



**UNITED NATIONS  
ECONOMIC COMMISSION FOR AFRICA**

**Building Capacity in Science and Technology  
In Africa**

**Project funded by the Carnegie Corporation of New York  
Grant Number: B6834**

**Final Report**

**June 2000**



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## Table of Contents

Abbreviations .....	i
1. INTRODUCTION .....	1
2. MAJOR ACCOMPLISHMENTS UNDER THE PROJECT .....	1
2.1. Meeting and follow up of recommendations of Standing Committee on the Harmonization and Standardization of Information Systems in Africa, including CD ROM and Web page development.....	1
2.1.1. ECA African Development CD ROM .....	1
2.1.2. ECA Website Development.....	2
2.1.2.1 ECA external Web site ( <a href="http://www.un.org/Depts/eca">http://www.un.org/Depts/eca</a> ).....	2
2.1.2.2 Intranet.....	3
2.2. Strengthening the African Technical Advisory Committee on the AISI .....	3
2.3. Policy awareness workshops on AISI.....	4
2.3.1 Rwanda National Workshop on Information and Communication Technology Policy and Strategy.....	4
2.3.2 African Development Forum: the challenge to Africa of Globalisation and the Information Age.....	4
2.4. Building AISI African infrastructure.....	6
2.5. ESTNET .....	7
2.5.1. Future ESTNET Activities .....	7
3. CONCLUSION .....	8
3.1. Measurable outcomes .....	9
4. FINANCIAL STATEMENT.....	10
Annex I.....	11
Annex II.....	17

## Abbreviations

ADF	African Development Forum
AISI	African Information Society Initiative
APC	Association for Progressive Communications
ATAC	African Technical Advisory Committee to the African Information Society Initiative
BDT	Telecommunication Development Bureau of the ITU
CFML	Cold Fusion Markup Language
CIDCM	Centre for International Development and Conflict Management
CSIR	Council for Scientific and Industrial Research
DNS	Domain Name System
DTD	Data Type Definitions
ECA	Economic Commission for Africa
ESAMI	Eastern and Southern African Management Institute
ESTNET	ECA Science and Technology Network
FEMNET	African Women's Development and Communication Network
GAINS	Ghana Agricultural Information Network System
GKII	Second Global Knowledge Conference
GKP	Global Knowledge Partnership
GIIC	Global Information Infrastructure Commission
HTML	Hyper Text Markup Language
ICT	Information and Communication Technologies
IDEP	African Institute for Economic Development and Planning
IDRC	International Development Research Centre, Canada
IDSC	Information and Decision Support Center
IGAD	Intergovernmental Authority on Development
INIIT	International Institute for Information Technology
ISP	Internet Service Providers
ITU	International Telecommunication Union
NICI	National Information and Communications Infrastructure
OSIRIS	Observatoire des Systèmes d'Information, Réseaux et Inforoutes au Sénégal
PADDEV	ECA African Development Information Bibliographic Database
PICTA	Partners in Information and Communication Technology in Africa
SISEI	Système d'information et de suivi de l'environnement sur l'Internet
TCA	Technology Centre for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WWW	World Wide Web
XML	Extended Markup Language

## 1. INTRODUCTION

The final report is prepared for the Carnegie Corporation of New York for the activities undertaken in the framework of the project titled: "Building Capacity in Science and Technology in Africa" (grant B6834).

The project profile was submitted to Carnegie by the ECA in February-March 1997 and Carnegie approved an initial grant of \$440,000 for its implementation. In 1999 an additional Grant of US\$ 250,000 was approved. Carnegie also approved ECA requests to carry US\$ 153,881.72 from grant B6700 and US\$ 3093.28 from grant B6198 over to grant B6834.

## 2. MAJOR ACCOMPLISHMENTS UNDER THE PROJECT

The overall objective of the Grant B6834 was to strengthen the capacity of ECA's member States to build and use their scientific and technological strength in order to increase economic growth, with a special emphasis on promoting information, communication, food, population and environmental technology.

### **2.1. Meeting and follow up of recommendations of Standing Committee on the Harmonization and Standardization of Information Systems in Africa, including CD ROM and Web page development**

The Eighth Meeting of the Standing Committee on the Standardization and Harmonization of Information Systems in Africa was held at the United Nations Conference Center in Addis Ababa, Ethiopia during 21-25 June 1999. It was attended by experts from African countries and institutions dealing with standardization issues and information exchange in Africa. The business meeting of the Standing Committee was followed by a training course on "Publishing CDS-ISIS data bases on the Internet".

#### **2.1.1. ECA African Development CD ROM**

The eighth meeting of the Standing Committee recommended that ECA produce a second edition of the African Development CD ROM and that it further extend its ECA Web site to serve as a clearinghouse for scientific and technological, economic and social development information in Africa. The work undertaken during this reporting period on this activity related to the production of the second edition of the ECA African Development information CD-ROM and the updating and expansion of ECA's Web sites.

ECA is in the final stages of preparing the second edition of the African Development CD ROM (CDAD2) comprising:

- Statistical information from member states on population, industry, trade, etc.;
- Africa in Figures - data on surface area, population (density, population per physician and hospital, life expectancy, literacy, demographic and social indicators);
- ECA official publications produced by ECA Divisions on major African development issues;
- Databases on development information, African experts and research and higher learning institutions;
- Other types of data received from contributing institutions.

Institutions outside ECA which have contributed databases or other data and information to the CD ROM are:

- Intergovernmental Authority on Development- Djibouti (IGAD);
- ECA Subregional Development Centre – East Africa;
- ECA Subregional Development Centre – North Africa;
- Ministry of Trade (Algeria);
- Office for the Promotion of External Trade (Algeria);
- National Center for Research Documentation and Information (Sudan);
- Eastern and Southern African Management Institute (ESAMI);
- The President's Office Planning Commission (Tanzania).

A prototype CDAD2 was produced at the end of December 1999. The data contributed by the responding institutions has been reformatted and converted to HTML format.

The CD-ROM is intended for those users who do not have easy access to the Internet. Regrettably, since 99% of African's population does not have Internet access. For these users, the contents of the ECA website, the AISI and ADF websites have also been included in CDAD2 so as to enhance accessibility of information contained in the websites.

