not in the hardware and software or the networking protocol but rather in its applications, content and in the competence of the people using it.

Implementing an Intranet requires choosing the development environment, specifying hardware, software and support required, determining content and applications needed, developing the human resources and skills, determining the nature of link to the Intranet and with other institutions and a strategy for maintenance and upgrade.

(i) Development environment for the information system at the Ministry of Foreign Affairs

There is a wide range of choices for developing Intranet at the Ministry of Foreign Affairs. The three major options include:

1. Building Intranet using Novell Intranetware environment incorporating it with Netscape GroupWare and Intranet applications.
2. Developing an integrated information system using the Unix (linux) and Windows environment
3. Developing an Intranet based on Microsoft Windows NT using Microsoft Back Office Server.

Considering the human resources capacity and growing needs for integrated database development and networking, the Microsoft NT environment appears appropriate to the needs of the Ministry of Foreign Affairs. Windows NT integrates with Windows 98 and other Microsoft office products seamlessly. The graphical user environment of Windows NT is easy to use by those with little or no prior experience with Windows environment. The integration of Intranet Explorer into the Windows NT environment is another advantage that brings users at the Ministry closer to the Internet.

(ii) Hardware requirement

A schematic diagram for the equipment required for implementing an Intranet at the Ministry of Foreign Affairs is shown in figure 1. The core equipment includes servers, workstations, switch, hubs and connectivity kits. Table 1 lists the core equipment to implement Intranet at the Ministry of Foreign Affairs.

A Web server is the vital equipment to implement an Intranet. File, print and database servers are also required to share files, spool printing and to implement various databases. In the long term, each Department (Africa, Asia, North America and Europe, research, Protocol, etc.) could set up its own database servers. Server hardware requires sufficient memory and disk space to run Windows NT, Windows 98. Each computer must be configured with LAN cards for TCP/IP connection. Expected network speeds for internal users will be 10 Mbps—100 Mbps while those outside the main system will be approximately 33.6 Kbps.

On the client side, each user should have a Pentium II personal computer with minimum of 300 MHz, 64-MB memory and 8 Mbytes hard disk drive to run NT workstation software and Windows client browsers and applications.

(iii) Software requirements

The activities of the Ministry of Foreign Affairs are information intensive. Therefore appropriate software tools should be available to set up and manage home pages, to create content utilizing HyperText Markup Language (HTML), to perform text searches and integrate databases. Many of these tools are available from manufacturers such as Netscape, Sun Microsystems, Microsoft, IBM, Oracle and Computer Associates. The Web server software is crucial to manage an internal WWW presence on the Intranet. In addition there is a need for client browsers to be loaded on the machines of the users. A commercial client browser costs less than \$40, although freeware versions such as Microsoft Intranet Explorer are available. The client browser is useful to launch a variety of applications, access disparate databases, retrieve information from across the Intranet and the Internet.

Software	Specification	Cost
Windows NT Server		\$3450
Windows NT workstation		\$270
Microsoft Back Office server	20 clients access license	\$3700
Adobe page Mill	270	\$570
Microsoft Front Page	140	
Adobe Image Ready	160	
Visual Basic	Visual Basic pro	\$445
Development tools	Java and others	\$2350
Cold Fusion	Development version	\$1200
	Total	\$12,000

Programming tools such as Java and scripting languages such as Visual Basic are also required to develop interactive databases. Java has become the preferred programming language and its development toolkit should be acquired. Table 2 provides a list of the core software required to implement an Intranet.

(iv) Content and application

The Intranet would provide a universal interface for timely internal communications, live applications, and collaboration. It presents an opportunity for the Ministry of Foreign Affairs to perform database development, publish information and access resources on a whole new level. However the use of Intranet at the Ministry will be different from its application in the business sector. It has to take hierarchical structures, the high security requirement and the needs for human resources adjustment into consideration. Table 3 provides a list of basic applications of Intranet for the Ministry.

