



Regional Information and Communications Technologies Developments

The AISI Perspective

Introduction

In his foreword to a Policy Research Report by the Economic Commission for Africa (ECA), K. Y. Amoako, the Executive Secretary of the organisation, stated that “the most striking contrasts in the modern world are the vast differences in technological development and human well-being—differences most evident in Africa. Poverty and hunger are widespread. AIDS has cut life expectancy by more than 10 years in some countries. Forests are being depleted at the rate of an acre a second due to unsustainable farming practices. And technological development is woefully deficient. In many cases it is the poor, particularly women and children, who suffer the most. They live in environmentally fragile areas, depend on marginal lands, are exposed to health hazards and natural

disasters, have very little coping capacity, and have hardly any assets to fall back upon in times of crisis”.

“This Report,” he said, “is about how African societies can reverse these alarming trends. Its main message is that harnessing new and emerging technologies is critical for development”.¹

The above observations on biotechnology also apply to the use of ICT for development in Africa. In fact, they can be considered as some of the reasons that led to the launch of the African Information Society Initiative (AISI): Harnessing Information and Knowledge for Africa’s Development.² Since its inception, AISI has been the backbone of major ICT development of the continent. Adopted by the Conference of Ministers in 1996³, the initiative has successfully created a framework within which national stakeholders, as active and central players, set their own courses of action and implement projects based on their priorities and development goals.

With the support of various bilateral and multilateral partners, a number of African countries launched innovative ICT initiatives within the AISI framework. Recently, Niger joined 29 other countries⁴ to formulate their National Information and Communications Infrastructure (NICI) plan. Other countries, like Senegal and Mozambique, have started implementation of the plans and the development of sectoral applications.

ICT programmes in Africa have moved to a dynamic phase. The importance of ICT for development has been widely recognised, and policy and decision makers are committed to the establishment of a sustainable information society in their own countries, which is evident in the increasing number of innovative ICT plans and projects.

The role of the Economic Commission for Africa is to co-ordinate the work of AISI. ECA has been assisting the countries to create an enabling environment for ICT for development through these NICI plans, strategies and participation in regional and global fora to make Africa’s voice better heard.

ECA is also in partnership with national counterparts and donors to implement sectoral applications. The progress is monitored and

evaluated through the SCAN-ICT⁵ Programme. One of the key aspects of ECA's assistance to AISI is the promotion of partnership and Cupertino mechanisms at national and regional levels as well as with multi-lateral and bilateral donors so as to avoid duplications and waste of scarce resources.

However, the challenges Africa is facing are numerous and wide in scope. ECA is ready to deepen and widen its consultation and collaboration with national and international actors to accelerate the development of ICTs in Africa.

This chapter focuses on major ICT activities recently implemented in the context of AISI. It also intends to extract and share good practices and lessons learned and to suggest recommendations for future activities.

Progress Made in Creating an Enabling Environment for ICT Activities in Africa

Information and communications technologies can contribute enormously to influence our countries' economic and social development. Significant progress has been made in advancing ICT as an integral component of national and regional development agenda through national information and communication technology policies and plans, and by creating the necessary economic, institutional, social, legal and fiscal environments.

Development of National Information and Communications Technologies Policies and Strategies

Major efforts in the development of national strategies in Africa have been undertaken within the framework of AISI. The development of National Information and Communications Infrastructure (NICI) plans, strategies and policies are considered an important implementing tool of AISI. A large number of African countries have strived to develop

their NICI plans that articulate long-term policy, infrastructure, content and application strategies as an integral part of their overall national development goals.

The NICI development process has its roots in the vision of AISI. NICI provides the framework within which ICTs are mainstreamed into the national planning process in order to facilitate the achievement of national and sectoral development priorities and objectives. It is an on-going process through the planning, implementation and regular evaluation of programmes and projects developed according to the needs and priorities of each country.

Below are examples of recent NICI developments. More detailed information is available at <http://www.uneca.org/disd/ict/>

Djibouti: Djibouti recently started its NICI development process. A consultative workshop was organised in May 2002. Consultation meetings were scheduled to start in November 2002.

Ethiopia: Ethiopia endorsed its ICT policy document in 2002 and launched an aggressive policy implementation plan. One of the objectives is to offer increasing access to information and communications at district levels.

Ghana: In Ghana, the NICI process was officially re-launched by the Government in August 2002. A NICI Committee was set up and an implementation plan drawn. Consultations with stakeholders have started.

Malawi: An ICT policy development process is underway in Malawi, based on the ICT policy framework document that was submitted to high level government officials in June 2002.