During the period of this grant, the first CD ROM on African Development produced under earlier Carnegie project B6700 was demonstrated and made available in various fora including:

- the OAU Afro Arab Trade Fair in Dakar, April 1999
- the Eighth Meeting of the Standing Committee on the Standardization and Harmonization of Information Systems in Africa in Addis Ababa, June 1999
- The First Meeting of the ECA Conference on Development Information (CODI) in Addis Ababa, June 1999.
- The African Development Forum in Addis Ababa, October 1999
- the UK United Nations Association meeting in London, December 1999

## **2.1.2. ECA Website Development**

### **2.1.2.1 ECA external Web site (<http://www.un.org/Depts/eca>)**

During the period of this grant, the ECA Web site underwent a major makeover. The Web site, in its new format, is expected to be posted on the Internet under its own domain for the first time in June 2000 ([www.uneca.org](http://www.uneca.org)). Among the Web related activities that took place during the period of the grant were:

- Makeover of the entire ECA website and integration of ECA sites "housed" elsewhere
- Continuous updating of the ECA site, especially during major meetings and conferences which enhanced the usefulness of the ECA website.
- Design of the African Development Forum '99 website and its continuous updating before and during the conference.
- Design of the Sixth African Regional Conference for Women website and its continuous updating before and during the conference.
- Design of the African Development Forum 2000 website and its updating

### 2.1.2.2 Intranet

The ECA Intranet extends the ECA external Web site for internal users, including all United Nations agencies in Addis Ababa and links with the external site. The activities undertaken during this period on the Intranet included:

- Updating, modification and maintenance of the Intranet on a daily basis
- Administration of the ECA Intranet as well as the pilot Intranet server
- Writing of CFML codes and scripts to interface *Directory, Publications, Wardens & Bibliographical* databases in order to make them available on the Intranet using Cold Fusion Professional software
- Interfacing of three CDS/ISIS databases (the PADDEV bibliographical database, the African Experts database and the African Institutions database) to the Intranet using Apache web server and Perl scripts
- Upgrading the Intranet search tool to use a powerful search engine, which indexes and searches information not only from the ECA Intranet but also from local copies of the external ECA website as well as the AISI, ADF, TCA and other ECA initiative websites in order to enhance its functionality
- Linking of the Intranet with the ECA Internet Web sites

## 2.2. Strengthening the African Technical Advisory Committee on the AISI

With assistance from this grant, ECA organized the second meeting of the African Technical Advisory Committee on the African Information Society Initiative in Johannesburg, South Africa from 16 to 17 November 1998. It was attended by 4 of 6 members of the Committee and a number of observers invited by ECA to contribute their special expertise. The report of this meeting is available at <http://www.bellanet.org/partners/aisi/atac/atac-rep98.htm>. The recommendations of this meeting of ATAC shaped the ECA work programme in information and communication technologies for the biennium 2000-2001. Outside the formal session, the activities of the Committee were strengthened by the organization and moderation of an electronic discussion list for Committee members, ATAC-cl.

Members of the African Technical Advisory Committee on the AISI formed the core of the experts of the African Technical Advisory Committee (ADF-TAC) to the African Development Forum. (All the ATAC members were invited to join the ADF-TAC). The ADF-TAC met in Addis Ababa from 27 to 29 August 1999 to review the theme papers and the draft programme for the Forum. Until the Forum held at the end of October 1999, they continued to give online advice to ECA on the preparation of the Forum through an electronic discussion list that ECA set up: ADF-TAC-cl.

The members of the first ATAC concluded their term by the end of the year 1999. ECA is now in the process of nominating members for a second term, based on both the recommendations of previous ATAC sessions (to enlarge the numbers of ATAC members and their expertise) and to bring ATAC in line with the updated vision of the African Information Society Initiative provided by the African Development Forum '99. The Committee being constituted in the year 2000 will reflect both the constituencies of the focus groups (private sector, gender, youth, academia, and the African diaspora) that played an important role at the Forum, as well as its major themes

(infrastructure development, democratising access to the information society, information economy, and governance).

### **2.3. Policy awareness workshops on AISI**

#### **2.3.1 Rwanda National Workshop on Information and Communication Technology Policy and Strategy**

One of the major outputs of the Carnegie project was the organization of the National Workshop on Information and Communication Technology (ICT), Policy and Strategy for Rwanda, held in Kigali from 30 November to 4 December 1998. It was co-organized by the Ministry of Transport and Communications of Rwanda, ECA, UNESCO, UNDP and USAID Leland Initiative under the overall coordination of ECA's Development Information Services Division. The workshop was attended by over 90 participants from public sector, academia, civil society and private sector. It was opened by the Vice-President of the Republic of Rwanda (who has subsequently become the president of the country).

The workshop was the first step for Rwanda in implementing the African Information Society Initiative (AISII). The aims of the workshop were:

- to create a opportunity for the substantive discussion on Information and Communication Technology and how Rwanda can benefit from these technologies;
- to build a mechanism for a richer understanding of critical issues related to ICT and practical steps by Government to develop a capacity to use ICT in Rwanda; and
- to firmly develop a strategic thinking among senior decision makers on ICT related issues.

Following the workshop, ECA has continued to provide technical assistance to Rwanda in the development of its national information and communication infrastructure policy and strategy. At the end of this reporting period, Rwanda had drafted and is considering for adoption a national information and communication infrastructure plan.

#### **2.3.2 African Development Forum: the challenge to Africa of Globalisation and the Information Age**

The major activity under the Grant during this period was the convening of the (first) *African Development Forum: the challenge to Africa of Globalisation and the Information Age* in Addis Ababa from 24 to 28 October 1999, attended by over 950 participants ranging from community activists and technical experts to Heads of State. The participants included a full gamut of the stakeholders in making knowledge for development a reality in Africa, from civil society and the academia to the private and high level public sector officials. Among the high level participants were two Heads of State and Government (Ethiopia and Mali), one Vice President (Malawi) and the Deputy Secretary General of the United Nations. The event included plenaries and keynote addresses and working group sessions on the Forum theme areas, in addition to an exhibition. Of particular note were the focus groups on youth, gender, the private sector, the African Diaspora and academia. A short version of the report of the Forum appears in Annex I. The full report is available at: <http://www.un.org/Depts/ECA/adf>.

The *Forum* was an effort to promote high-level dialogue on the issue of information age in Africa among governments, civil society, the private sector and international organisations. A number of initiatives were spawned at the ADF, including a plan for a regional SchoolNet Africa,



an African Distance Learning Programme, discussion lists and activities related to gender and the information age in the context of Beijing +5, NgoNET Africa (an action group to engage civil society in the promotion of information and communication technology for African development), a telecentre network, activities to support the involvement of the African diaspora in knowledge and development in Africa, the formation of a Biz2biz network, the Alliance for African Business and the formation of national action groups in Malawi and Cameroon. The youth group that formed at the Forum organized itself with the specific aim of preparing for GKII.

Carnegie's major and unique contribution to the Forum was the sponsoring of the substantive documentation prepared by the Secretariat for the conference- on the four themes (infrastructure, the information economy, democratisation of access and using information and communication technologies for improved governance) and the two underlying reference documents. The reference documents were two very comprehensive volumes – the first recording, indexing and abstracting- for the first time ever - all African origin Web sites (E/ECA/ADF99/2) and the second-presenting comprehensive country profiles of national information and communication infrastructure in all 53 African countries (E/ECA/ADF99/1). These documents are available in full text (in both English and in French) on the ECA Web site and mirrored at Bellanet (African Development Forum 1999 (ADF'99) Documents: <http://www.un.org/depts/eca/adf> and <http://www.bellanet.org/partners/aisi/adf99docs/docs.htm>. (The documents are also being published in the volume *The African Information Society*, a joint publication of ECA and the Free University of Brussels).