The exchange and maintenance of the above applications over a network requires adequate security. Security is one of the highest emphases of the project. It should be noted that existing Intranet tools could provide adequate security. In addition to standard ciphering techniques, advanced public key cryptography and secure server standards would be implemented. The Ministry would form an Intranet committee that would define documents that should be published develop guidelines and promote Intranet within the Ministry. Initially basic public documents should be published on the Intranet. Once the confidence is built the committee would decide what to be exchanged on a secure Intranet server.

Table 3. Major applications and content development areas of the project

Area of application	Applications
Publishing	<ul style="list-style-type: none"> • Basic office products such as word processing, spreadsheet, presentation • Desktop publishing to improve the quality of official documents, materials, proposals, official reports, etc. • Electronic text storage and retrieval on the Intranet • Online calendars • GroupWare applications for group editing and exchange of documents
Databases	<ul style="list-style-type: none"> • Structured information such as databases of addresses, mailing data base, • Library data base • Archives and registry • Legal instruments database • Protocol matters database • Consular matters database • Scientific and cultural matter database
Collaboration	<ul style="list-style-type: none"> • Human resources information systems • Messaging and electronic mail among various departments • Messaging and exchange of information Within missions hierarchy • Coordination of conference, official visits, etc. • Official non-classified diplomatic communications • Electronic mail between the Ministry and missions

The focus on Intranet does not mean that the staff should be confined to internal databases and publishing. The project would provide opportunities for accessing the Internet through a separate server connected to the Internet by a firewall. Access to the Internet through a firewall opens up the internal system to possibilities -not just for using the various tools that are available, but also for merging their functions and creating a seamless system that provides real access to all kinds of resources. The connection of Intranet to the Internet would help users to run various Internet applications such as:

Telnet—remote login protocol or virtual terminal.

FTP—text and binary file transfer.

Electronic mail

Access to network news groups.

Intranet Relay Chat (IRC)

Access to web servers worldwide

(v) Human resources requirement

The development of a new information strategy requires new skills and human resources development. Given the limited number of technical staff in Uganda and higher demands for technical support, it is necessary to build a core group of IT users that could undertake handholding. Full implementation of Intranet at the Ministry of Foreign Affairs requires the following resources:

Site administrator - The site administrator is responsible for creating, updating and administrating all Intranet activities. He/she is responsible for the creation of home pages and files for other users by acting as gatekeeper for other employees who wish to post information on the system. He/she will manage access to information, directory information, such as user profiles (logins, access rights, groups) and network resources, permissions for servers, applications, directories, and files (web pages, executables), etc. He/she will install, configure, upgrade and move network hardware and software. The site administrator will also be responsible for reviewing server event logs, access logs, and other usage information, collecting performance, utilization, and load variance statistics and for monitoring Intranet-specific statistics such as user request loads, volume of connection requests, number of concurrent connections, server "hits," and so on. He/she will equally carry out tuning of hardware and software to optimize performance and resource utilization.

Technical personnel -Technical personnel will be required for managing web server content for updating versions of software and backup. They will also carry out basic help desk services including database development, support and troubleshooting. The number of technical personnel is not limited. At the beginning two highly skilled staff members would be sufficient.

(vi) Training and human resources development

Training is the most important aspect of new information systems development. Implementation of Intranet requires change of attitudes. All staff at the Ministry of Foreign Affairs would be trained in basic windows environment, use of Microsoft products (Word, Access, Excel, Publisher, PowerPoint and FrontPage) on site. Training would be provided to technical personnel and site administrators in managing a web site, developing content, designing dynamic databases and using development toolkits around Java. This could be given on site by consultants and through travel to other countries.

Implementation strategy

Intranet is scaleable. The Intranet could begin with a few static Web pages, databases and desktop applications. Then interactive links could be built to content pages and databases as they emerge, based on needs. The implementation of Intranet would take place in two phases:

Phase 1 - Building an information system for the Ministry of Foreign Affairs around

Internet protocol (HTTP, HTML)

Time frame: 9-12 Months

This phase involves the creation of office automation throughout the Ministry, development of relevant content and databases outlined above and training of the staff. The major activities would include:

- purchase of equipment
- recruitment of a site administrator
- training of staff and selected technical personnel on Intranet technologies
- building of a strategy for publishing structured and unstructured information
- creation of databases using MS SQL server
- training of staff on word-processing, data base management and access, presentations, and conversion to HTML
- implementing basic Internet services (access to email by all staff)

