ECA and the promotion of information technology for development in Africa

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Economic Commission for Africa

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ECA has been the leading institution in Africa in the field of information and information technology for development since the late 1970s and is well placed to use its powers of advocacy and promotion to support the implementation of the goals expressed in the reports of the Secretary General and the Panel of Experts.

PADIS, CABECA and Connectivity

In 1979 ECA initiated the *Pan African Development Information System* to build national and regional databases to support development planning in African governments and institutions. Forty- one countries and forty-nine regional and sub-regional specialized institutions had joined the network by 1980. ECA realised that African institutions needed more effective mechanisms to exchange information and experience among themselves as well as with the ECA. In the 1980s it therefore launched the CABECA (*Capacity Building in Electronic Communication for Africa*) project to promote the establishment of electronic communications nodes in national institutions. When ECA began piloting networking projects there were only a handful of African experts in computer-mediated communication. By the mid-1990s, the number of capable technicians had reached a critical mass – ECA shifted focus from pilot projects to policy where the real blockages to Africa's entry into the information age were to be found.

AISI and policy awareness

The African Regional Symposium on Access to Telematics for Development, convened by ECA in partnership with UNESCO, the International Telecommunications Union, the Canadian International Development Research Centre (IDRC) and Bellanet International, made 1995

The African Information Society Initiative, adopted in 1996 by the ECA Conference of Ministers of planning and development, advocated African countries adopting National Information and Communication Infrastructure policies and set out guidelines for their drafting. The NICI policies cover not only the technological aspects of infrastructure, but also the applications, information systems and human resources plans that are a necessary part of them. ECA has been working with African countries since 1996 to elaborate information and communication policies and develop programmes and strategies for their implementation.

a landmark year in ECA's activities to promote information technology as a tool for development.

Immediately following the Symposium (the first of its kind in Africa) the ECA Conference of Ministers of Planning and Development passed a resolution entitled "Towards an African Information Highway" calling on the Executive Secretary to prepare an action plan to launch Africa on the information highway.

A year later the *African Information Society Initiative* was adopted by the Conference of Ministers as an action framework to reduce the digital divide between Africa and the rest of the world. AISI has remained the cornerstone of ECA's activities to promote information technology as a means to accelerate African development. Through its advisory services, seminars, workshops and partnerships it has worked in twenty-two countries to initiate national information and communication policy processes.

Partnerships

From its adoption, AISI has been implemented through partnerships. An important vehicle is the Partnership for Information and Communication Technologies in Africa (PICTA), an association of public and private, national and international organizations, that meets both virtually and in face-to-face sessions, usually on the occasion of other major meetings on information and communication technologies.

PICTA is a low-cost, high-value information sharing mechanism that provides opportunities to identify common interests and develop joint programmemes. Its mix of members includes United Nations organizations, governments, multinationals in the ICT sector (Cisco and Sun Microsystems, for example) and donor organizations. On-going communication through an electronic discussion list has helped PICTA formulate its own work programme and initiate several major joint initiatives; members have collaborated in a number of national policy workshops and in two major regional conferences: Global Connectivity Africa in 1998 and the African Development Forum '99.

ECA is also a founding and leading member of the Global Knowledge Partnership (GKP). It played an active role in Global Knowledge I held in Toronto in 1997. In recognition of ECA's important, global role in information technology and development, the Executive Secretary was asked to open the Global Knowledge II Action Summit and Forum, held in Kuala Lumpur in March, 2000.

The African Development Forum '99 – the challenge to Africa of globalization and the information age

The *African Development Forum* is an ECA initiative to direct attention to a different critical development problem annually with a view to engaging African decision-makers, practitioners and thinkers and accelerating the search for solutions.

ADF '99 focused on *the challenge to Africa of globalization and the information age* and examined the progress made in the first three years of ECA's African Information Society Initiative. Close to one thousand participants assembled to showcase African information society projects and policies and to shape a strategy to enhance Africa's connection to the global information society at the start of the new millennium.

A Strategy to accelerate African development through the increased use of information and communication technologies

The ADF '99 strategy answers the question:

Why use scarce funds on new and unfamiliar technologies when needs for basic services such as fresh water and classrooms are not yet met? The answer is threefold:

- ICTs are an enabling tool with a multiplier effect which can cut the costs, improve the quality and speed the delivery of basic infrastructure and services;

- ICTs offer many opportunities for rapid economic growth which will ultimately provide more finance for the many demands on the government coffers;

- ICTs have the potential to fundamentally transform the way governance operates, improving the ability of marginalized groups to participate across the spectrum - from the local grassroots level, to national governments and the regional and global forums which have insufficient representation from the South.