The documents produced with resources from this Grant were:

<b>Document Symbol</b>	<b>Document Title</b>
E/ECA/ADF/99/1	<u>African Country Profiles: National Information and Communication Infrastructure</u>
E/ECA/ADF/99/1	<u>Profils des pays africains: infrastructure national de l'information et de la communication</u>
E/ECA/ADF/99/2	<u>Africa on the Internet: an annotated guide to African Web sites</u>
E/ECA/ADF/99/2	<u>L'Afrique sur l'Internet: un guide annoté aux sites Web africains</u>
E/ECA/ADF/99/4	<u>Democratizing Access to the Information Society</u>
E/ECA/ADF/99/4	<u>Democratiser l'accès à la société de l'information</u>
E/ECA/ADF/99/5	<u>Policies and Strategies for Accelerating Africa's Information Infrastructure Development</u>
E/ECA/ADF/99/5	<u>Politiques et stratégies pour accélérer le développement de l'infrastructure de l'information en Afrique</u>
E/ECA/ADF/99/6	<u>Information and Communication Technologies for Improved Governance in Africa</u>
E/ECA/ADF/99/6	<u>Les technologies de l'information et de la communication à l'appui de la bonne gouvernance</u>
E/ECA/ADF/99/7	<u>Globalization and the Information Economy: Challenges and Opportunities for Africa</u>
E/ECA/ADF/99/7	<u>La mondialisation et l'économie de l'information: enjeux et perspectives pour l'Afrique</u>

The quality of the documentation presented to the Forum received wide acclaim from the participants. Annex II contains the full list of Conference documentation.

Findings on the evaluation of the Forum indicate that it succeeded in bringing the issue of information technology and development to the participants. Nearly ninety percent of respondents to the evaluation said that the Forum had helped them identify suitable policy options in this area for their respective countries. Again nearly ninety percent (89.2 %) of participants said that they felt the conference had achieved its objectives. Ninety-seven percent of those who responded to the evaluation questionnaire said that they would undertake activities to follow up their participation in the conference.

### **2.3.3 Post Forum Summit**

ECA is following up the ADF '99 with a post-Forum Summit to present to the highest levels of leadership the strategies considered to be among the most promising ADF participants. To accelerate African development through the increased use of information and communication technologies, the Summit will examine an overall strategy that targets the key development sectors of education and youth, health and small business development along with the overall policy changes that are needed to underpin the transformation.

ECA is inviting 15 African Heads of State and Government, directors of development agencies and chief executives of major international private sector firms to get the commitment from the highest to use ICTs to help Africa solve its most pressing problems. (Negotiations for the holding of the Summit are at an advanced stage. From the post-Forum Summit ECA expects:

- Commitment from all partners (governments, sub-regional organisations, private sector and the development community) to work together to enhance the value of specific information society initiatives to the Africa region as a whole
- Agreement from governments to champion the African Information Society
- Commitment from subregional economic organisations to build policy frameworks to enhance the impact of national information society policies put in place in their member countries
- Increased public debate within countries on information society issues

Once the commitment has been made, it is anticipated that much of the remainder of the strategy will fall into place as each nation and subregion carves its own unique path towards the overall goals.

### **2.4. Building AISI African infrastructure**

This was one of the themes of the African Development Forum '99. In order to present this theme to the Conference ECA prepared, using Carnegie resources, the theme *paper Policies and Strategies for Accelerating Africa's Information Infrastructure Development* (<http://www.bellanet.org/partners/aisi/adf99docs/infrastructure.htm>). It continues to guide ECA's work in preparation for the post-Forum Summit, especially through the policy focus area. ECA will continue to intensify its work in this area throughout 2000-2001, with the organisation of a regional seminar on infrastructure development and connectivity in the second year of the biennium.

## **2.5. ESTNET**

The ECA Science and Technology Network (ESTNET) is a collaborative policy research network set up to promote the dissemination and exchange of information related to science and technology management and policy issues in Africa.

ESTNET will help practitioners who are engaged in development work that is based on a sound application of science and technology in various African public and private institutions. This will be achieved by enhancing the sharing of relevant information resources. ESTNET will help identify and exploit opportunities for co-operation and consultation among African science and technology (S&T) stakeholders and between them and other S&T policy communities. It can also contribute to the diffusion of better policy practices across African countries so as to develop more effective S&T policy in Africa.

The idea of ESTNET was first aired in 1996-97 in ECA and formally initiated by a group of experts in science and technology that met at the ECA Headquarters in 1998.

The Expert Group identified best practices, success stories and promising research results. The collected information was recorded and fed into a database. A draft website was developed and discussed with peers and advisors. Further relevant information was collected and posted on the draft website. The draft website has been accessible from the ECA Intranet for six months and further comments were received.

The website was presented and reviewed at the second meeting of the Advisory Board on Science and Technology in June 1999 and at the first meeting of the Committee on Natural Resources and Science and Technology in November 1999. It was further discussed with consultants, visiting fellows, ECA subregional offices and other commentators during the course of 1999. The technical aspects were reviewed extensively by ECA's Information Systems Section; the style and format were reviewed by the Communication Team. The reviews were very positive and encouraging. The reviewers were convinced that ESTNET would provide a very useful tool for facilitating communication and access to information on science and technology policies and management in Africa.

### **2.5.1. Future ESTNET Activities**

Future ESTNET activities will entail various efforts and measures:

- to improve upon the existing ESTNET draft website, so as to be more in line with the style and guidelines of ECA web publishing;
- to expand and further develop the databases with particular emphasis on needs of African countries;
- to enhance and promote connectivity through financial assistance to the S&T focal points of selected member States;
- to train the network operators;
- to launch and market the network, update the information and maintain the site, and assist member States in utilizing and benefiting from the network.

An improved ESTNET website will enable a speedy access to a wealth of essential information sources for science and technology policymakers and managers. The expanded, renewed databases will contain important information such as information on best practices, best research

results, indigenous technologies, technological standards, intellectual property rights, briefing and issues papers and reports of important meetings. To enhance the dynamic growth of ESTNET, a targeted effort will be made to increase the number of collaborators and partners. The ESTNET Steering Committee will then provide further evaluation and guidance during the development phases.

### 3. CONCLUSION

It was achieved through standardisation of electronic exchanges, a network of science and technology policy-makers and institutions, executive dialogues for senior policy makers, regional and subregional conferences, advisory services and South-South learning.

This project concentrated on strengthening ECA's ability to provide leadership in the Africa region in both policy development and capacity building in science and technology for development, with particular attention to information and communications technology (ICT). With regard to ICT, the project used ICT tools to build networks for policy development as well as to promote ICT as an area to stimulate economic and social growth in African countries.

