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E/ECA/DISD/CODI.3/3

7 April 2003

**UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL**

Original: English

ECONOMIC COMMISSION FOR AFRICA

Third Meeting of the Committee
on Development Information (CODI)

Addis Ababa, Ethiopia
10 – 17 May 2003

Sub-committee on Information and Communication Technology: ICT and Governance

E-Strategies in Africa:

National, Sectoral and Regional ICT Policies, Plans and Strategies

2003

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1. E-strategy Framework in Africa

In the global networked economy, information and knowledge have become strategic resources, based on which governments, corporations and the public at large make their decisions. The availability of up-to-date and accurate information, created and disseminated by information and communication technologies (ICTs), has decisive impact on peoples' lives and on the socio-economic development of a country as a whole. The countries that have created an enabling environment are experiencing revolutionary effects especially in the governance, education, health and business sectors, as its citizens are now more empowered, can change the equilibrium of power and start creating choices and opportunities for themselves. Yet, there are countries in Africa where people are not able to make informed decisions on their daily lives because of lack of access to ICTs, information and knowledge.

As a response to these realities, the Conference of African Ministers meeting at the Economic Commission for Africa (ECA), in May 1995, adopted the Africa Information Society Initiative (AISI)¹. Driven by critical development imperatives, AISI focuses on priority strategies, programmes and projects, which can assist in building African information societies. A key component of the AISI is the development of national e-strategies, or the National Information and Communication Infrastructure (NICI) plans.

The introduction of policies and strategies is principally to assist countries to deploy, harness and exploit ICTs to advance their socio-economic development at the local, national and sub-regional levels, enabling citizens' access to affordable telephones, broadcasting, computers and Internet services. Some of the concrete measures include the need to develop sound regulatory frameworks as well as human resource capacity. Although in recent years a number of countries have made efforts in ICT infrastructure development, the continent still lags behind other regions of the world, considering the actual needs.

On a continental basis, the New Partnership for African Development (NEPAD) framework has identified a number of projects and initiatives for ICT development, which will also speed up sub-regional and regional connectivity and inter-connectivity plans at the same time. NEPAD insists on strengthening the role of the Regional Economic Communities (RECs) that should be coordinating national efforts and aiming at harmonizing national regulatory frameworks across the sub-regions. AISI serves as the framework for co-ordination of the support that United Nations agencies provide to NEPAD.

AISI also represents a mechanism for achieving the Millennium Development Goals (MDGs)² in Africa. Seven among the eight MDGs were addressed by the AISI document. The correspondence between the MDGs and the AISI challenges and opportunities is shown in the table below:

	Millennium Development Goals	AISI challenges and opportunities
1	Eradicate extreme poverty and hunger	Food security-related objectives
2	Achieve universal primary education	Education and research
3	Promote gender equality and empower women	Gender and development
4	Reduce child mortality	Health
5	Improve maternal health	Health

¹ <http://www.uneca.org/aisi/>

² <http://www.undp.org/mdg/>

6	Combat HIV/AIDS, malaria, and other diseases	Health
7	Ensure environmental sustainability	Man-made crises and natural disasters

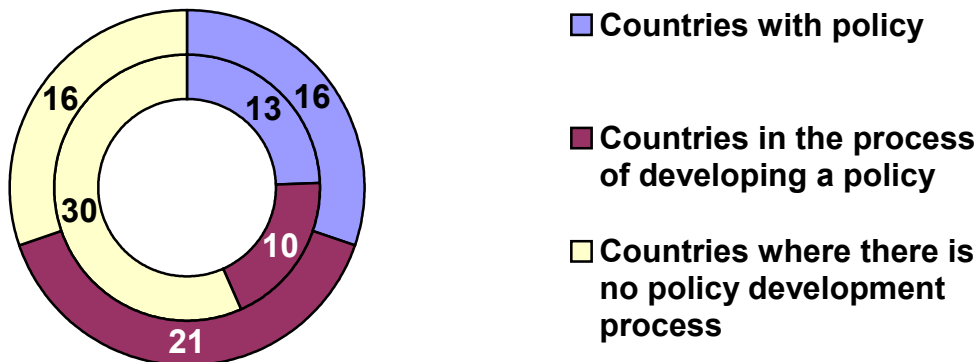
In addition to the above-mentioned areas, AISI recommends that ICTs be mainstreamed in other sectors that are judged potentially important for Africa's development, and these include: job creation, content, languages, trade and commerce, and governance, which was added to the list during subsequent assessment exercises of the AISI in the African Development Forum (ADF)'99 and Bamako 2002.

This report assesses the state of national and regional ICT policies, plans and strategies, focusing on the role of ECA with a summary of major regional and global initiatives being undertaken in or relevant to Africa. It also highlights new applications and initiatives in key sectors, followed by lessons learned and the way forward.

2. National E-strategies

ECA has been assisting member States in their endeavours to initiate, formulate and implement national e-strategies with a view to achieving their development goals. The success is evident in the fact that the number of countries with ICT policies increased from 13 in 2000 to 16 in 2002, while countries in the process of developing a policy jumped from 10 in 2000 to 21 in 2002. Thus, the number of countries without a plan was reduced from 30 to 16 in 2002.

Development of National ICT Policy



This progress has been a result of increased awareness on the importance of ICT policies and plans among decision and policy-makers and key stakeholders, which is also reflected in the inclusion and emphasis, placed in various international and regional agendas. For example, the NEPAD framework identifies ICT policies and regulations as a priority area.

2.1 New developments since CODI II

This section focuses mainly on the countries that are currently developing national ICT policies and plans within the framework of AISI and NICIs, with the assistance of ECA. AISI has been instrumental in facilitating NICI processes in various ways:

- First, some countries have completed the framework documents and plans and have moved to the next step of formulating implementation strategies and embarking on actual implementation.
- Second, there are countries that regained momentum in advancing the plan and they are expected to join the above group in the near future.

2.1.1 Countries ready for implementation

A number of countries have already stepped up to the next phase of the plan implementation. A comprehensive list of NICI countries is attached as Annex I. This group of countries includes Benin, Burkina Faso, Burundi, Cape Verde, Cote d'Ivoire, Guinea, Mauritania, Mozambique and Rwanda. As examples, the progress made in Burundi, Mozambique and Rwanda since CODI II is outlined below.