The risks of inaction will be high when compared to the plummeting costs of the new technologies and the growing potential for investment from private sector partnerships.

The strategy calls for commitment from the highest levels of leadership to applying ICTs to Africa's pressing social and economic problems.

It targets four areas:

- Applications to support the educational process and meet the needs of Africa's youth
- Applications in support of the delivery of health care
- Opportunities for business and trade
- Creating the enabling policy environment.

Programmes in these areas constitute the core of the follow up to ADF and the renewed vision of AISI.

Education and Youth – The African Learning Network

The moves toward a global knowledge society require a fundamental shift in thinking about the methodology of education. ICTs have already begun to exert massive transformation of education systems in developed countries. Failure to similarly change Africa's education and learning systems in the next 5 years will have dire consequences 10-15 years from now.

- There will be no next generation of leadership to guide African institutions in the global information society.
- African intellectuals will be active mainly in the universities and corporations of the North and of other developing regions.
- African children, male and female, will have little access to, or capacity to exploit, global knowledge and will have increasing difficulty making their own voices heard on a global stage.
- The brain flood from Africa will make the current brain drain appear a trickle.

ADF follow up work proposes that the **African Learning Network** be instituted with participation from all African countries and regional groupings and with an immediate focus on school networking at the national level with support from a regional **SchoolNet Africa**. A detailed programme framework and business plan is available.

In twelve and a half hours, Namibian secondary school students, many with no previous computer experience, successfully computerised 20,897 insect inventory records, thus contributing to the preservation of information about the fifth largest insect collection in Africa.

Health – Linking Capacities in Africa

Africa cannot ignore the potential of information and communication technologies to health service delivery. Thus far applications in Africa have been characterised by islands of donor-supported activity with limited impact on the growing health crisis because:

- they are too costly to be replicable;
- they are not rooted in community-based applications;
- they do not address fragmentation among the many different health sector actors at the national level.

An increasingly African-driven approach that draws expertise into an ever-widening network will better define applications appropriate to the different needs of the continent and provide a framework to enhance the value of donor initiatives.

ADF follow up work has identified applications in the areas of:

- Primary health care;
- Transferring diagnostic information to specialized centres;
- The operation and management of health services;
- Medical education and research;
- The fight against HIV/AIDS.

Recommended actions include:

- The creation of national tele-health task forces to establish priority application areas;
- The creation of a consultative committee on African tele-health (to be launched at ADF '2000: AIDS, the greatest leadership challenge);
- The definition of pilot projects on HIV/AIDS to: support clinical researchers and health care providers; build the capacity of youth to manage and resist infection and its consequences; provide a knowledge base for the media; and establish fora for people with AIDS and activists; and
- The presentation of the pilots at ADF '2000.

Electronic Commerce in Africa – the Pan-African E-commerce Promotion Initiative

The world of electronic commerce is moving fast. Africa has only a short window of opportunity to exploit any comparative advantage it may have.

Work carried out as part of the follow up to the African Development Forum '99 has identified two niche markets in which a number of African businesses are already active and which others can exploit now if certain conditions are met:

- Teleservices; and
- The Diaspora.

Work must now be initiated to:

Build small business capability in e-commerce:

- Strengthen e-commerce education and training services;
- Identify and disseminate information on potential market niches;
- Develop effective mentoring, twinning and inter-mediation mechanisms;
- Create Africa-based, Diaspora-focused Internet portals; and
- Ensure the credibility of African e-business.

Create a supportive environment:

- Electronic procurement systems in governments and regional organizations;
- E-business related legal, regulatory and tax environments;
- Consumer accessible electronic payment systems; and
- Local, national and regional fast package delivery systems.

Mentoring arrangements between African e-commerce start-ups and more established operations in the North, as well as the provision of a variety of training packages shaped to the needs of new e-business entrepreneurs, are obvious areas for private sector collaboration.

In Togo, the world's first Internet-based call centre is being set up to provide globally competitive telephone support services for companies with customers in North America.

Information Policy – a Collaborative African Framework

The key information policy challenges facing Africa today are:

- The extension of access to rural areas where most of the population lives;
- The application of the technologies to solve development problems in key sectors: health, education, employment and income generation, for example;
- Collaboration – sub-regionally and regionally - to build market size and exploit economies of scale for ICT production, services and future tele-workers; and
- The articulation of an African vision in international negotiation on information society issues.