ECA met the overall objectives of the project in the following ways:

- (1) Development and strengthening of the ECA Science and technology network (ESTNET)  
ESTNET was developed under this project. Plans have been developed and funds are being sought for substantial extension of the network in the next three years. It is felt that ESTNET will develop into a major tool for communication between science and technology policy makers in Africa, building their capacity through exchange of experience and information.
- (2) Strengthening ECA's capacities to provide leadership to African member States in science and technology policy  
ECA's capacities were strengthened through the advice provided by the expert groups and through visiting scholars in this area sponsored under this grant.
- (3) Promoting harmonization and standardization of development information in Africa to facilitate its exchange  
Harmonization and standardization of development information in Africa were promoted through the activities of the Standing Committee on Harmonization, both through its eight meetings as well as on-going communication between members and their participation in the development of IXML standards for information exchange and in the preparation of the second edition of the CD-ROM for African Development.
- (4) Building policy awareness and technical capacities for the implementation of the African Information Society Initiative  
It was in this area that the project accomplished the most. The African Development Forum brought policy awareness for the implementation of the African Information Society Initiative to the highest level of policy makers in 49 African countries. The first *African Development Forum: The Challenge to Africa of Globalisation and the Information Age* took stock of AISI's first period and set new directions for the second that call for higher level of efforts to bring African countries into the mainstream of development on this issue. The vast majority of participants at the Forum indicated that it had helped them to identify policy options in this area and that they intended to follow it up with actions at the national level. ECA is following the Forum with intensified work on the development of national policies, as done with Rwanda under this project, in some 24 countries and in working with countries on the development of projects in key areas such as ICTs for health, education and e-commerce.

### 3.1. Measurable outcomes

ECA met the expected outcomes of the project in the following ways:

- (a) ESTNET science and technology in Africa information collection and exchange system established;  
ESTNET was established.
- (b) An electronically linked network of science and technology researchers, policy makers and practitioners set up;  
The electronic link up has been set up and is being further extended.
- (c) ESTNET Web site established and best practices information disseminated;  
The ESTNET Web site has been established and the dissemination of best practices begun.
- (d) Identification of a corps of experts who can advise ECA and member states on science and technology issues to enhance institutional and national capacities in this area;  
A corps of experts- the science and technology policy expert group has been identified and advises ECA on a regular basis.
- (e) Two advisory meetings and two Executive Dialogues held successfully and related reports made available;  
The advisory meetings and Executive Dialogues were held. Their reports are available.
- (f) Two Visiting Fellows recruited and ECA science and technology activities staff strength augmented;  
Two Visiting Fellows served at ECA and helped strengthen ECA's capacity in this area. ECA has increased its strength and capacity during the period of this grant through the recruitment of two new staff members in this area with internationally recognised reputations.
- (g) Standards for the exchange of development information formulated and disseminated to African development information institutions;  
This was done through ECA's work with the Standing Committee on the Harmonization and Standardization of Development Information and through its extended work with the International Development Research Centre (IDRC), Canada on the development and dissemination of IXML standards for the exchange of development information. In developing the two editions of its CD-ROM on African Development Information, ECA has used the standards approved by the Standing Committee.
- (h) ECA Subregional Development Centres ability to disseminate development information strengthened;  
Through this project ECA provided training for the ECA Subregional Centres in developing their Web sites. All the ECA subregional Centres now have them and are using them effectively to disseminate development information. In addition, ECA (with the stimulus provided by this project) is making arrangements for the installation of VSATs (Very Small Aperture Terminals satellites) at the Sub-Regional Centres to increase their capacity for the dissemination of development information.
- (i) ECA's capacity strengthened to implement science and technology programmes, especially the African Information Society Initiative;  
Through this grant ECA strengthened its capacity to implement the AISI- through the background work that was done by a number of African scholars in the preparation of the substantive papers for the African Development Forum and through the advice rendered by the African Technical Advisory

Committee to the AISI and their participation in the Technical Advisory committee for the African Development Forum.

- (j) Capacities of policy makers and planners enhanced to plan for national social and economic development using information and communications technologies;

This took place both through the national planning processes in 11 countries that preceded the African Development Forum as well as in the Forum itself. As already indicated, vast majority of participants at the Forum indicated that it had helped them to identify policy options in this area and that they intended to follow it up with actions at the national level. ECA is following the Forum with intensified work on the development of national policies in some 24 countries.

- (k) Corps of African Internet technicians trained.

African Internet technicians were trained at several workshops held under the project. ECA is proceeding in this area, through cooperation with the Internet Society to get more Africans into the Developing Country Training Workshops at the annual Internet Society meeting. ECA has also just concluded an agreement with Cisco Systems, Inc. for the establishment of a Internet Networking Academy for African Women at the ECA Information Technology Centre for Africa, which is expected to significantly increase the number of women trained in this area. Funds from this project made possible ECA's initiatives in this direction.

#### **4. FINANCIAL STATEMENT**

The interim progress reports as well as certified financial statements were regularly submitted by ECA.

A certified final financial statement on the project as at 15 June 2000 is herewith attached.

**African Development Forum '99:  
the challenge to Africa of globalisation and the Information Age**

### **Background**

The United Nations Economic Commission for Africa held a regional meeting with representatives of member States, as well as other major stakeholders in African development, on the role of information technology in accelerating African development. The meeting was convened as the first African Development Forum from 24-28 October 1999 under the theme "The Challenge to Africa of Globalisation and the Information Age".

The issue of *Globalisation and the Information Age* was chosen for the inaugural ADF because of the importance of defining African-owned and African-led strategies to engage with the global information economy.

The major goal of ADF '99 was to develop and support African initiatives fundamental to the shaping of the African Information Age. ADF '99 provided the first occasion for a broad range of African policy-makers to come together to assess the opportunities, confront the challenges and develop a plan of action for Africa in the Information Age. It was also the culmination of more than three years of activities to build an African Information Society and the occasion to set future directions for the African Information Society Initiative<sup>1</sup>. The Forum was unique because, for the first time, it demonstrated how much was being done in Africa, by Africans, in harnessing Information and Communication Technologies (ICTs) towards development. Much was already underway, and yet it was not well known even within Africa itself. Some of the most vibrant and innovative applications of Information and Communication Technologies (ICTs) for development occupied centre stage during the Forum.

### **Attendance**

The Forum was attended by some 950 participants from government, the private sector, civil society (including the academic sector and media), bilateral and multilateral organisations. Eighty-one percent of participants came to the Forum from the Africa region, ten percent from Europe, six percent from North America and two percent from elsewhere. Some 36 percent were from the African public sector, fifteen percent from NGOs, thirteen percent from universities and research institutions, fifteen percent from the private sector and fifteen percent from development agencies. (Ten percent listed their institution as "other").