Mali: Mali set up a new NICI Committee in May 2002. Several consultative workshops with stakeholders were organised. A baseline study covering the major cities of Mali has been launched.

Mozambique⁶: Following a national ICT Policy Implementation Symposium in October 2001, Mozambique launched a number of catalytic

projects in human capacity development, infrastructure building, applications and content in health and education, e-government, policy and regulatory frameworks, provincial growth, enterprise development with focus on youth, gender and access issues.

Niger: After the official launching of the NICI plan by the Prime Minister of Niger in July 2002, a NICI Committee was set up. A baseline study covering all provinces, ministries, government agencies, NGOs and the private sector is underway.

Rwanda: The Rwanda NICI Plan has been finalised and its implementation launched by the President in February 2002. Ministries have started developing sectoral plans out of the main plan. A funding conference is scheduled to take place early in 2003.

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: Uganda completed its ICT policy formulation in 2002. The development of an ICT policy implementation plan in key sectors identified in the policy document is underway.

Regional Information and Communication Initiatives

The role of ICTs for regional integration and co-operation has gained considerable attention. As a result, Regional Economic Communities (RECs) are taking a leading role in regional consultations and studies, such as the harmonization of policies, regulatory frameworks, infrastructure, and more. Examples include:

ICT for Regional Integration for the Economic Community for Central Africa States (CEMAC): The Economic Community of Central African States (CEMAC) organised a workshop on ICT for regional integration in Yaounde, in September 2002. The workshop adopted the Yaounde

Declaration, which made key recommendations, including harmonization of the ICT sector in the CEMAC countries, sharing of resources and the creation of the Central African countries Association of Regulators (ARAC). The CEMAC Heads of State will adopt the Declaration in December 2002.

Regulatory Harmonisation in Economic Community for Western Africa States (ECOWAS): In order to facilitate the harmonization of national sectoral policies, the ECOWAS Council of Ministers established an ECOWAS Consultative Regulatory Committee for Telecommunications to ensure the consistent and co-ordinated regulation of telecommunications within the Community. A West African Telecommunications Regulators Association (WATRA) was officially established in June 2002. A study on the harmonization of West African telecommunication regulations is underway⁷.

Regional ICT Development in Southern African Development Community (SADC): Countries of the Southern African Development Community (SADC) are a step ahead of the other regions. Several studies on ICT have been undertaken and meetings and workshops organised. A Protocol on Transport, Communications and Meteorology and a Declaration on Information and Communications Technology were adopted by SADC, which has a Southern Africa Transport and Communications Commission. The SADC Region was also the first one to establish an association of regulators, the Telecommunications Regulators Association of Southern Africa (TRASASA).⁸

The UEMOA Initiatives in ICT: In 2001, the Council of Ministers of the UEMOA adopted a recommendation on a programme of action for improving ICT infrastructure and services in its region. This recommendation aims at harmonising the regulatory frameworks, the creation of a committee of regulators, and a forum of operators and service providers, the promotion of new ICTs, and liberalisation of the national telecom markets. The West African Development Bank

(BOAD) is expected to undertake a study in developing a fiber optic regional network.⁹

The ADF III ICT Focus Group on Regional Integration:¹⁰ During the third edition of the African Development Forum (ADF) on Regional Integration, held in March 2002, the ICT Focus Group met to explore the role of ICTs in Regional Integration. A portal on regional integration was also launched during this event.¹¹

Since its existence, the ADF has registered significant impact and rapidly gained recognition as an effective forum for informed dialogue and consensus building on urgent development issues of relevance to Africa, and for agreeing on implementation priorities and strategies at national, sub-regional and regional levels. ADF 1999¹² focused on ways to accelerate the information revolution in Africa. A considerable amount of technical information was prepared during ADF '99 and is still being used and referred to by member States and experts doing studies on Africa.

Improving Digital Opportunities for Africa: The African Regional Conference of the WSIS

A significant event in improving digital opportunities for Africa took place in Bamako in May 2002. The African regional conference, known as Bamako 2002¹³, was held in Bamako, Mali, under the auspices of His Excellency Alpha Oumar Konaré, President of the Republic of Mali. Bamako 2002 was a Ministerial level meeting, Africa being the first continent to organise a regional conference in line with the framework of the World Summit on the Information Society (WSIS).

Bamako 2002 focused on facilitating an understanding of the benefits that can be drawn from the global information society, the contributions the continent could make towards its goals and the cultural heritages and values it should preserve through this dynamic process. The conference brought together about one thousand participants

drawn from government, civil society, the private sector, as well as development partners. Various bilateral and multilateral partners as well as the private sector and the civil society supported it.