Policy processes must:

- Involve broad groups of stakeholders including representatives of user communities, the private sector and civil society;
- Identify issues that can best be addressed beyond national borders; and
- Recognize the need for a stronger African voice in global negotiation.

The recommendations developed through the ADF process target the key steps that can be taken at the national, sub-regional and regional levels to build Africa's capacity to grasp opportunities inherent in the information age and strengthen its voice in global decision-making bodies.

At the national level:

- initiate policy process within the framework of African Information Society Initiative;
- Rural Access Task Force on ICT Innovation to test experimental approaches to the extension of networks to rural, under-served areas;
- National Forum for Co-operation between Civil Society and Government in Global ICT Governance, to promote informed public debate and effective negotiation

At sub-regional and regional levels, maximize the benefit of national policy initiatives and build African capacity through:

- Community of National Regulators in Africa, to build capacity and define models appropriate for Africa;
- Initiate Policy research on market integration, to identify ways and means to expoloit integration to promote information society iniatives;
- Regional Information Society Exchange Network, to share national experiences and best practices;
- Regional Task Force to provide policy, legal and regulatory advice to African governments.

At global level, influence global decision making on ICT issues through:

- African Community of Practice on ICT Global Governance, to make Africa's participation in global fora more effective

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Pilot telemedicine projects in Africa:

Telemedicine has grown substantially in sophistication and acceptance over the past three years. Some examples in Africa include:

University of Transkei

Situated in remote area of the Eastern Cape in South Africa, doctors have been sending pathology, X-ray and dermatology images for consultation for the last few years. They use simple and cheap Internet technology. They use videoconferencing on a daily basis for educational and administrative purposes through broadband phone lines.

Tele-radiology between Beira and Maputo

Supported by the International Telecommunications Union a hospital in Beira sends x-ray images to Maputo for consultation.

Telemedicine in Dakar

The Lille Regional University Hospital (CHRU) and the European Institute of Telemedicine in Toulouse developed videoconference applications for distance learning and consultation in the areas of obstetrics and gynaecology. Plans to extend the Dakar link to Saint-Louis hospital and other district hospitals are underway.

> In Senegal over 10 000 small businesses have emerged to provide public telephone services since the national telecom operator opened up the public telephone market. Now many of them provide Internet access and other PC-based business services.

These mechanisms will not all be put in place at the same time or cover the same geographic space. But over time they can lead to a body of knowledge and practice that will inform information policy and practice in the region, increase global understanding of Africa's position and strengthen its voice in world bodies addressing information society issues.

Post-Forum Dialogue

The African Development Forum is a process designed to capture results, build consensus and move proposals forward to implementation.

The Post-Forum Dialogue is therefore a key component of the overall ADF process.

Because ADF '99 focused on the challenge to Africa of globalization and the information age this first Post-Forum Dialogue will review the information society strategies that were considered by ADF participants to be among the most promising to Africa's search for its own definition of the information society. Representatives of governments, civil society, the development community and the private sector will consider how best to partner to implement the actions proposed.

Consultation process

ECA staff involved in ADF '99, including the Executive Secretary and the regional advisors on information and communication policy, will take advantage of their travels to promote the strategy and its component elements, ensure that they adequately reflect national priorities and needs and identify opportunities for partnership.

ECA and its partners will convene a number of regional workshops designed to provide decision-makers and specialists with an opportunity for in-depth review of the proposals in the areas of education and youth, health and electronic commerce.

ECA is invited to showcase the ADF '99 strategy at meetings convened by sister organizations throughout the region. Such meetings on occasion provide the opportunity to initiate implementation of the proposals: the Community of National Regulators, for example, will meet first at conference convened by the African Information Technology and Exhibition Centre (AITEC) to be held in South Africa at the end of August.

Post-Forum Summit

The **Post-Forum Summit** is an element of the Dialogue designed to:

Provide high level leadership and build African capacity

There is widespread consensus – confirmed in the Secretary General's report to ECOSOC[1] - that high-level political leadership is required if Africa is to capture the benefits and avoid the pitfalls of the information age that is increasingly knitting the world into one. The economic and social impact of the new information technologies is now an important topic on the agendas of Summits of the European Union and the G8 countries. Given the potential benefits and risks to Africa, it is even more important that African leaders begin to face the challenges and grapple with the implications of joining the information age.