### **Opening**

The Forum had two opening sessions, one on the evening of 24 October 1999 and the second on the morning of 25 October. Speakers at the first session, which considered the broad issues of the African development challenge, were:

**Prime Minister of Ethiopia Meles Zenawi**  
**Deputy Secretary-General of the United Nations Louise Frechette**  
**Secretary General of the Organisation of African Unity Salim Ahmed Salim**  
**Vice President of the African Development Bank Ahmed Bahgat**  
**Under Secretary-General of the United Nations and Executive Secretary of the ECA K. Y. Amoako**

They set the scene by highlighting domestic private sector development, science and technology and good governance as key requirements for African progress. They emphasized the need for a new paradigm for the continent's development based on a vibrant domestic private sector, a strong state, cutting edge policy analysis and good governance.

The opening plenary on 25 October featured keynote presentations underlining the development opportunities of the Information Age in Africa. Speakers included Louise Frechette, Noah Samara and K. Y. Amoako.

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<sup>1</sup> The African Information Society Initiative was adopted in May 1996 by resolution 812 (XXXI) of the ECA Conference of Ministers responsible for economic and social development planning. Since that time it has provided the framework for ECA's programme on Harnessing Information for Development.

In her keynote address, Deputy Secretary-General of the United Nations Louise Frechette said that "knowledge is the new global asset, the very premise of progress". However, in harnessing ICTs for development we must beware of creating digital divide between the information-rich and the information-poor. Information and communication technologies are not a luxury, but rather a tool for economic and social development. Ms. Frechette identified the spread of information and communications technologies as "perhaps the most important force spurring globalisation along". These ICTs were "a tremendous force for integrating people and nations into the global economy. They can promote openness and transparency, leaving polluters and dictators fewer places to hide."

The United Nations system, she said, would continue to do its part particularly especially through the work of ECA and UNDP. The ADF provided a forum to bring partners together. The challenge was for Africa to craft its own links to the global information economy.

Noah Samara, Chief Executive Officer of WorldSpace Corporation, told participants that information affluence was "the *sine qua non* to development." Over the past 15 years, he said, the industrialised world had shifted its focus from connecting people to connecting nodes of information which people could universally access, share and grow. Focus on convergence technologies had brought information affluence - unprecedented benefit and wealth resulting from networked media. To bring this affluence to Africa, Mr. Samara proposed that the ADF '99 participants focus their collective energies on establishing 5 million Internet terminals in 5 million villages and neighbourhoods over the next five years.

ECA Executive Secretary K.Y. Amoako spelt out his vision of an African renaissance spurred by information technology. Intelligent public policies, Mr. Amoako stressed, were critical to making the shift from agriculture and manufacturing to information-based economies that employed innovation and technologically advanced applications. Such policies should be goal focused, carefully monitored, long-term and intelligently led. They should address education, and, in particular, science and technology.

In the session on "**Progress towards the African Information Age**" Karima Bounemra Ben Soltane, ECA Development Information Services Division Director, set the scene for the work of the conference by briefing participants on the African Information Society Initiative (AIS), stressing the importance of national information and communication infrastructure (NICI) policy processes and introducing the four themes of the Forum which were:

- **Globalisation and the Information Economy**
- **Strengthening Africa's information infrastructure**
- **Information and communication technologies for improved governance**
- **Democratising access to the information society**

The programme proceeded for four days of plenary and breakout sessions, workshops, focus groups, feedback sessions, special panels, poster sessions, an information marketplace and an exhibit. (The full text of the Forum report is available at <http://www.un.org/depts/eca/adf>.)

A unique part of the Conference, which contributed to its success and which is crucial to its follow up, was the formation of focus groups of major stakeholders on the issue of information technology for African development. There were focus groups on gender, the private sector, academia, the African diaspora and youth. Formed prior to the Forum, these groups met in session during the Forum and provided regular feedback to the plenary.

Participants presented their recommendations and conclusions to the Forum in the context of what they called "The Way Forward to a people-centred African Information Society." Their point of departure was the basic right to communicate and to participate in society, which required equity of access to and use of ICTs. There was explicit recognition of the gravity of the digital divide whereby many women, many young people, the disabled and many rural and marginal urban communities in Africa were distant from the advantages ICTs offered.

### **Importance of National Policies**

They saw the development and consolidation of National Information and Communication Infrastructure policies and plans (NICI) as fundamental to the African Information Society. The national level provided the platform for making strategic choices on, for example, regulation, infrastructural priorities and service distribution. As the success of NICI efforts to date had been based on the inclusionary nature of the process, including as many stakeholders as possible, they stressed that this needed to be continued, with efforts made to ensure private sector involvement.



While stressing the national level, strong emphasis was put on the need to work for regional integration, as the enhancement of scale would do much to accelerate the building of African information infrastructure. Cooperation at sub-regional and regional levels was also an essential part of the policy and regulatory frameworks. Additionally, ICTs were tools that could be used to facilitate regional economic integration.

### **Forum recommendations**

The principal recommendations made during the Forum, following its themes as well as its stakeholder groups, were as follows:

#### **Globalisation and the Information Economy**

To join the information economy and to address barriers to e-commerce in Africa, participants felt that Africa must:

- combine economies of scale with competition
- improve local skills to cope with the brain drain problem
- encourage sub-regional cooperation
- establish a stable framework for investment
- develop capacity to present and defend African positions in global fora, such as the World Trade Organisation.

They felt that Governments needed to develop reliable statistical indicators to facilitate the process of planning the information economy and monitoring impact and performance. Governments needed clear information economy strategies in partnership with the private sector. They felt that the global multinational private sector could create partnerships with African Small and Medium Scale Enterprises (SMEs).

#### **Information and communication technologies for improved governance**

Participants felt that ICTS for improved governance could support four areas especially: reducing poverty; meeting basic human needs; improving public administration; and enhancing democratisation.

Their recommendations in this area were to:

- Develop applications that fit priority areas for development including job creation, agricultural information systems, human resource development and health
- Establish good communication channels between decision makers and professionals
- Design systems for capturing indigenous knowledge
- Promote information and resources sharing among African countries through joint pilot projects, replications of best practices and the establishment of regional and sub-regional frameworks

#### **Strengthening Africa's information infrastructure**

Participants showed commitment to follow up actions related to policy and infrastructure development. They felt that policies and regulations should create an environment conducive to innovation, competition and investment. There was a need to strengthen autonomous regulatory bodies which actively involved all stakeholders and balanced diverse interests.

Specific recommendations included:

- Mobilising local investment for ICTs and networks at all levels from global corporations to communities
- Capacity building for inclusive and effective policy formulation and regulation
- Creation of new and expansion of existing African investment funds for rural and sub-regional development
- Sub-regional cooperation on equipment selection, procurement, deployment and related areas
- Enhanced African participation in Internet governance at regional and international levels.

## Democratising access to the information society

Participants felt that school networking and distance learning were essential to broadening access to the information society. They also recommended:

- Promotion and protection of indigenous knowledge through ICTs
- Using intermediaries such as information brokers to broaden access
- Integrating old and new information technologies
- Facilitating cooperative, public access to ICTs
- Developing methodologies for selecting telecentre locations
- Developing Web page creation and design schools, which could provide the basis for services exported to developed countries.