Burundi

In collaboration with the United Nations Development Programme (UNDP), ECA has been assisting the country to formulate the NICI Policy. The Policy was finalized and adopted by the Council of Ministers as the national ICT framework in October 2002. The process has moved to the next phase of wide national consultations, translation of the policy document into an implementation plan, with sensitization for identification and development of sectoral projects.

Mozambique³

The Government adopted the national ICT policy in December 2000 and the Implementation Strategy was launched in September 2002. The ICT policy identifies six priority areas: education; human resources development; health; universal access; infrastructure; and governance. To address the challenges faced in each of these areas, the Implementation Strategy presents 37 priority projects, some of which are already being implemented, e.g. the National Transmission Network (marine cable), Telecentres and SchoolNet.

Rwanda

The first Rwanda ICT Plan (2001-2005) was launched by the Cabinet in January 2002 at a one-day workshop chaired by the President. It was followed by preparation of sectoral implementation plans and an implementation strategy workshop was organized in April 2002. For financing of activities, a donor meeting is scheduled to set up the ICT for Development Fund for Rwanda in 2003. Since April 2002, ECA and UNDP have been supporting two programmes for capacity building.

Although the progress in translating their ICT plans into action has been remarkable, additional support is required to further speed up and successfully complete the implementation.

2.1.2 Countries in process of policy formulation

³ <http://www.infopol.gov.mz/>

In collaboration with various partners, such as the European Union (EU), ECA is currently assisting member states at various stages of policy formulation. This group of countries includes the Central African Republic, Ghana, Mali, Niger, and Nigeria. Ethiopia, Malawi, Nigeria, Tanzania and Uganda have also regained the momentum and are proceeding with the plan preparation.

Central African Republic

The Government passed, in January 2002, a decree to start the NICI development process. Initial consultation workshops were organized for government, academia, private sector and telecom operator/regulators. With a view to building a consensus, a validation workshop of stakeholders is planned to take place in the first half of 2003.

Ethiopia

The national ICT policy is before the Council of Ministers for approval and the Government is examining implementation options, including the use of ICTs for the country's decentralization and capacity-building programmes. Activities such as installing video conferencing facilities and launching the educational satellite programme have been considered.

Ghana

The NICI process was officially re-launched by the Government in August 2002. A NICI Committee was set up and a policy plan is being developed, with extensive consultations with stakeholders. The outcome of the first consultation process is a draft strategy document detailing the three major components of the NICI development process: the Framework, the Policy and the Plan documents. The framework document was launched in January 2003 and the process of developing a detailed implementation plan will take place from April to August 2003.

Malawi

The first phase of the development of a national ICT policy and strategies was completed in 2002, resulting in compilation of the ICT Policy Framework document that will be used as a basis for the development of the plan and the policy documents. The framework document was submitted to high-level government officials in June 2002. The second phase of the process started in January 2003 and consultations are underway at the country level. The third phase, which will concentrate on activities leading to the development of the ICT policy document, is expected to start in April 2003.

Mali

The Government set up a new NICI Committee in May 2002 and re-launched the process immediately after. Several consultative workshops with stakeholders were held and a nation-wide baseline study was undertaken. However, the process was delayed due to the change of government. The newly appointed Head of the Mission de l'Informatique et des Nouvelles Technologies de l'Information, has been charged with expediting the process.

Niger

ECA organized a mission in Niger in June 2002 to facilitate the establishment of an inter-ministerial NICI development team and to prepare a timetable for the implementation. The Prime Minister presided over the workshop for launching the NICI process. A baseline study covering all provinces, ministries, government agencies, NGOs and the private sector has been undertaken.

Nigeria

Based on the request received from the Ministry of Science and Technology of Nigeria, consultations are underway to re-vitalize ECA support to the NICI process in the country.

Tanzania

Through its ICT Policy Task Force and a national e-think tank, the Government of Tanzania produced an ICT policy document that was presented and debated by key stakeholders in May 2002.

Uganda

The Uganda ICT Policy Framework document, completed late last year, has been submitted to the cabinet for consideration. This document was developed through a national consultative process, and the second phase, which is just beginning, is designed to develop an action plan for the implementation of the provisions of ICT policy framework. As part of the second phase, Uganda wants to develop a comprehensive e-government and governance strategy with a corresponding action plan. A project proposal is being prepared by ECA in cooperation with UNDP.

3. Regional Activities

3.1 The sub-regional level

Sub-regional information policies and plans are beginning to emerge with measures to harmonize national regulatory frameworks as countries deregulate and liberalize their telecommunication markets. The creation of regional strategies would enable Africa to build economies of scale for developing its infrastructure and content to increase Africa's ability to negotiate globally. Efforts towards harmonization of national policies and strategies have gone a step further in the area of telecommunications.

In West Africa, a draft charter of the West Africa Telecommunications Regulators' Association (WATRA)⁴ was prepared in September and endorsed by regulators in member States in November 2002. It will serve as a consultative and collaborative body for all regulators in West African countries in the harmonization of principles, policies and structures for the regulation of telecommunications delivery.

In an effort to bring stakeholders together and further ICT policy-making, the Economic and Monetary Community of Central Africa (CEMAC) workshop on ICTs for Regional Integration was organized in September 2002 in Yaounde, Cameroon. Together with the main theme of ICTs for regional integration, the following issues were discussed:

⁴ <http://www.watra.org/>

- The role of ICTs for African economic and social development in general and the CEMAC States in particular;
- Liberalization and harmonization of regulatory policies;
- Human resources development; and
- Relation to NEPAD.

Member States of the Common Market for Eastern and Southern Africa (COMESA) created an Association of Regulation of Information and Communications of Eastern and Southern Africa (ARICEA) in a meeting held in Addis Ababa, Ethiopia in January 2003. The member countries will jointly launch capacity building, service delivery, improvement, coordination and harmonization of their projects in the ICT sector. The International Telecommunication Union (ITU), the African Telecommunication Union (ATU) and ECA have agreed to support the capacity- building activities of ARICEA where ECA will serve as the secretariat and establish an online discussion forum.