Bamako 2002 also provided an opportunity to revisit and evaluate the implementation of the recommendations of the first African Development Forum (ADF '99) and Bamako 2000.¹⁴ The conference was a unique opportunity to renew the commitment of member States and bilateral and multilateral development partners of Africa for the attainment of the visions enshrined in the African Information Society Initiative (AISI).

Participants in Bamako 2002 unanimously agreed on a set of principles and recommendations for developing a common African vision for an information society, known as the *Bamako Declaration*.¹⁵ A Task Force, Bamako 2002 Bureau¹⁶, with ECA serving as a secretariat, has been established to carry out the major recommendations and work with the WSIS secretariat. The Bureau is chaired by Mali, with members composed of one country from each sub-region, and representatives of the civil society and the private sector.

The Bamako 2002 Bureau and ECA met several times during the First Preparatory Conference for the WSIS (PrepCom 1)¹⁷, which was held from 1–5 July 2002, in Geneva, Switzerland, to explore ways and means to implement the Bamako Declaration and continue the activities it suggested. The Africa Group requested ECA to serve also as the Secretariat for Africa's participation in the WSIS activities and ensure that Africa will develop a common plan of action.

Sectoral Applications Initiatives

As stated earlier, the creation of an enabling policy and regulatory environment is essential to ensure that actions initiated in the ICT infrastructure development and sectoral applications are encouraged. Although ICTs are cutting across many sectors, a few sectoral applications

have gained attention in Africa in recent years, based on the priorities of individual countries. These include education, health, business and trade, and governance.

Education and Capacity Building

The agenda for ICT and education in Africa can be strengthened through E-education initiatives, such as the African Learning Network¹⁸, which supports school networks (e.g. SchoolNet), university networks (e.g. VarsityNet), networks of research institutes (e.g. African Knowledge Network Forum—AKNF¹⁹) and networks for marginalised people (e.g. Out of School Youth Network—OosyNet).

The launching of SchoolNet Africa²⁰ and the conference on ICTs and higher education held at the end of July 2002, in Addis Ababa, are some of the activities that have been undertaken with respect to implementing the African Learning Network. The conference was organised under the aegis of the Four Foundations Partnership (Ford/Carnegie/MacArthur/Rockefeller), in collaboration with ECA.

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)²¹, in co-operation with USAID/Leland, developed a training manual and delivered training courses for policymakers. In addition, in co-operation with the World Bank's InfoDev program and CISCO Systems, ITCA launched a training course in Internet networking technology, in 2001 and 2002, for two groups of African women from 41 African countries.

Business and Trade

As a result of ADF '99 on "The Challenge to Africa of Globalisation and the Information Age", a "Pan-African Initiative on e-Commerce", was commissioned by IDRC and ECA with the objective of developing policy and strategy advice for African Governments. African Trade Ministers

met in Libreville, Gabon, in November 2000, to discuss issues related to an active and early African participation in e-commerce.

More recently, sub-regional level workshops in Mauritius (April 2001, for Eastern and Southern Africa) and Senegal (October 2001, for Central and Western Africa) have been conducted on the use of ICTs to enhance competitiveness of SMEs in Africa.

Health Care Services

The World Health Organisation (WHO) has highlighted the importance of ICTs by proposing that immediate steps should be taken to include ICTs as part of its health-for-all strategy for the 21st century. This area was also recognised as of the utmost priority by ADF '99 and ADF 2000, where a portal on health resources and health statistics in Africa was launched²². Pilot telemedicine projects are being implemented in countries, such as Mali and Ethiopia. Countries like Tunisia have adopted Telemedicine plans, and more recently, Mozambique and Senegal are embarking on developing e-strategy for the health sector.

Governance

The utilisation of ICTs for improving government services in Africa is gaining momentum. Recently, ECA launched an electronic dialogue on e-governance²³ that aimed at providing insights into trends in e-governance programmes on the continent. Discussions revealed that this field 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 deserve to be better known. It was stressed that e-governance is a continuous learning and interactive process requiring resources and research.

Outcomes of the e-governance discussion will feed into the forthcoming African Development Forum (ADF IV) scheduled for next year on governance, which will have an ICT Focus Group that will deliberate on ICTs and governance. In addition, the forthcoming Committee on

Development Information (CODI III)²⁴, one of the subsidiary bodies of the ECA scheduled to take place in May 2003, will also focus on information for governance.