The stakeholder groups stressed a number of areas for follow up. The youth group recommended an on-line youth forum, the development of an African Youth Action Plan through National Youth Forums, collaboration of African youth with youth elsewhere in the South and African content development, with emphasis on youth.

For ICTs to be an empowering tool for development, the gender group said that it was essential for women to participate effectively in ICT decision-making processes, including NICI development and that ICTs applications, products and services needed to be designed to meet the specific needs of African women. They also wanted ICTs used to strengthen women's entrepreneurship and for women entrepreneurs to engage actively in the information economy. They recommended education and training in science and technology for young African women. ICTs could be used to enhance African women's capacity to speak out and support one another, they noted. The group also advocated the establishment of mechanisms to guarantee gender equity in ICT planning, projects and programmes as well as research on the impact of ICTs on women and their struggle for equality.

The African Diaspora group was eager to have African governments welcome their participation and support in meeting strategic goals. They felt this could happen through the creation of an enabling environment and incentives for investment and trade. They voiced their intention to create a virtual forum of African experts in the diaspora to advise African decision makers and indicated that they would explore modalities of using diaspora expertise to support Africa's interests in global fora such as ITU, WTO and ICANN. They thought that they could be useful in mobilising support for African ICT development efforts in Europe and North America.

The academic group recommended the development of institutional capacity for training policymakers, analysts and researchers on the role and the use of ICTs in development. At the regional level they wanted to see the development of methodologies for impact assessment of national policies relating to ICTs and other policy issues, with a view to promoting transparency and accountability in governance and regional cooperation.

The private sector group felt that dialogue and debate within the African private sector and the global private sector was needed in order to enhance Africa's effectiveness in global fora. They advocated setting targets for creating employment in the information economy, focusing on intangible goods and services. To make this successful, the knowledge, education and training required for the information economy needed to be redefined. They felt that new instruments were needed to support the capital needs of the African private sector, including venture capital funds and the restructuring of available financing from the regional and international financial institutions. They also wanted to see mechanisms developed to enable private sector participation in the NICI planning process, including a focus on the legal and regulatory framework required for the information economy.

In his concluding address Mr. Amoako highlighted some of the main points of the Forum:

First, the promise of ICT. It is immense. It has profound ramifications for education, commerce, bringing our societies and nations closer together, and relating us to the world.

Second, it is not a panacea. While it requires lots of human and financial investment, there are partners willing to share the load. There are proven approaches, and there are new and unproven approaches. So the policy choices and the investment approaches will present policy and decision-makers with the need to make what could turn out to be profound choices on the path to development. Choices not only need to be made, but to be intelligently guided in their implementation.

Third, we learned a lot about content as well as hardware. Content in health, in education, in e-commerce, in cultures for peace, in linkages of civil society, business and so many other topics. There is surely African content, but, as President Konaré so wisely underscored, we must be true to ourselves. We must produce as well as consume.

Fourth, I am struck by how urgently it is becoming for Africa's leaders to understand what is at stake in decisions being made outside of Africa and how vital it is that we be prepared with regional positions and collective force to fend for our interests in the global decision arenas.

Fifth, I am impressed with how new forms of communication and information management can aid in democratising society. Particularly with new ideas on the enabling and liberalising roles of government, there is every possibility, if we are wise, to allow the Information Society to be a very broad-based one. That is why I am so pleased that we explored together the widespread involvement of youth, of women, of the poor, of rural people as well as of the elites whose access to ICT is not in question. There are implications, of course, for how ICT is managed. And all those implications must include the involvement of the broadest possible spectrum of African society into the creation and management of ICT systems.

Sixth, I must say how impressed I am with the level of talent at this Forum. We have here leaders in so many fields who clearly are the hope of tomorrow's Africa. I heard very little about how we are only in this for profit, or only in this for hardware. There was a broad, informed and often passionate desire to really make a real difference in Africa's development with the aid of ICT. Our work together is a chance to help hasten the day when the intelligent ICT community has more of a role in shaping society.

## **Results of the Forum**

Results of the evaluation of the Forum indicate that it succeeded in bringing the issue of information technology and development to the participants. Nearly ninety percent of respondents to the evaluation said that the Forum had helped them identify suitable policy options in this area for their countries. Additionally, again nearly ninety percent (89.2 %) of participants said that they felt the conference had achieved its objectives. Ninety-seven percent of those who responded to the evaluation questionnaire said that they would undertake activities to follow up their participation in the conference.

A unique aspect of the synergies of the Forum on *Globalisation and the Information Age* in Africa was that it resulted in a number of initiatives independent of the formal programme that participants met on and agreed to follow up. Among these were Schoolnet Africa, Biz2BizNet, Beijing+5 Women's Networking Activities, NGOnet Africa Civil Society ICT Network Initiative, Telecentre Network, Alliance for African Business, African Digital Diaspora activities, Malawi ADF National Plan of Action, African Distance Learning Programme, Youth Network, and Gaia: Global Access Information Agency. Details of these initiatives are available in the report of the Forum (<http://www.un.org/Depts/eca/adf>.)

## **Post Forum Summit**

ECA is following up the ADF '99 with a post-Forum Summit to present to the highest levels of leadership the strategies that ADF participants considered to be among the most promising. To accelerate African development through the increased use of information and communication technologies, the Summit will examine an overall strategy that targets the key development sectors of education and youth, health and small business development along with the overall policy changes that are needed to underpin the transformation.

ECA is inviting 15 African Heads of State and Government, directors of development agencies and chief executives of major international private sector firms, to get the commitment from the highest level of leaders to use ICTs to help Africa solve its most pressing problems. (Negotiations for the holding of the Summit are at an advanced stage.) From the post-Forum Summit ECA expects:

- Commitment from all partners (governments, sub-regional organisations, private sector and the development community) to work together to enhance the value to the Africa region as a whole of specific information society initiatives
- Agreement from governments to champion the African Information Society
- Commitment from subregional economic organisations to build policy frameworks to enhance the impact of national information society policies put in place in their member countries

- Increased public debate within countries on information society issues

Once the commitment has been made, it is anticipated that much of the remainder of the strategy will fall into place as each nation and subregion carves its own unique path towards the overall goals.

The strategy articulated at ADF and its follow up to date represent a consensus resulting from debates held within the context of the African Information Society Initiative over the last four years. In the last four years, connectivity has emerged and spread much faster than was predicted half a decade ago. While the technologies have penetrated less in Africa than in other regions, there is much evidence throughout Africa of efforts to use the new tools to bridge and narrow the digital divide. The challenge today to governments, the United Nations system, the development community and the private sector, is to engage with Africa's youth, its entrepreneurs, service providers, administrators and policy makers to support their efforts to define an African information society that meets their national, community and individual goals. ECA is committed to working to implement this challenge.