3.2 The continental level

In addition to the sub-regional harmonization of policies and regulations, ECA has been actively supporting regional initiatives and promoting knowledge sharing among member States.

- *New Partnership for African Development (NEPAD)*⁵

ICTs were one of the major components of the Compact for African Recovery, which was developed upon the request of the African Ministers of Finance and presented to them during the ECA Conference of Ministers (Algiers, May 2001). The Compact codified a growing consensus within Africa of what had to be done to accelerate the continent's development, including in ICTs. As the development of the Compact has been carried out at the same time as the Millennium Partnership for African Recovery Programme (MAP) and the OMEGA Plan, ECA was requested by the initiators of MAP and OMEGA to contribute substantively in the development of a unified document. This became the New African Initiative, then NEPAD. In this context, ECA prepared several sectoral contributions, including some on ICTs, for MAP, OMEGA, the New African Initiative and NEPAD, based on the AISI framework. AISI is now considered as the starting point for the regional dimension of the ICT component of the infrastructure part of NEPAD⁶.

Hence, in implementing its ICT-for-development mandate through AISI, ECA has been involved in the NEPAD process, prepared several technical papers and organized meetings to support the process through regional and global forums.

- *The African Stakeholders Network of the UN ICT – Task Force*⁷

The African Stakeholders Network (ASN) was set up after a meeting in Addis Ababa, in January 2002, organized by ECA with support from the UN ICT Task Force secretariat. The consultative meeting brought together over 60 representatives from governments, development agencies, donors, private sector, civil society and non-governmental organizations. It is intended to link

⁵ <http://www.nepad.org/>

⁶ The decision was made during the Conference on the participation of the private sector in the financing of NEPAD, Dakar, Senegal in April 2002.

⁷ <http://www.unicttaskforce.org/regional/africa/main.asp>

existing African activities and initiatives with the focus areas of the UN ICT Task Force. The first ASN meeting is scheduled for during CODI III. The main mandates of the ASN are to:

- a) Develop a network relevant to Africa's needs and in line with the mandate of the Task Force and its Working Groups;
- b) Share information on major African activities and initiatives through mailing lists, web sites and country profiles;
- c) Sensitize and mobilize major actors to ensure African ownership and support from partners;
- d) Share information, and encourage membership when relevant and organize special events;
- e) Assist in linking the network with African and international initiatives; and
- f) Attract funds and investments to the ICT sector in Africa.

- *WSIS African Regional Conference in Bamako 2002*⁸

The African Regional Conference, as a preparatory meeting of the World Summit on the Information Society (WSIS), was convened in Bamako, Mali, 26-30 May 2002. The Conference was organized by ECA with support from key development partners. The main event focused on facilitating understanding of what benefits could be drawn from the global Information Society. It also looked at what Africa brings to the Information Society and what cultural heritages and values it should preserve through this dynamic process. The conference adopted the Bamako Declaration, which is the basis of Africa's contribution to the WSIS process.

ECA was elected rapporteur of the Bamako 2002 Bureau and requested to serve as the Secretariat for Africa's participation in WSIS activities. A website was launched for Bamako 2002⁹ and a discussion list set for Bureau members. ECA is assisting member States to organize national consultation processes, consolidate African views and voices for various global forums and to create an equitable Information Society at the national, regional and global levels.

- *Connectivity Africa (CA)*

Discussions are underway with the International Development Research Centre (IDRC) of Canada to define joint implementation of activities for the proposed "Connectivity Africa" (CA) that will be launched in April 2003. The CA aims to showcase the deployment and development of ICTs in Africa as well as promote innovations in the sector, among other things (see below).

4. Recent Global Developments

There is mounting global consensus on ways of improving digital opportunities that effectively lead to significant actions to support ICT policies and applications in African countries. Below are such initiatives.

- *Digital Opportunity Task Force (DOT Force) follow-up*¹⁰

⁸ <http://www.geneva2003.org/bamako2002>

⁹ www.uneca.org/aisi/bamako2002

¹⁰ <http://www.dotforce.org>

The G8's Digital Opportunity Task Force (DOT Force), created by the G8 Heads of State at their Kyushu-Okinawa Summit in July 2000, brought together forty-three teams from government, the private sector, non-profit organizations, and international organizations. These teams represented both developed and developing countries, in a co-operative effort to identify ways in which the digital revolution can benefit all of the world's people, especially the poorest and most marginalized groups. The G8 DOT Force ceased to exist with the presentation of its reports at the Kananaskis Summit. Implementation will continue under the framework of the DOT Force Informal Network (DFIN). One of the results that came out of the Kananaskis Summit is the strengthened cooperation between the Government of Canada and ECA in the form of the African component of the International e-Development Resource Network (IeDRN) and CA.

- *The International e-Development Resource Network (IeDRN)*

The DOT Force in its report, *Digital Opportunities for All: Meeting the Challenge*, identified the need to assist developing countries and emerging economies to formulate national e-strategies as part of their goals towards developing information societies. As a result, the DOT Force Plan of Action endorsed by the G8 Leaders at the Genoa Summit, made a specific commitment to establish an IeDRN, designed essentially to marshal global efforts in support of national e-strategies for development. ECA, with support from Industry Canada, is setting up a regional node to the IeDRN, to channel demand from African institutions and individuals, such as policy experts, programme managers and legislative drafters seeking e-strategy expertise.

- *United Nations ICT Task Force*¹¹

The ICT Task Force of the United Nations was established by Secretary-General Kofi Annan to find new, creative and quick-acting means to spread the benefits of the digital revolution and avert the prospect of a two-tiered world Information Society. The Task Force represents in its composition the public and private sectors, civil society, the scientific community, and leaders of the developing and transition economies as well as technologically advanced countries. Operating under the aegis of the United Nations, it is well positioned to build strategic partnerships and to meld diverse efforts.

- *The World Summit on the Information Society (WSIS)*¹²

WSIS is an initiative that came out of the 1998 Plenipotentiary Conference of ITU. It was endorsed by the United Nations General Assembly as an effective means to assist the United Nations in fulfilling the goals of the Millennium Declaration. It is expected that WSIS will provide the global platform where key players, such as governments, UN agencies, private sector and civil society, will come together to develop a common vision and understanding of the Information Society and to adopt a declaration and a plan of action. It will be held from 10 to 12 December 2003 in Geneva, Switzerland, with a follow-up in November 2005 in Tunis, Tunisia.