Phase 2 - Extending connection to missions and development of a comprehensive Intranet and WWW site for Ministry of Foreign Affairs

Time frame: 12-18 Months

Phase two of Intranet deployment would include extension of the Intranet content to missions and other entities related to the Ministry of Foreign Affairs. In addition this phase would involve development of:

- a full fledged Intranet integrating independent databases established during the first phase
- a global presence website for the Ministry of Foreign Affairs that could be updated in collaboration with missions
- extended connections to various missions
- improved capacity in publishing through additional extensive training

Financial implications

The initial cost of an integrated information system would include cost of servers for setting up a Local Area Network, cost of client machines and connection tools and that of software. Recurring costs include server, client computers and network upgrade, management tools update, new software license and upgrade, fees for publishing information and archiving cost. Costs for human resources would cover the remuneration of one site administrator and two highly skilled technical personnel, the cost of consultants to install, configure hardware and software and train users and technicians. The breakdown is shown in Table 4.

	Phase 1	Phase 2	Total
Human resources	\$ 36,000	\$ 36,000	\$ 72,000
Consultants	\$ 24,000	\$ 14,000	\$ 38,000
Training	\$ 20,000	\$ 30,000	\$ 50,000
Computing resources	\$100,000	\$ 40,000	\$140,000
Total	\$180,000	\$120,000	\$300,000

APPENDIX: LIST OF OFFICIALS MET

Ministry of Foreign Affairs

1. Ms. Rhoda V. Kaisho, Under Secretary, Acting Permanent Secretary
2. Mr. Hilbert F. Opeli, Principal Assistant Secretary, Head, Finance and Administration
3. Ms. Cissy H. Taliwaku, Head Research, Planning and Policy Coordinator
4. Mr. Arthur Gakwandi, Director, Asia, Pacific and Southern America Department
5. Mr. Mull Sebuja Katende, Acting Director, Africa and Middle East Department
6. Mr. Isaac Biruma-Sebulime, Acting Director, Department of Multilateral Organisations and Treaties
7. Edward Kwisenshoni-Mwebihire, Acting Director, Department of Information and Public Relations
8. Emmanuel Orinzi, Acting Director, Protocol Department
9. Ms. Catherine Otiti, Foreign Service Officer, Mission Focal Point

Ministry of Planning and Economic Development

1. Mr. C.M. Kassami, Permanent Secretary
2. Mr. Charles Bitarabe, Acting Commissioner, Aid Coordination

Ministry of Trade and Industry

1. Mr. Patrick Mugiwa, Department of Industry and Technology
2. Mr. Fred Ntuhe, Department of Industry and Technology
3. Mr. P. Elimu Elyeti, Department of Industry and Technology
4. Mr. Patrick Okilangole, Department of Industry and Technology
5. Mr. Nimrod Waniale, Senior Adviser, Export Development

Ministry of Public Service

1. **Mr. Jimmy Lwamafa, Permanent Secretary**
2. **Ms. Prisca B. m. Sezi, Acting Director, Human Resources Management**
3. **Ms. Adah Kabarokole, Acting Commissioner, Human Resources Development**

UNDP Kampala

1. **Mr. Zena Lemlem, Deputy Resident Representative, Operations**
2. **Mr. Eugene Owusu, Economic Advisor**
3. **Mr. John Okello, Programme Officer**

Other Institutions

1. **Mr. Boney M. Katatumba, President, Uganda national Chamber of Commerce and Industry, and Chairman COMESA Business Community**
2. **Mr. David Katongole, Chairman, National Chamber of Commerce and Industry, Kawempe District Branch**
3. **Mr. Edwa4d Baliddawa, Coordinator, AFRICANEWS and STARCOM (Internet Provider)**
4. **Mr. John Mary Kauzya, Deputy Director, Uganda Management Institute**
5. **Mr. William Tsimwa Muhairwe, Acting Executive Director, Uganda Investment Authority**
6. **Mr. Ignatius B. Nakishero, Sales and Marketing Manager, Uganda Tourist Board**