Progress and Impact Evaluation

The jury is still out on the impact of ICTs on the development process in Africa, as the advent of the information age is relatively recent for assessing, both qualitatively and quantitatively, the exact impact on socio-economic transformations. Outside of the telecommunications sector, information is sparse, diffuse and anecdotal in such areas as sectoral applications, investment flows, donor/funding activity, the ICT industrial or business sector, ICT labour, and so on.

Nevertheless, the fact still remains that there is an urgent need for developing indicators that monitor the role of ICTs in each and every sector applicable, as well as for developing mechanisms that provide precise assessments. Up to two years ago, the relevance of ICTs to Africa's development was evaluated on an *ad hoc* basis. It is only recently that studies have been commissioned by agencies, such as the ITU, UNESCO, and the World Bank, to name a few, on e-readiness and the impact of ICTs and development

In response to this development, an Africa-specific monitoring and evaluation programme, Scan-ICT, was launched in November 2000. Scan-ICT is led by IDRC and ECA and supported by the European Commission and the Norwegian Agency for Development (NORAD). It aims at developing Africa's capacity to collect, analyse and organise data on the penetration and utilisation of ICTs for development. Ghana, Senegal, Morocco, Ethiopia, Uganda, and Mozambique have been selected and sponsored to undertake baseline studies by employing indicators reflecting thematic areas; namely, infrastructure, content development, sectoral applications such as education, health, e-commerce. Interim results were presented at Bamako 2002.

Partnership and Consultation Mechanisms

Africa's digital agenda is quite huge and challenging as is the continent's development agenda that ICTs are intended to serve. Therefore, building synergies and creating strong alliances to address it more efficiently is crucial. It is in this context that partnership and consultation mechanisms have been put in place. At the regional level, they are expected to ensure that Africa's digital agenda is locally led and owned. At the global level, they are meant to convey Africa's views, position and needs and to guarantee efficient collaboration with the international agenda.

The Regional Level

The African Technical Advisory Committee (ATAC)²⁵ to the African Information Society Initiative (AISI) was established by a mandate from the ECA Conference of Ministers Resolution 812 (XXXI)²⁶. It is a regional advisory committee composed of African experts representing different areas of activities, including the Diaspora, and was formally launched during its first meeting in Addis Ababa, in October 1997. Its major functions are:

- to assess the impact of the implementation of the African Information Society Initiative;
- to advise the ECA secretariat on the content of its work programme for the implementation of the African Information Society Initiative; and
- to suggest ways and means of resource mobilisation for the implementation of AISI.

Since 1997, ATAC has been instrumental in providing inputs on AISI orientations and achievements.

The Partnership for Information and Communications Technologies in Africa (PICTA)²⁷ is an informal group of donors and executing agencies committed to improving information exchange and collaboration

around ICT activities in Africa.²⁸ It was formed by representatives of 17 UN and other development agencies involved in information and communications technologies (ICT) development in Africa, who attended the donor and executing agency meeting on IT for development in Africa, held in April 1997, in Rabat, Morocco. They agreed to make PICTA a forum for donor/executing agencies collaborating within the framework of “Africa’s Information Society Initiative” (AISI), and to set up common information resources on the Internet for ICT related development activities in Africa.

The major current joint programmes of PICTA members include the SCAN-ICT project, development and implementation of national ICT strategies (NICIs), the publication of a quarterly bulletin, entitled “iConnect Africa”, and a monthly “PICTA Bulletin”. Furthermore, PICTA members jointly organise a number of conferences and meetings related to the promotion of ICTs for African development.

The African Stakeholders Network of the UN ICT–Task Force (ASN)²⁹ was set up at the end of a two-day meeting in Addis Ababa (21–22 January 2002), and organised by the Economic Commission for Africa (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 organisations.

From Africa’s point of view, it is mainly intended to link existing African activities and initiatives with the newly established UN ICT Task Force. The main mandate of the ASN is to:

- develop a network relevant to Africa’s needs and in line with the mandate of the Task Force and its Working Groups;
- share information on major African activities and initiatives through mailing lists, websites and country profiles;
- sensitise and mobilise major actors to ensure African ownership and support from partners;
- share information and encourage membership, when relevant, and organise special events;

- assist in linking the network with African and international initiatives; and
- attract funds and investments in the ICT sector in Africa.

The New Partnership for Africa's Development.³⁰ 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, held in Algiers, in May 2001. The Compact codified a growing consensus within Africa of what had to be done to accelerate the continent's development, including in the area of 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, the initiators of MAP and OMEGA asked the ECA to contribute substantively to the development of a unified document, which became the New African Initiative, and later the New Partnership for Africa's Development (NEPAD). In this context, ECA prepared several sectoral contributions, including ICTs, based on the African Information Society Initiative framework, for MAP, OMEGA, the New African Initiative and NEPAD. AISI is now considered the starting point for the regional dimension framework of the ICT component of the infrastructure part of NEPAD³¹.