AFRICAN DEVELOPMENT FORUM  
LIST OF AVAILABLE DOCUMENTS

I. OFFICIAL CONFERENCE DOCUMENTS:

Document Symbol	Document Title
	<u>List of Participants</u>
	<u>Statements, Speeches, Opening Remarks and Panel Summaries</u>
E/ECA/ADF99/1	<u>African Country Profiles: National Information and Communication Infrastructure</u>
E/ECA/ADF99/1	<u>Profils des pays africains: infrastructure national de l'information et de la communication</u>
E/ECA/ADF/99/2	<u>Africa on the Internet: an annotated guide to African Web sites</u>
E/ECA/ADF/99/2	<u>L'Afrique sur l'Internet: un guide annoté aux sites Web africains</u>
E/ECA/ADF/99/3	<u>ADF '99 Programme</u>
E/ECA/ADF/99/3	<u>Programme de l'FAD'99</u>
E/ECA/ADF/99/4	<u>Democratizing Access to the Information Society</u>
E/ECA/ADF/99/4	<u>Democratiser l'accès à la société de l'information</u>
E/ECA/ADF/99/5	<u>Policies and Strategies for Accelerating Africa's Information Infrastructure Development</u>
E/ECA/ADF/99/5	<u>Politiques et stratégies pour accélérer le développement de l'infrastructure de l'information en Afrique</u>
E/ECA/ADF/99/6	<u>Information and Communication Technologies for Improved Governance in Africa</u>
E/ECA/ADF/99/6	<u>Les technologies de l'information et de la communication à l'appui de la bonne gouvernance</u>
E/ECA/ADF/99/7	<u>Globalization and the Information Economy: Challenges and Opportunities for Africa</u>
E/ECA/ADF/99/7	<u>La mondialisation et l'économie de l'information: enjeux et perspectives pour l'Afrique</u>
E/ECA/ADF/99/8	<u>The Process of Developing National Information and Communications Infrastructure (NICI) in Africa</u>
E/ECA/ADF/99/8	<u>Le processus de développement de l'Infrastructure Nationale de l'Information et de la Communication (INIC) en Afrique</u>
E/ECA/ADF/99/9	<u>Introduction to globalization and the information age</u>
E/ECA/ADF/99/9	<u>La mondialisation et l'ère de l'information: introduction</u>
E/ECA/ADF/99/10	<u>Information for participants</u>
E/ECA/ADF/99/10	<u>Informations pour participants</u>
E/ECA/ADF/99/11	<u>Guidelines for chairs, rapporteurs, panelists and presenters</u>

E/ECA/ADF/99/11	<u>Notes et directives à l'intention des présidents, conférenciers, panelistes et rapporteurs</u>
E/ECA/ADF/99/12	<u>Summaries of ADF'99 electronic discussion list</u>
E/ECA/ADF/99/12	<u>Résumé du groupe de discussion électronique du FAD '99</u>

## II. OTHER DOCUMENTS AND PARTICIPANTS' PRESENTATIONS:

Time	Session	Document Title
, 24 October 1999		
18.00	Opening Session	<u>Statement by H. E. Ato Meles Zenawi, Prime Minister of the Federal Democratic Republic of Ethiopia on African Challenges and Visions for Development</u> <u>The Challenge to Africa of the New Millennium: The Perspective of the OAU, Statement by Dr. Salim Ahmed Salim, Secretary General of the Organization of African Unity</u> <u>Africa's Development Challenges and the Information Age, Remarks by Ahmed Bahgat of the African Development Bank at the Opening Session</u> <u>Opening Statement, K. Y. Amoako, Executive Secretary, UN Economic Commission for Africa</u> <u>Opening Remarks at the Inaugural Session of the African Development Forum, the Deputy Secretary-General of the United Nations</u> <u>Address by Mr. Leonard H. Robinson, JR. - President and CEO, the National Summit on Africa, Sunday, October 24, 1999</u>
Monday, 25 October 1999		
9.00	Keynote presentations	<u>La Vice-Secrétaire Générale, Allocution au Forum Africain du Développement '99</u> <u>The Deputy Secretary-General, Address to the African Development Forum '99 (French above)</u> <u>Statement by Noah Samara</u> <u>Presentation by K. Y. Amoako</u>
11.00	Progress towards the African Information Age	<u>Globalisation and the Information Age, Role of the African Information Society Initiative, by Karima Bounemra Ben Soltane</u> <u>Statement by the Right Honourable Justin Malewezi, Vice President of the Republic of Malawi, October 25, 1999</u>
14.30	Information & Communication Technologies for Improved Governance	<u>Royaume du Maroc Secrétariat d'Etat auprès du Premier Ministre à la Poste et aux Technologies de l'Information, Les TI au service de la bonne gouvernance Le cas du Maroc, Najat Rochdi, Conseiller du Ministre</u>
16.30	Strengthening Africa's Information Infrastructure	<u>Policies and Strategies for Improving Africa's Information and Communications Infrastructure, Mike Jensen</u> <u>Panel Commentary by H. E. John Mahama, Minister of Communication (Ghana)</u> <u>Internet Projects in Tunisia, Mrs. Khedija Ghariani</u>

Time	Session	Document Title
		Atelier d'élaboration d'un cadre stratégique régional de développement des Chapitres ISOC en Afrique pour la promotion des Systèmes d'Information et des Communications. by Olivier Sagna
		RASCOM SYSTEM
		<u>RASCOM's Regional Approach Towards Strengthening Africa's Information Infrastructure in the Global Information Society</u> , presented by Leke Betechuoh Casimir
26 October 1999		
9.00	ICT support for I and II education (Democratisation theme)	<u>Rapport de l'Atelier sur la création de réseaux scolaires régionaux</u>
		<u>SchoolNet Africa, Concept Proposal</u>
		<u>Schools Networking in Ghana</u> , presented by Samuel Eshun, National Coordinator, WorLD-Ghana
		<u>Cape Town Declaration, School Networking in Africa</u>
	Extending access.... (Democratisation theme)	<u>IRIN - Integrated Regional Information Network, United Nations Office for the Coordination of Humanitarian Affairs</u>
		<u>Kids and the next Millennium ... towards a Global Society</u> , by Heba Ramzy-RITSEC
		<u>Mount Kenya Multipurpose Community, Telecenter Development Project (MKMCT)</u> , presented by Youth Enterprise Scheme, Nairobi, Kenya
	Facilitating citizens participation in the governance process (Governance theme)	Popular Urban Information System (SIUP) of Yoff, Pilot Project of the Dakar Region, Senegal-West Africa, Presentation: Mamadou GAYE, Director
		SYSTEME D 'INFORMATION URBAIN POPULAIRE (SIUP) DE YOFF, Projet pilote pour la Région de Dakar (SENEGAL), CRESP/ECOYOFF, Présentation: Mamadou GAYE, directeur du projet
		<u>Préparer les parlements africains à la société de l'information, par Mamadou DIOP "Decroix". Député à l'Assemblée Nationale du Sénégal, Président du Réseau des Parlementaires sur Les Technologies de l'Information et de la Communication</u>
	Global, regional, subregional, national frameworks (Info Economy theme)	<u>Le Commerce Electronique et l'AGCS 2000: Perspectives africaines, FDA'99, Abdoulaye Ndiaye, Sénégal</u>
		<u>Towards an Electronic Commerce Policy for South Africa</u> , by Dillo Lehlokoe, Project Coordinator
		<u>An Egyptian Electronic Commerce Initiative</u> , Dr. Sherif Hashem, The Egyptian Cabinet, Information & Decision Support Center (IDSC)
		<u>Electronic Commerce: How can Africa Participate?</u> by Ibrahima Diagne
		<u>What voluntary business associations should do to promote electronic commerce in Africa</u> , by Kebour Genna
<u>UNCTAD Press Release - Intense Activity Ahead on Promoting Electronic Commerce for Developing Countries: UNCTAD's Work on E-commerce Gears up with Series of Meetings and Workshops</u>		