- *The Global Knowledge Partnership*¹³ (GKP)

GKP is a "network of networks" with a diverse membership base comprising public, private and

¹¹ <http://www.unicttaskforce.org/>

¹² <http://www.itu.int/wsis/>

¹³ <http://www.globalknowledge.org>

non-profit organizations from both developed and developing countries. It aims to promote broad access to – and effective use of – knowledge and information as tools of equitable sustainable development. GKP members also share information, experiences and resources to realize the potential of information and communication technologies to improve lives, reduce poverty and empower people.

In April 2002, the GKP Annual Meeting held an *African Day* at the United Nations Conference Centre (UNCC) in Addis Ababa, Ethiopia. Members of the network and other invited experts discussed issues related to the major ICT-for-development initiatives in Africa, the GKP Strategy 2005, global and regional networks as well as partnership mechanisms in Africa. During the CODI III meeting *GKP African Day* and *GKP Market Place* are scheduled on 13 and 15 May 2003 respectively.

- *Other actors*

In addition to the above, ICT-specific networks and initiatives, various traditional agencies, such as the United Nations Conference on Trade and Development (UNCTAD), the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO), have increasingly been engaged in ICT issues and are making efforts to shape and reflect African views and opinions in the international decision-making processes and arenas. Active participation by African countries is essential to ensure their effective representation at all international forums that regulate ICTs.

5. The Sectoral Dimension

In addition to the developments on NICIs and regional and international frameworks, this section describes general trends and new ICT applications and initiatives in key sectors, with the emphasis on ICTs and governance, which is the theme of CODI III.

5.1 Governance

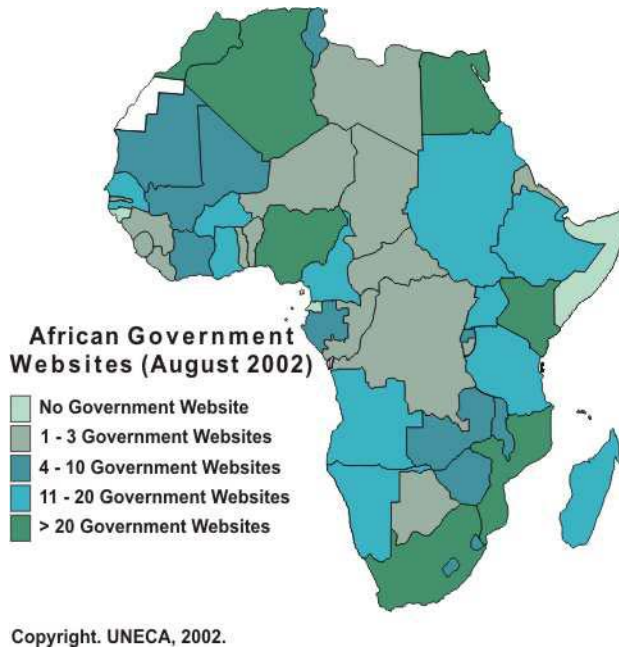
Recent diffusion of the Internet and interactive tools has expanded the range of applications that can assist the work of governments. As a result, many African countries have embarked on harnessing ICTs for improving their internal administrations, with the potential for interactions with stakeholders to attain improved political representation, institutional effectiveness and economic management.

One example is the use of the technologies for efficient and effective communications in elections. Senegal, at the time of the presidential elections, showed the role of media and ICTs in bringing transparency (availability of electoral lists on the Internet) and in monitoring the electoral process, especially proclamation of the results. This was made possible because of the growth in the number of rural radios and in the use of mobile phones. In terms of facilitating government-to-government and government-to-citizen transactions, the Moroccan programme on social security information systems, regulatory information services and customs information systems is considered a best practice on the continent.

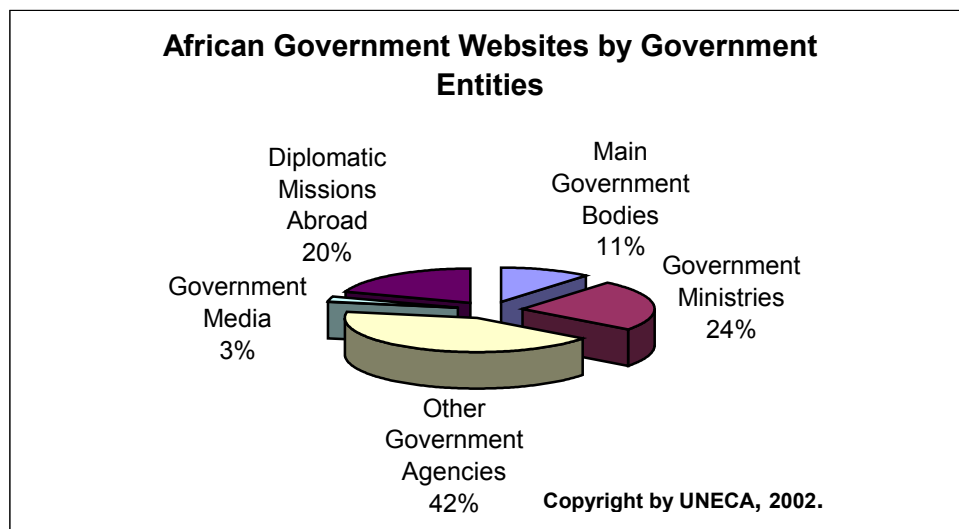
With the aim of stimulating discussions and actions towards e-governance in Africa, ECA has embarked on a number of initiatives as listed below:

- *Survey on African government websites*

In order to determine the extent to which ICTs are used by African governments, a survey was conducted by ECA, which shows that e-government is indeed taking root in the region. By June 2002, there were about 706 websites representing African public institutions¹⁴. Analysis of the sites indicates that Morocco, Egypt, Nigeria, Kenya, Mozambique, Mauritius and South Africa have the highest number of websites. South Africa leads the group with 138 sites. The survey also revealed that those countries with the highest government sites have a large number of Internet users. Clearly, a critical mass of Internet users is needed to increase the effectiveness of e-government in Africa.