Political leadership will both give rise to, and need support from, a growing body of African technical expertise.

There have been significant information society initiatives in Africa during the last half-decade. This Summit will bring together leaders who have begun to shape these initiatives. It is designed to imprint African leadership on the information society and stimulate the development of needed African capacity.

Fill the strategic vacuum

There is no dearth of information society strategies emerging from governments and from alliances between the private sector and the international public sector. These initiatives originate mainly in northern governments and institutions. Most developing country voices are heard only indirectly through studies carried out by United Nations and other international bodies.

Africa needs Northern partners – but it needs them to respond to strategies made in Africa and not to impose strategies built elsewhere on the basis of limited knowledge or understanding of initiatives underway in the region.

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[1]   Report of the Secretary General for the high-level segment of ECOSOC substantive session in 2000 on the theme of "Development and international cooperation in the XXI century: the role of information technology in the context of a knowledge-based global economy

The AISI/ADF strategy, crafted through years of collaboration between ECA and institutions in member States, gives partners the opportunity to reflect on and contribute to a made-in-Africa strategy.

Summit objectives can be achieved through a mix of the formal regional post-ADF Summit, individual face-to-face meetings, meetings arranged around other events (Sub-regional Summits in Africa, ECOSOC, General Assembly meetings) and virtual events.

ADF '99 Dialogue outcomes

ECA envisages six main outcomes from the Post-Forum Dialogue:

- Commitment from all partners (governments, sub-regional organizations, the private sector and the development community) to work together to enhance the value to the Africa region as a whole of specific information society initiatives;
- Initiation of projects to meet the needs of youth, the health sector and small businesses and of policy processes to create an information and communications environment that can sustain them;
- Creation of networking mechanisms that will lead to an African knowledge base on critical information society issues;
- Agreement from governments to champion the African Information Society;
- Commitment from sub-regional economic co-ordination organizations to build policy frameworks to enhance the impact of the national information society policies put in place in their member countries; and
- Increased public debate within countries on information society issues.

ADF '99 Follow up actions

Country level

Programmes will be initiated at country level as a result of bilateral agreements developed during the process of dialogue.

Organizations from the *Partnership for Information and Communication Technology in Africa* (PICTA) and other private and public sector organizations will be encouraged to 'adopt' particular country level initiatives and take responsibility for the provision of appropriate support to national implementing organizations

PICTA members will also work with national institutions to monitor and evaluate projects and feed lessons and good practices into regional networks.

Sub-regional level

ECA will create a forum for the sub-regional economic organizations and work with them to identify ICT expertise and incorporate ICT issues into their programmes. Action on these issues will lead to progressively diminishing the communications barriers among countries, building sub-regional backbones and increasing market size for electronic businesses and teleworkers. A special session of ADF 2001 will be devoted to examining the role and contribution of the sub-regional economic organizations to information society development in Africa.

The ECA contribution

ECA is committed to maintaining its role as the secretariat for the African Information Society Initiative and the Partnership for Information and Communication Technologies in Africa.
It will use its strengths as a convenor, advocate and network hub to:

- Assemble a task force on legal, policy and regulatory issues to provide targeted inputs into national policy processes and sub-regional planning;
- Assign staff to liaise with the networks that emerge from the ADF '99 and Summit processes and ensure that they are linked with pools of expertise in the Diaspora;
- Through collaboration with partners, ensure that policy advisory services are available to all countries in the region and that projects approved at the Summit receive on-going support- both technical and financial.

Through the Information Technology Centre for Africa it will:

- Provide targeted ICT training, initially at its headquarters in Addis Ababa, eventually through a network of distance learning centres in the region;
- Use state of the art technology to support the development of an African information society knowledge base;
- Provide a showcase to demonstrate ICT applications that meet African needs

A Comprehensive Information and Communication Technology Strategy for the ECA

ECA is in the business of getting the right information to the right people at the right time in order to influence the implementation of recommended social and economic policies.

Like many similar organizations, ECA has not yet developed a corporate approach to managing the many forms of information it processes in one way or another to support services to clients and ensure effective operations.

To facilitate the development of such a corporate approach, ECA has initiated a business planning process. Phase One is complete and has produced a set of recommendations including, among others, the mapping of core business processes, the introduction of information management focal points in all programme divisions, more effective collaboration with professional networks, better monitoring of the use of the Internet site and the updating of staffing strategies. The new ICTs are so pervasive and influential in organizational terms that any strategy must take into consideration both external and internal services.