The International Level

The Global Knowledge Partnership³² (GKP) is a "network of networks" with a diverse membership base comprising public, private and not-for-profit organisations from both developed and developing countries. The Partnership was born as a result of the preparatory process of the 1997 Global Knowledge Conference in Canada, hosted by the World Bank and the Government of Canada. At present there are 45 members. For 2001–2003, the chair for the committee is the Government of Switzerland, represented by the Swiss Agency for Development and Co-operation (SDC). The secretariat is hosted by the Government of Malaysia and represented by the National Information Technology Council (NITC).

The GKP 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 realise the potential of information and communications 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 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. *African Day* recommendations were presented in Bamako 2002.

The Internet Corporation for Assigned Names and Numbers (ICANN) is a technical coordination body for the Internet, which is specifically coordinating Internet domain names, IP address numbers, Protocol parameter and port numbers. In addition, ICANN coordinates the stable operation of the Internet's root server system. Africa's participation in the ICANN activities is still limited despite efforts of international partners to support participation of Africans in the various ICANN meetings, including the Accra meeting. In this regard, Ghana was selected to host the first ICANN stakeholders meeting for the year 2002, which took place from 10 to 14 March, 2002. At this occasion, a number of parallel ICANN constituency events as well as the General Assembly and the ICANN Board Meeting took place.

Following the Accra meeting, discussions are underway between ECA and ICANN to put in place an African outreach programme, which would be part of the ASN.

Bilateral and Multilateral Partnership Mechanisms

A wide range of bilateral and multilateral partners is supporting the implementation of the African Information Society Initiative. Discussions are being held with other partners, including GTZ and SDC. Selected projects and partners are described on the following page.

Country	Organisation	Area of Support
Canada	Government of Canada IDRC	Development of a centre for connectivity in Africa, and e-policy resource centre Scan-ICT baseline Studies in Ghana, Morocco, Senegal and Uganda
European Union	European Commission	Scan-ICT baseline studies in Ethiopia and Mozambique Regional study on the state of telecommunication regulatory policies Development of NICI policies, plans and strategies in Central Africa Republic, Djibouti, Ghana, Mali, Niger
Finland	Ministry of Foreign Affairs	Strengthening ECA's capacity for co-ordinating and monitoring national ICT policies and strategies
France	Ministry of Development and Co-operation	Support the strengthening of ECA's web presence.
Netherlands	IICD	Production and dissemination of iConnect Africa, a quarterly web paper and email service Contribution to the AISI Media Award Programme
Japan	Ministry of Foreign Affairs	Equipment for standing and mobile exhibition of ITCA Participation of women from Anglophone countries in the CISCO Internet and Networking course
Korea	Ministry of Foreign Affairs	Establishment and strengthening of the Information Technology Centre for Africa
Norway	NORAD	Scan-ICT baseline studies in Ethiopia and Mozambique
United States of America	USAID	Development of manual for training of policy makers on the challenges and use of ICTs for Africa's development Capacity building programmes
World Bank	Africa Bureau	Production of AISI Radio Series
	InfoDev	Training of African women on Internet and Networking
	CISCO	Supporting Information Technology Centre for Africa (ITCA)'s training programmes
	La Francophonie	Training on ICT and Regional Integration
	Open Society Initiative	Support to AISI outreach programme

The Communication Programme

The issue of ICTs for Development is relatively new in Africa. It requires outreach and dissemination of information programmes and efforts to publicise achievements, best practices and experiences in order to satisfy the increasing demand in this area. In this context, various efforts are underway to promote ICTs for development in Africa. Some of these activities include:

PICTA Bulletin³³ is a monthly publication that provides information on activities of members in the Partnership for ICTs in Africa (PICTA), as well as news on ICT-related activities in Africa.

iConnect Africa³⁴ is a quarterly web, paper and email service that aims to raise awareness in the wider African development community regarding the possibilities offered by ICTs in development. *iConnect* is produced by the ECA and the International Institute for Communication and Development (IICD). It reports on activities forming part of the AISI and Building Digital Opportunities programme “BDO”. *iConnect* is funded by the United Kingdom Department for International Development (DFID), the Netherlands Ministry of Foreign Affairs, Department for International Development Cooperation (DGIS) and the Swiss Agency for Development and Cooperation (SDC).