Time	Session	Document Title
		<u>Vers une Societe Africaine de l'Information: Un defi pour les organisations Africaines de regionalisation economique</u> , Willy Jackson
		<u>Information Economy Theme Report</u>
	Investment and financing (Infrastructure theme)	<u>Infrastructure &amp; Policy: Workshop on Financing &amp; Investment</u> , by Muriuki Mureithi, Summit Strategies – Nairobi, Kenya
	Indicators of the information economy (Info economy theme)	<u>Toward an African Information Economy: Indicators and Benchmarks</u> , Heather E. Hudson
11.00	Lessons learned in ICT applications in governance (Governance theme)	<u>The New Technologies of Information and Communication at the Service of the Development, Trade Point Senegal, an Experience to Share</u>
		<u>Information Support for Agricultural Research in Ghana: the Ghana Agricultural Information Network System (GAINS)</u> , by Clement Entsua-Mensah and Joel Sam
	Internet Governance (Infrastructure theme)	<u>Internet Governance and New Mechanisms for Managing Africa's Information Infrastructure</u> , Pierre Dandjinou, UNDP
	Knowledge, Education & Learning to strengthen the info economy (Info economy theme)	<u>Information and Communication Technology (ICT) - Mediated Education and Training Within the Context of an Information and Knowledge Economy (IKE)</u> by Clement Dzidonu Ph.D.
	Capacity building & Human Resource development ... (Infrastructure theme)	<u>South African IT Industry Strategy (SAITIS) Baseline Studies</u> , by Tina James
	Integrating new and old technologies... (Democratisation theme)	<u>Proposition de Projet: "RELIER LA RADIO RURALE A L'INTERNET", Une Approche Intégrée de Communication pour le Développement, Appliquée à l'Internet et au Développement Agricole et Rural, Présentée par: Jean-Pierre Ilboudo, Ph.D.</u>
	The challenge and opportunities of ICTs in the health sector (Governance theme)	<u>Developing Appropriate Healthcare Information Systems for Africa: The Made-in-Nigeria Primary Healthcare and Hospital Information System Project</u> by Ms. Soriyan H.A, Computer Science & Engineering Department, Obafemi Awolowo University, Ile-Ife, Nigeria, Mikko J. Korpela, Computing Centre, University of Kuopio, Finland; Mankanjuola R.O.A., Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria
		<u>Communication de la delegation Malgache, la Politique Sanitaire Face au defi de la Mondialisation et l'Ere de l'Information en Afrique</u>
		<u>Some Information and Communication Technologies and their Effect on Maternal Health in Rural Uganda</u> , by Maria G. N. Musoke
	Community Applications	<u>Telecenters: The Egyptian Experience</u> , Dr. Sherif Hashem
	Creating Information Industries in Africa (Info Economy theme)	<u>Creating information industries in Africa</u> , by Mavis Ampah Sintin-Misa
		<u>Projet Régional INDAFTEL, Assistance pour le Développement de l'Industrie des Télécommunications en Afrique</u> , par Assane DIALLO, Coordonnateur
		<u>Shaping the Future of E-Commerce in Africa</u> , Presented by Jacques Rostenne, President, PERWIT International
14.30	Content poster session	<u>TOP50 African Web Sites, In Search for Quality Web Content</u> , Noel YAVO, MD Woyaa



Time	Session	Document Title
		<u>African Electronic Lists</u> , by Claire Sibthorpe
16.30	Introducing e-commerce to small business	<u>Internet for Business. Making Money on the Web. a Specialized workshop for Executives and Entrepreneurs</u> , Presented by Jacques Rostenne, President, PERWIT International, Ottawa, Canada
	ICTs and the media	Mass Media and Challenge of ICT, by Olufemi Ajayi
		Radio and the Internet, Converging for Pluralism & Democracy, by Bruce Gerard

Wednesday, 27 October 1999

14.30	National Information & Communication Infrastructure Policies and Plans	<u>Country Report on the Development of a National Information and Communication Infrastructure for Namibia</u> , Presented by Hon. Ben Amathila, Minister of Information and Broadcasting, Republic of Namibia
		Infrastructure NIC au Burkina Faso, NTIC
		National Information and Communication Infrastructure Plans for African Countries: Lishan Adam
		<u>An Address by His Excellency Professor Jerry Gana, Honourable Minister of Co-operation and Integration in Africa, the Presidency, Federal Republic of Nigeria, Abuja</u>
16.30	Development Agencies panel	<u>ICTs in Africa and the EC</u> , by Amos Tincani
		European Union, Summary of Key Principles for Applicants to Budget Line B-7 6000, "NGO Co-financing"

Thursday, 28 October 1999

9.00	Plenary	Address by President A. Konare of the Republic of Mali (English – Summary)
11.30	Use & Development of ICTs to promote learning, teaching....	Computers for Academic, Management and Administrative Support (CAMAS), An ICT Project at the University of Zambia, by Prof. J. M. Mwenechanya
		<u>Use and development of ICTs to promote learning, teaching and research in African Universities</u> , by Prof. G. O. Ajayi
		<u>RITSEC-RDLP, Regional Information Technology and Software Engineering Center, Regional Distance Learning Program</u>
	An electronic commerce research agenda...	FEMCOM, COMESA, Creating a Better Future
15.30	The Way Forward	<u>SCENARIO: FINAL PLENARY</u>
		International Policies, African Realities: an Electronic Roundtable, Hosted by the Africa Policy Information Center (APIC), in Partnership with the Economic Commission for Africa (ECA) and with assistance from Bellanet
		<u>Les ONG a l'ere de l'information: Recommandations pour une participation effective de la société civile à l'ère de l'information</u>

Time	Session	Document Title
		<u>NGOs in the Information Age: Recommendations for Effective Participation of Civil Society in the Information Age</u>
		<u>Private Sector Focus Group Report</u>
		<u>Gender Focus Group Report</u>
		<u>Youth Focus Group Report</u>
		<u>Think Tank Focus Group Report</u>
		<u>African Diaspora Focus Group Report</u>
		The Way Forward, to a people-centred African Information Society <a href="#">[English]</a> <a href="#">[French]</a>