The bulk of the sites are hosted by diplomatic missions representing their countries abroad (20%). Official websites that belong to the Presidency, Prime Minister, Parliament and the Judiciary comprise about 11%, while 42% belong to various government agencies and authorities.



Fourteen countries are yet to establish official websites. Most sites tend to focus on providing information on the functions and activities of the government entity, forms, rules and regulations.

On the other hand, the survey showed that although the number of websites has increased, there is fragmentation of information and lack of coordination. It is important to harmonize disparate

¹⁴ http://www.uneca.org/aisi/nici/country_profiles/africagovinternet.htm

efforts by different institutions to emerge with uniform e-governance initiatives that cut across boundaries of ministries, agencies, institutions and sectors.

- *Online discussion on E-governance*

For the purpose of providing insights into trends in e-governance on the continent and developing realistic approaches for programming, an e-governance discussion forum was organized by ECA in July and August 2002. It was also meant to generate insights into the production of an e-governance briefing paper for decision- and policy-makers, and feed into the forthcoming ADF IV, scheduled for the end of 2003.

Discussions revealed that e-governance is at an early stage in most countries, hampered mostly by low levels of e-readiness and limited political will. However, there were some experiences from selected countries that needed to be shared. It was stressed that e-governance is a continuous learning and interactive process, requiring resources and more research¹⁵.

- *Online discussion on the participation of Civil Society in ICT governance*

In addition, another online discussion on the participation of civil society in ICT policy followed during the months of September and October, culminating in a civil society and ICT policy workshop in November 2002. The discussions highlighted the importance of an inclusive Information Society as well as the role played by civil society organizations (CSOs), due to their proximity to communities. The final statement of the workshop emphasized the importance of freedom of expression, the right to communicate and access to information as the basic principles in the creation of legal and legislative frameworks. This statement provided the basis for a strong African civil society input in the PrepCom proceedings for WSIS¹⁶.

- *A study on ICTs and decentralization in Ethiopia (Woreda Study)*

In support of the ongoing decentralization processes, an ICT needs-assessment study at the district level (Woreda) was launched in Ethiopia in June 2002. The study, which is the first of its kind in connecting ICTs and decentralization, was able to identify the information needs of different sectors with regard to existing infrastructure and communication flow between citizens and the government. The result of the study is to pilot a local e-government project that will be replicated nationwide. This study is financed by ECA.

- *AISI e-government model in Gambia*

ECA has been requested by Gambia to assist their efforts in initiating and implementing an e-government component of their NICI plan. A model developed through this initiative will be examined and used for further refinement of methodologies. A baseline study covering the whole country is being undertaken to assess the situation in the country in relation to e-government-related activities, available infrastructure and technical support. Based on the outcomes of the study, sensitization programmes will be initiated, which should lead to development of an e-government policy and strategy. It is expected that once the baseline study is completed, a pilot

¹⁵ <http://www.bellanet.org/lyris/helper/index.cfm?fuseaction=Visit&listname=aisi-l>.

¹⁶ <http://www.uneca.org/aisi/cspr.htm>

phase will be implemented, linking the Office of the President with the financial institutions in the country.

- *Intellectual property rights (IPR)*

IPR is one of the emerging issues that are shaping the future of ICT development and will have significant impacts on Africa. As information and knowledge transcend national boundaries, the issue has become very important for policy-makers, regulators, information and knowledge producers and business entrepreneurs. There is now a move in most developed countries to ensure that intellectual property from a knowledge-economy perspective safeguards the interest of their nationals. However, the majority of African countries face severe limitations in providing the managerial and technical capabilities in ensuring that IPR issues are addressed in Africa's favour, and that the continent can negotiate for fair terms within the global IPR system. In this regard, awareness-raising and capacity-building activities on IPR matters will be supported by ECA and WIPO.

5.2 Education

Education and capacity building have been identified by most of the member States as a prerequisite in the creation of an Information Society. In response to the requests for assistance, ADF '99 discussed the matter extensively. The decisions taken led to development of the African Learning Network (ALN)¹⁷. Under the framework of the VarsityNet of ALN, a workshop on "Effective Use of ICTs to Create a New Environment for Learning and Teaching" was organized and supported by ECA, the Ford, Carnegie, MacArthur and Rockefeller Foundations respectively, in July 2002. Further, in support of higher education institutes, a retreat, entitled "Intellectual Leadership and AISI: What Role for the African Academic Community", is planned to take place in Ethiopia in June 2003. Prior to this retreat, ECA will host an online discussion. The outcomes will serve as a blueprint for further dialogue among the wider academic community on issues related to the Information Society. These activities will be followed by a pilot initiative by ECA to assist universities, private and public sectors in the development of open source software-based applications for e-government and African languages.

Furthermore, in an attempt to address the needs of policy-makers on the challenges and use of ICTs for Africa's development, the Information Technology Centre for Africa (ITCA)¹⁸ of ECA, in cooperation with USAID/Leland Initiative, developed a training manual and delivered training courses for policy-makers. The session organized for Ethiopian Parliamentarians in March 2003 stimulated interests in different parts of the continent and requests for similar assistance were received from Uganda and several sub-regional organizations. Together with the World Bank's InfoDev programme and CISCO Systems, ITCA also carried out a training course in Internet networking technology in 2001 and 2002 for two groups of African women from 41 African countries.

5.3 Health

Mainstreaming ICTs in the health sector has become a major priority for Africa and constitutes a key component of the work of the UN ICT Task Force. As a member, the World Health Organization (WHO) has highlighted the importance of ICTs by proposing that immediate steps

¹⁷ <http://www.uneca.org/adf99/adf99education&youth.htm>

¹⁸ <http://www.uneca.org/itca>

should be taken to include ICTs as part of its health-for-all strategy for the 21st century. As a step in this direction, a pilot telemedicine initiative, supported by ITU and ECA, is to start in Ethiopia, linking eight hospitals located in Addis Ababa and regional towns. In Mali, the establishment of a health network within the framework of the Keneya Blown project aims to provide an online network for all hospitals and health districts. ITU and UNESCO are supporting the blind and visually impaired community through the Adaptive Technology Centre for the Blind (ATCB) in Ethiopia, to enable these citizens to realize equal opportunities with others. The project will facilitate their ICT access, by training them to use computers equipped with adaptive devices. This project could be replicated in other African countries, in the effort to increase the ICT access of this target group.