AISI Radio Series are based on the *Harnessing ICTs for Development* programme of the Economic Commission for Africa. The Radio Series is aimed at creating greater awareness on the information society, serving as a tool for media practitioners, especially radio broadcasters, to engage various groups in debating the role of ICTs in the development process. The programme was made possible with funding from the Africa Region of the World Bank. “ICTs in Mali”, one of the four programmes in the AISI Radio Series, was broadcast by the English Language Service of Radio Netherlands, and was a special edition in their weekly development programme, *A Good Life*.

The programme will also be made available through Radio Netherlands' affiliate stations, such as World Radio Network (WRN) broadcast world-wide, with specific feeds to National Public Radio (NPR) in North America, Safm, South Africa, Canadian Broadcasting Corporation (CBC), and the Australia Broadcasting Corporation (ABC).

The ICT Media Award Programme was launched recently by the ECA. It aims at encouraging reporting by African journalists on ICT for development issues within the context of the African Information Society Initiative (AISI). The Open Society Initiative for Southern Africa (OSISA), the International Development Research Centre (IDRC), and the International Institute for Communication and Development (IICD) have made contributions to the award, which has assisted in kick-starting the process.

Out of Africa is an interesting map commissioned by IDRC to measure the digital divide in Africa. It defines a Bits per Capita indicator to evaluate the communication capacity and readiness of African countries. It argues that International Internet bandwidth provides a better measure of Internet activity (URL: <http://www.idrc.ca/acacia/divide/>).

NICI Maps and Graphs are based on data collected from different sources. Currently, maps on the status of the NICI strategies, Africa's Internet situation and tele-density, the number of ISPs (and ownership), mobile density, and broadcasting (regulation, radio, TV) can be found at: <http://www.uneca.org/disd/ict>. A NICI graph has also been prepared and is available from the same site.

AISI Briefing Papers are being produced on various issues related to promoting ICTs for development. The briefing papers aim at sensitising better African policy makers about the issues that need to be addressed for achieving Africa's digital inclusion. Currently, briefing papers on the National Information and Communication Infrastructure (NICI) plans, ICTs and governance, and civil society participation in ICT programmes are being produced.

Web and e-discussions have been developed to disseminate information, best practices, ICT stories from and within Africa, and to exchange ideas

on the development of the sector. The websites are being used to document the status of e-readiness and national e-strategies at the country level. Some of the major websites include:

- AISI (<http://www.uneca.org/aisi>);
- NICI (<http://www.uneca.org/aisi/nici>);
- PICTA (<http://www.uneca.org/aisi/picta>); and
- ASN (<http://www.unicttaskforce.org/regional/africa/main.asp>).

Electronic discussion fora on various topics related to promoting ICTs for development have been set-up. The main one is the AISI list (aisi-l@lyris.bellanet.org), where various topics related to ICTs in Africa were discussed. Very recently a lively discussion on e-governance/government in Africa was held. Its main outcome can be found at: <http://www.bellanet.org/lyris/helper/index.cfm?fuseaction=Visit&listname=aisi-l>

Lessons Learned and the Way Forward

The recent dramatic growth of the Internet and the mobile sector, and the proliferation of Internet and computer services businesses (including the availability of cyber cafés in African capitals) show that there is potential for ICTs as a key development sector for Africa. Increasing use of ICT in other areas of economic development also indicates that, with concerted efforts, ICTs have the potential to meet development challenges.

A number of lessons have also been learnt from the work of ECA in implementing the African Information Society over the last six years. Activities and initiatives have been mushrooming in the continent in the ICT for Development areas, targeting all member States but sometimes limited to a few countries. The different social and economic status of African countries led to different approaches to information society development and diverse projects in these countries. Such diversity itself

is a lesson. Major lessons that can be extracted from these projects, programmes and initiatives include the following:

Increased Awareness

Almost all African governments are now ready to consider the development of ICT policies and programmes of action that assist them better to address socio-economic development challenges. The resistance to embrace ICT has changed tremendously. The governments are willing to invest in information and communications technology programmes that: (a) meet their development plans and goals; (b) are part of their efforts to alleviate poverty; and (c) increase the social appropriation of ICTs by the civil society and the communities. Government seems to play a key role in driving the ICT agenda in most countries.

Importance of the High-Level Leadership

Progressive ICT policies and strategies at national levels demonstrate that political will and leadership are fundamental for translation of the policies into actions. President Chissano and Prime Minister Pascal Mocumbi are at the forefront of ICT policy in Mozambique. President Kagame is part and parcel of the process that aims to move Rwanda from agriculture-led to a knowledge society. These and a number of other examples show that the ICT policy process could succeed only through strong political leadership as well as institutional support.