5.4 E-Commerce

The volume of e-commerce transactions is becoming a major area of expenditure, worldwide. Trends identified show how much business in global markets is changing because of the emergence of e-commerce. African economies must adapt to these changing global patterns; failure to do so will lead inexorably to what South African President, Thabo Mbeki, has described as “the digitization of past inequalities”. Responding to the realities in general and recommendations on e-commerce at ADF '99 in particular, the Pan-African E-Commerce Initiative (PECI)¹⁹ was developed and its implementation is expected to start shortly. In the same vein, a Business Forum on ICTs was organized during the WSIS Bamako meeting in May 2002. The deliberations helped to build consensus on the way forward among various stakeholders.

ECA assistance was extended to Sudan, which was seeking support towards accession to the World Trade Organization (WTO). The assistance extended to include introduction of ICTs to concerned government agencies and creation of the Sudan Business and Trade Network (SubuNet). In this context, it should be noted that a Memorandum of Understanding was signed between WIPO and ECA to assist member States in establishing enabling policy environments pertinent to e-commerce. UNCTAD, in co-operation with the Government of Tunisia, will convene a regional High Level Conference for Africa on "Electronic Commerce Strategies for Development" in Tunis from 19 to 21 June 2003, as part of the WSIS preparations.

5.8 Local content and African languages

The capability to use, create and disseminate information in own languages is a prerequisite to the successful implementation of national ICT policies and strategies and to establishment of the Information Society in Africa. Consequently, promoting African content and languages remains a challenge for the continent and represents a real form of democratizing access to the Information Society.

As part of its efforts in promoting African languages, ECA, together with UNESCO and the Ethiopian Government, is supporting the development and dissemination of Ethiopic standards so as to enable the usage of a standardized local script on computers²⁰. ITCA has also been leading the development of online resources that serve as the repository of African institutions and experts in

¹⁹ECA/IDRC Pan-African Initiative on E-commerce

http://www.uneca.org/eca_resources/Conference_Reports_and_Other_Documents/disd/codi/docs/doc30EN.pdf

²⁰ <http://www.uneca.org/aisi/docs/ethiopic.doc>

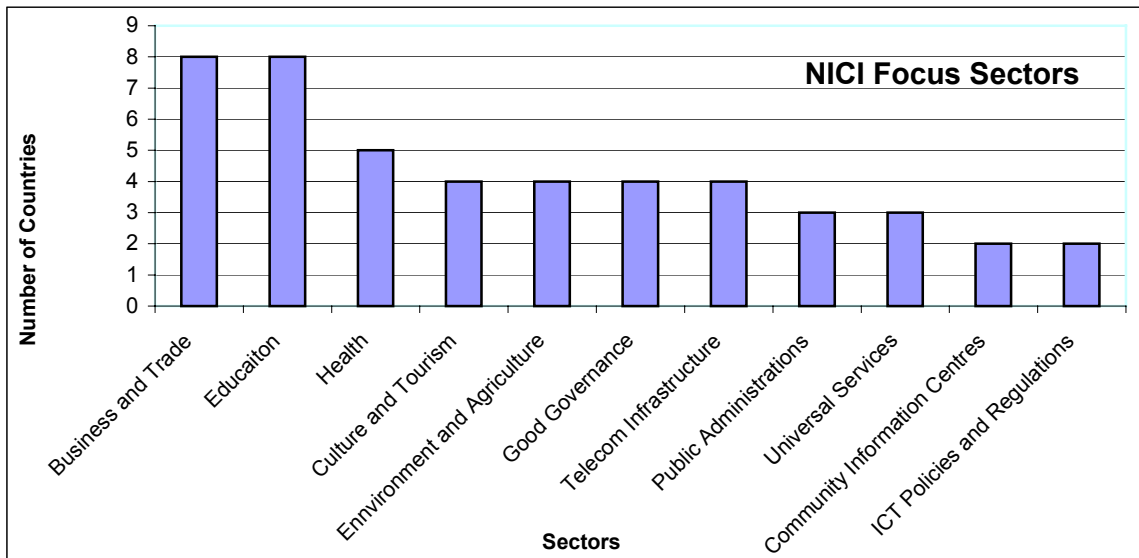
the Diaspora²¹. The best practices and lessons learned in these and other initiatives will be shared widely with member States and partners for the development of national policies and strategies with a view to preserving and promoting African content and languages.

6. Lessons Learned

6.1 NICI process analysis

Based on the available data on the NICI plans completed by Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Guinea, Mauritania, Mozambique and Rwanda, sample analyses were made, with the following results and observations:

- The average duration of the plan formulation is 17 months. The fastest among the 8 countries completed the NICI plan in 7 months, while one country took 36 months.
- Most of the countries articulated their visions and objectives in the NICI plan for overcoming geographical features, promoting good governance, improving public administrations, developing human resources, generating employment opportunities, advancing economic development, and sustaining the democratization process.
- Half of the studied NICI countries selected 4-5 focus sectors, while the other half expanded to target 8-9 sectors.
- All countries identified business, private sector development and education as their priorities in the implementation of NICI policies, as shown below:



In addition to the quantitative analysis, feedback from the participants of the NICI consultation workshops was collected in order to determine the success of the formulation process as well as impacts of the NICI plan on society. Four countries reported active participation and involvement of various sectors in the NICI consultation sessions, but only the process in Rwanda demonstrated

²¹ <http://www.uneca.org/itca/ariportal/db.htm>

that the views expressed by CSOs and the private sector had been reflected in the plan. This raises questions not only about the need for such consultations but also about the validation, monitoring and evaluation of the formulation process and plan itself by a wide range of sectors and actors.

The results also implicitly indicate that the gender dimensions of consultation processes and plan implementation should be carefully monitored, to encourage the participation of women's groups in all phases. As to the impact the plans have had, the case of Mauritania demonstrated that the plan formulation process and the plan itself resulted in major telecommunications policy changes and facilitated liberalization of the telecommunication sector.

A number of lessons have been learnt over the past few years and these are summarized below:

- Need for increased awareness at various levels;
- Importance of support from high-level leadership to move the ICT agenda forward;
- Need to make the NICI process more participatory;
- Need to learn from others' experiences and to share best practices;
- Need for initiative in moving from ideas and concepts to concrete action plans;
- Need for increased attention to sectoral policies and strategies;
- Need to strengthen human and institutional capacity;
- Importance of prioritization when seeking external assistance;
- Importance of enhanced regional cooperation and integration; and
- Need for more adequate and innovative financing mechanisms.

Some of the lessons learned were synthesized in the NICI briefing paper²².

6.2 Lessons learned at the regional level

Efficient cooperation among member States and harmonization of activities entail support at the regional level, as stipulated in AISI and NEPAD. Such cooperation is intended to prevent duplication of efforts. This was re-emphasized by ADF '99 and ADF III on regional integration, as well as in the workshops organized by such RECs as CEMAC, ECOWAS and COMESA, from which we have the following observations:

- ICTs could have substantial impact on regional cooperation and integration if the right policies, programmes and mechanisms are put in place. Therefore regional cooperation and integration efforts should mainstream Information Society issues in their programmes.
- ICTs could improve intra-institutional communication among regional cooperation institutions, and promote trade, financial cooperation and efficiency in key sectors such as agriculture and education.
- Regional cooperation could foster economies of scale that increase Africa's collective bargaining positions, improve compatible standards and attract investment.

In addition, ICTs should be mainstreamed in the Regional Information and Communication Infrastructure (RICI) plans that are mainly targeting the following sectors:

²² <http://www.uneca.org/aisi/docs/AISIBriefingPaperNo1.PDF>

- Regulation
- Infrastructure development
- Capacity building
- Partnership
- Participation in global governance

There is also a need to take into account the crosscutting issues of content development and the gender dimension in all areas and levels of ICT development.

6.3 Global Perspective

It is critical for Africa to enter the Information Age efficiently, taking into account the economic and human dimensions of such development. Today, the basic ingredients are more or less available and most of the countries are ready to face this challenge through adequate ICT programmes. However, the size of Africa's digital agenda is indeed impressive. Internal and external partnerships are essential for strengthening synergies and creating strategic alliances to address this agenda.

A brief overview of the different activities that have taken place recently shows that consultation mechanisms are being put in place. At the regional level, the Partnership for Information and Communication Technologies for Africa (PICTA)²³, and more recently NEPAD, offer frameworks within which better coordination can be achieved to ensure a locally led and owned African digital agenda. At the global level, several initiatives have emerged, and most of them are trying to use dialogue more systematically. These can be seen as adequate forums for conveying Africa's views, positions and needs and for guaranteeing efficient collaboration with the international agenda. In this regard, the UN ICT Task Force, together with its regional hubs, should be used as the platform to ensure commitment from all partners to work together in a more concerted way. However, more efforts need to be exerted to improve the complementarity of programmes and missions and to avoid redundant action plans. This is particularly important given the scarcity of resources available, in terms of human and financial capacity.

7. The Way Forward

After the successful formulation of NICI plans, the countries have been requesting further assistance from ECA in sector-specific areas. Services required range from development of an implementation strategy to examination of the work programmes, to resource mobilization, development of sectoral strategies and monitoring of implementation plans. These requests underline the importance of the ECA role in providing assistance to formulation and piloting of sectoral policies and strategies. Special attention is being paid to e-governance, democratizing access, private sector involvement and content development, to meet AISI objectives. In addition, ECA is proposing addition of a new dimension, village information and communications infrastructure (VICI) plans, to extend policy-making and implementation. ECA will also place more emphasis on the expedited participation of the countries currently without a national ICT policy in the global knowledge society.

²³ <http://www.uneca.org/aisi/picta/>

Given the number of countries involved in the NICI process, it is clear that the continent is gradually beginning to optimize the full benefits of ICTs. However, a great deal still needs to be done once national strategies have been formulated, based on the availability of adequate infrastructure.

National e-strategies as part of AISI goals will increasingly be geared towards addressing MDGs so that ICTs can assist in the reduction of poverty, improve healthcare delivery, provide education opportunities for all, particularly the girl-child, create employment opportunities and ensure food security.

In addition, though governments need to take the lead in development of national strategies, other key stakeholders should be encouraged to play their part in both formulation and implementation. This is why ECA places emphasis on the NICI consultation process to ensure that stakeholders' needs and interest are reflected and accommodated in the policy documents. ECA has supported awareness raising through extensive outreach and communication activities targeted at Members of Parliament, civil society groups (particularly women's groups), academia, the media, as well as the Diaspora. The policy process should be flexible to incorporate other relevant and emerging issues both at the national and regional levels.

In order to address the above issues, ECA will continue to expand activities to raise awareness among key stakeholders, enhance capacity in member States, facilitate partnerships at the national, regional and international levels and strive to realize AISI goals and objectives.