The NICI process could be more participatory

Some countries set up broad national consultations for their NICI process. However, there is room for improvement. Indeed, compared to its significance in the development of the information society, the role of the private sector has been too limited so far and should be considerably improved. From the other side, the involvement of the civil society in ICT for development has been uneven. Not all the countries pay

significant attention to the civil society participation in the process. A new partnership model that builds on the strengths of government, the private sector and civil society, is needed.

Need for learning from experiences of others—Best practices

It is important to learn from the experience of others. There is an increasing demand for more documentation and efficient information sharing mechanisms. Indeed, there is a serious lack of documentation on a great deal of activities and successful achievements. It has been unanimously recommended to address this issue as rapidly as possible in order to illustrate the growth of the ICT sector and, in particular, to know “who is doing what” in ICT in Africa. Bellanet International developed the AI-AIMS database about the activities of the PICTA members (this database was later merged with the GK-AIMS). However, there is still a need for concerted efforts for information gathering and sharing.

Recently, the Global Knowledge Partnership, the Swiss Cooperation for International Development and the ECA decided to create a knowledge base that addresses this issue.³⁵ Communication materials, such as the PICTA Bulletin and the iConnect Africa Bulletin, are also contributing greatly to better dissemination of information on project realisations.

Transition from ideas and concepts to concrete action plans

Progress in ICT development in the region shows that countries want to move from policy development, ideas and concepts to concrete actions; most of them are ready now. Experiences indicate the need for two types of actions:

- broader and long-term actions in a few key areas that bring substantial changes to the society; and
- small, effective and sustainable programmes that bring catalytic impact on communities and that can also be used for demonstration purposes.

Need for increased attention to sectoral policies and strategies

Social and economic development challenges and resource limitations have increased the need for prioritisation for ICT intervention in key sectors in Africa. The prominent areas in Africa include:

- improving governance and public sector effectiveness through concerted use of ICTs by government, and meeting public sector reforms;
- meeting the challenges of health systems management, healthy life, HIV/AIDS, health knowledge, through increased use of ICTs;
- increasing the capacities of small and medium enterprises to benefit from growing electronic businesses;
- improving ICT use in all aspects of education, learning and research with focus on youth, lifelong and distance learning; and
- harnessing ICTs for improving the situation of agriculture, food security and environment in Africa

Human and institutional capacity must be strengthened

The human and institutional capacity development remains one of the chronic problems in the region. The challenges include:

- the creation of expertise in policy analysis (such as defining and implementing national policies and participating in global decision making);
- the creation of expertise in information management, policy and regulatory framework development and enforcement of regulation by institutions;
- a better coordination of ICT-related programmes at national levels in order to avoid the fragmentation that is due to competition among agencies and institutions;
- the development of national negotiation skills, particularly at the international level;

- the establishment of reliable and sustainable institutional capacities resilient to the changes of government and global needs; and
- the involvement of the African Diaspora.

Prioritisation of external assistance

The experience so far also shows that technical and financial assistance is needed at different levels. These include:

- provision of knowledge as to what steps to take in developing inclusive national and sectoral policies;
- providing guidance and resources to overall ICT policy formulation and e-strategy development processes, particularly in translation of policies to actions;
- financing the implementation of large and small catalytic programmes and projects;
- supporting countries in the mobilisation of internal and external resources;
- maintaining partnerships for sustainable ICT development; and
- monitoring and evaluating progress.

Increasing regional cooperation and integration

The regional dimension has become significant, particularly in the development of infrastructure, harmonisation of regulations and mobilisation of resources. The factors that spurred regional cooperation in ICTs include:

- the increasing need for economies of scale (one country cannot do it alone);
- the need to leverage regional cooperation and integration by harmonising policies, tariffs and resource plans;
- the opportunities provided by dynamism in regional economic groupings and policy organs and frameworks, such as AU, NEPAD, and AISI; and

- the need for a common and strong African voice in global decision-making to influence the global rule of the game on behalf of the communities on the ground.