Annex I: National Information and Communication Infrastructure (NICI) Strategies

Country	Existence of a national strategy	Implementation status
<i>Algeria</i>	Has a National Policy and a National Strategy	Several sectoral implementation strategies are being developed
<i>Angola</i>	A plan known as "Strategy for The Development of Information technology 2000-2010" has been elaborated.	The Government of Angola created a National Commission for Information Technology by Decree no. 6/2002 of 4 April 2002.
<i>Benin</i>	The Communication and Information Infrastructure Development Plan of Benin: 2000-2004 approved in 2000.	The implementation has started with the creation of an agency that promotes ICT. A work programme developed in 2001 and updated in 2002.
<i>Burkina Faso</i>	The Information and Communication Infrastructure Development Plan of Burkina Faso: 2000-2004 approved in October 2000.	Implementation has started. Several sectoral implementation strategies are being developed. Inter-ministerial committees created for follow-up
<i>Burundi</i>	The Cabinet adopted the National strategy for the development of information and communication technologies in Burundi in 2002.	The document is being circulated for wide dissemination and consultations before implementation.
<i>Cape Verde</i>	The NICI plan development process finalized in October 2000. A National Information and Communication Technologies Infrastructure Development Plan was the product of the process.	The implementation started.
<i>Cameroon</i>	The draft NICI plan finalized in October 2001	The draft NICI Plan will be reviewed and circulated for wide consultations before its submission to the Cabinet
<i>Central African Republic</i>	The process of the elaboration of the National Strategy started in January 2002. A baseline study undertaken in June/July 2002.	Due to political instability, the process is stalled but will resume as soon as possible.
<i>Cote d'Ivoire</i>	The NICI Plan approved by the Council of Ministers in July 2000.	A Ministry of Information and Communication Technologies was created to implement the NICI Plan. Priority projects were identified for implementation; however, due to political instability, the process is stalled
<i>Djibouti</i>	A draft strategy developed in February 2003	The document is being circulated to partners for implementation
<i>Egypt</i>	Egypt launched its National Information Highway programme to support and energize its socio-economic development as early as 1994.	Implementation of many projects for the development of ICT industries and the advent of universal access. Establishment of the Ministry for Telecommunications and Information in 1999
<i>Ethiopia</i>	The Draft National ICT Policy document initially drafted in July 2001 is now adopted by the Council of Ministers.	The first cycle of the implementation plan covering the period 2003 - mid 2008 is ready. A national ICT Coordinating Office is being established to manage the implementation process, monitoring and evaluation
<i>Gabon</i>	A Development Plan based on the network for sustainable development finalized in 2000.	Infrastructure development is the main focus of the plan
<i>Gambia</i>	A draft National Policy on information and communication issued in 1999	The Telecom sector is growing considerably. An e-government strategy is being developed
<i>Ghana</i>	The NICI development process revived in 2002 and is still underway	The NICI Plan should be completed by July 2003. The Government wants to put a mid- and long-term strategy for ICT development in place
<i>Guinea</i>	The NICI plan completed in February 2002	Implementation structures are being put in place
<i>Kenya</i>	The process of a comprehensive national strategy based on a broad national consultation started in 2001.	A Local Experts Team was created to draft the document on National Strategy
<i>Lesotho</i>	A National Information and Communication Policy prepared in 2002.	Development of a NICI plan planned for 2003
<i>Malawi</i>	The process of developing a national strategy started in 2002	The ICT Policy framework finalized in May 2002. The NICI Plan is being finalized
<i>Mali</i>	The process of developing a national strategy started in 2002	The Government has created "la Mission de l'Informatique et des Nouvelles Technologies de l'Information" to implement the Government Policy and to promote ICT. The NICI plan is being prepared

Country	Existence of a national strategy	Implementation status
<i>Mauritania</i>	National Information and Communication Infrastructure Development Plan: 1999–2002	The Government has created "le Secrétariat d'Etat aux Technologies de l'Information et de la Communication" to review the NICI plan and to promote ICT
<i>Mauritius</i>	The National IT strategic plan of 1998	A number of projects in policy formulation, ICT awareness, human resources development, government computerization and standard setting were launched following the National IT strategic plan in 1998.
<i>Morocco</i>	A national IT policy 1999-2003 elaborated and approved for implementation in 1999 by the Government	Several implementation strategies, programmes and projects were put in place
<i>Mozambique</i>	A national strategy developed and adopted in July 2002	The Commission on Information and Communication Technologies was put in place to coordinate development and implementation of the plan
<i>Namibia</i>	A revised draft policy proposal on Information and Communication Technology Policy for the Republic of Namibia submitted to the Ministry of Foreign Affairs, Information and Broadcasting in March 2002	Adoption by the Cabinet expected during the first half of 2003
<i>Niger</i>	The official launching of the NICI policy development process in Niger took place in August 2002	The "Centre de coordination de l'Informatique et des NTIC" has been put in place to promote ICT and to coordinate development of the NICI plan
<i>Nigeria</i>	The Nigerian Information and Communication Technology Agency (NICTA) formulated a "Nigerian National Policy for Information Technology (IT)" after consultations with stakeholders in 2000. The process of developing the NICI plan will start in June 2003	A Development Agency for ICT was put in place to coordinate development of a National Strategy and promotion of ICTs
<i>Rwanda</i>	The NICI plan adopted in 2002 by the Cabinet and Parliament	The Cabinet officially launched the NICI Plan, NICI 2005, in January 2002. The proposed implementation structure has been created. It consists of the National Information Technology Commission (NITC), the NITC Working Group and the Rwandan Information Technology Authority (RITA.)
<i>Senegal</i>	The National ICT Plan adopted in 2000	The Government has put in place, under the Office of the President, the regulatory and administrative tools necessary for the promotion of competition and the implementation of e-government
<i>Seychelles</i>	A National Strategy on ICT has been put in place	The implementation started in many sectors, linked to trade and capacity building
<i>South Africa</i>	The South Africa IT Strategy Project (SAITIS) developed by the Department of Trade and Industry and the Department of Communication, in consultation with the private sector and other stakeholders	The implementation has started and covers all sectors. A Presidential Advisory Committee was put in place to oversee implementation and ensure coordination
<i>Sudan</i>	Preparations were underway in 1999 to elaborate the national information and communication plans for Sudan. Since then a national ICT strategy has been formulated	The National Information Centre put in place in 2002 to implement and promote ICT in the Government departments.
<i>Swaziland</i>	The first national workshop on ICT policy that was organized by UNDP, UNESCO, ECA and the Swaziland National Association of Journalists (SNAJ) took place in November 2000	The National Policy will be oriented towards the media, telecommunications and ICT industries
<i>Tanzania</i>	The ICT Task Force produced the first order draft of the National ICT Policy of Tanzania in April 2002	Development of the implementation strategy is expected to take place in 2003.
<i>Tunisia</i>	There is a National Policy and a strategy of implementation as of 1997	The implementation has started and the regulatory and institutional tools have been put in place to promote ICT for development
<i>Uganda</i>	A draft national policy – Strategy for Developing a National Information and Communication Technology (ICT) Policy for Uganda - completed in September 2002.	The NICI plan is being developed. Meanwhile there is competition and development in the ICT sector
<i>Zambia</i>	A draft national policy completed in 2002	The approval of the National Policy expected in 2003

Note: This table was compiled by ECA, from available data. Please contact DISD for case updates and new developments not recorded above.