More adequate and innovative financing mechanisms are needed

To date there is limited financing mechanism for the huge task of harnessing ICT for development in Africa. *Ad hoc* projects and programmes were largely unsustainable. There is, therefore, a need for better financing mechanisms that take the need of different actors into account. The problem has been addressed several times and now we need to move forward more efficiently. The Government of Senegal (responsible for the infrastructure part of NEPAD), with the support of ECA, organised the NEPAD financing conference in Dakar (15–17 April 2002). The conference came out with interesting recommendations in the area of ICTs. Bamako 2002 studied the proposal and agreed that some of the major immediate actions that were needed were:

- to increase the public-private partnership;
- to streamline ICTs in the national development budget;
- to leverage on public resources, including radio frequency spectrum;
- to enforce a global bit tax for ICTs;
- to divert a percentage of military spending to the development of ICT and knowledge;
- to swap debt for education, information, communication and knowledge; and
- to create a universal fund for ICT in Africa, through such initiatives as the United Nations ICT Task Force and the follow-up on the G8 Dot Force.

Conclusion

The lessons above and on ground-level work by the ECA in the region indicate that governments, partners, the private sector and civil society

organisations, should focus on selected areas in order to maximise the impact of ICT for social transformation. The key steps to ensure that digital opportunity is created to better serve Africa's people and generate wealth and welfare in the Continent, include:

- developing ICT strategies that are in line with the UN Millennium Development of the countries;
- supporting the dynamic transition from strategies to actual implementation of programmes for sustainable development;
- increasing the relevance of institutions, policies and regulatory frameworks;
- building a network of actors, policy makers and those implementing ICT projects and programmes at community, national, regional and global levels; and
- promoting sustainable financing mechanisms for long and short-term programmes and projects using innovative strategies.

Finally, there is need for ongoing efficient and light consultation frameworks that bring all African ICT experts, partners and stakeholders together. A re-energised partnership, and information-sharing platforms—such as that of PICTA, the African Stakeholders Network of the UN ICT Task Force, and GKP—are vital for building knowledge society strategies that enable Africa to harness ICT for social and economic development, and to promote sub-regional and regional integration and increase Africa's participation in global ICT decision-making processes. In this context, the UN ICT Task Force and its regional networks could provide an efficient platform for an improved dialogue, both within the regions and among them, at the global level, a better articulation of the challenges of ICT for development and an effective implementation of sustainable programmes.

NOTES

1. Harnessing Technologies for Sustainable Development, ECA Policy Research Report, August 2002.
2. <http://www.uneca.org/aisi/>
3. Resolution 812 (XXXI) "Implementation of the African Information Society Initiative (AISL).
4. http://www.uneca.org/disd/nici_graph.htm
5. <http://www.uneca.org/aisi/activities.htm#3>
6. <http://www.infopol.gov.mz/>
7. <http://www.ecowas.int/>
8. <http://www.sadc.int/>
9. <http://www.uemoa.int/>
10. <http://www.uneca.org/adfiii/>
11. www.uneca.org/itca/ariportal
12. <http://www.uneca.org/adf99/>
13. <http://www.geneva2003.org/bamako2002/>
14. <http://www.anais.org/SITES/BAM2000>
15. <http://www.uneca.org/aisi/docs/Bamako2002DeclarationEN.doc>
16. The bureau is composed of five government officials representing Senegal, Tunisia, Cameroon, South Africa and Rwanda, three representatives of civil society, two representatives of the private sector and a ECA as a General Rapporteur.
17. <http://www.itu.int/wsis/>
18. <http://www.uneca.org/adf99/adf99education&youth.htm>
19. <http://www.uneca.org/aknf/>
20. <http://www.schoolnetafrika.net/>
21. <http://www.uneca.org/itca>
22. <http://www.uneca.org/itca/healthport/>
23. <http://www.bellanet.org/lyris/helper/index.cfm?fuseaction=Visit&listname=aisi-l>
24. <http://www.uneca.org/codi/>
25. <http://www.uneca.org/aisi/atac.htm>
26. Resolution 812 (XXXI) "Implementation of the African Information Society Initiative (AISL)
27. <http://www.uneca.org/aisi/picta/>
28. Institutions, such as the British Council, FAO, IDRC, IICD, ITU, UNCTAD, UNDP, UNESCO, UNICEF, UNRISD, USAID, WHO, WIPO, World Bank, and WTO, having strong interests in improving the use of ICTs as tools to enhance economic and social development, are active members of this open network of partners.
29. <http://www.unicttaskforce.org/regional/africa/main.asp>
30. <http://www.nepad.org>
31. The decision was made during the "Conference on the participation of the private sector to the financing of the NEPAD", Dakar, Senegal 15–17 April 2002.
32. <http://www.globalknowledge.org>
33. <http://www.uneca.org/aisi/picta/PICTAbulletin/index.htm>
34. <http://www.uneca.org/aisi/ICConnectAfrica/index.htm>
35. This was also a recommendation of the African Stakeholders Network, in January 2002.