In the short term ECA will undertake a three-pronged approach to the implementation of the recommendations:

- Desk studies intended to develop a more accurate appreciation of ECA's overall ICT investment and the types of ICT-based products and services it provides to member States with the objective of more clearly formulating proposals for information-based services in the next biennium programmeme of work and budget;
- An assessment, by senior staff, of the report's recommendations with a view to establishing feasibility and priorities; and
- For high priority recommendations that require consultancy services, the definition of detailed specifications so that funds can be sourced and work initiated as quickly as possible.

The Information Technology Centre for Africa: A special opportunity

ECA has state of the art conference facilities that attract 18,000 conference participants annually. Many of these participants are key ECA constituents. The opportunity exists therefore to use the conference centre as a venue for the exhibition and demonstration of ICT development applications and to provide ICT-based training tailored to the needs of different groups of constituents.

ITCA's original prospectus called for:

- An information technology exhibition centre;
- An on-site training centre;
- A Virtual Distance Education Centre;
- An information service centre; and
- A technical support centre for electronic networking activities in Africa.

ITCA has the potential to leverage ECA's programme activities and conferences. By raising the level of awareness of the power of ICTs to enhance development, by building skills and capacities in a wide range of constituency groups and by partnering with public and private sector organizations which have relevant services to offer, ECA can contribute substantially to an increased understanding in the region of information society issues and increased human capacity.

The potential will only be realised on the basis of a sound business plan that relates ITCA strongly to the core programmes of ECA and provides partner organizations with the confidence to collaborate and invest.

A solid business plan for ITCA will be the result of phase two of the comprehensive Information and Communication Strategy for ECA – it will be complete by mid-July, 2000.

One of the first training activities at the ITCA will be a training course for African women in Internet networking technology that ECA is undertaking in collaboration with Cisco Systems Inc. under the sponsorship of the World Bank/InfoDev. The training course will follow the established curriculum of the Cisco Networking Academy Programme, a global programme presently in operation in 61 countries. As part of their course, young women from throughout Africa will master technical networking skills and take part in training on gender and development, entrepreneurship, management and information awareness. Students will be exposed to other major African development issues through their presence at the UNCC. It is expected that graduates will return to their home countries to establish new economy businesses and will become role models for other young women in the region.

The ECA response to the Secretary General's Report

ECA has been committed for many years to the goals expressed in the report

The last paragraph of the Report of the Secretary General for the ECOSOC high-level segment (Development and international cooperation in the XXI century: the role of information technology in the context of a knowledge-based global economy; draft of April 2000) opens with the following sentence:

> The United Nations should assist developing countries in raising awareness (and) understanding (of) the potential, the challenges and the options existing in development-oriented applications of ICT

ECA has made precisely this objective a high priority over the last 20 years – through PADIS, AISI and the inaugural African Development Forum. It is one of few organizations in the United Nations System that has made, and sustained over a twenty-year period, a commitment to supporting efforts in member States to apply information to development using the most appropriate technologies of the day.

Specific recommendations contained in the report coincide well with the ECA programme that has emerged from AISI and ADF '99

At the national level:

- The ECOSOC document calls for the integration of ICT efforts within a coherent national development strategy, with a national vision, supported by strong political commitment.
  - ◊ ECA has argued for 'national strategy' through its NICI work – now expressed more broadly as national information policy engaging all stakeholders and reflecting development priorities – programmes are underway in twenty-two countries.
  - ◊ The Post-ADF '99 Dialogue seeks to promote a high level of political leadership.

- It calls for the production of local content.
  - ◊ This has been a goal of all ECA's information work – in the PADIS days the emphasis was on

providing support to national institutions to build development information databases – most recently it has produced compilations of African Web resources and profiles of the ICT status in all countries of the region.

- On the policy front it calls for governments to develop a conducive policy framework that includes liberalization, privatization and competition.
  - ◊ The information policy paper developed for the Summit recommends the same direction – along with measures at the subregional level to encourage integration, reduce tariffs and harmonize measures to promote the extension of infrastructure and markets.

- The document calls for governments to pursue the application of technologies in public institutions: schools, hospitals, clinics etc.
  - ◊ The School networking and health proposals on the Summit agenda respond to this call.

At the level of international cooperation:

- The document states that 'developing countries often learn best from each other' and that networks of learning communities in the South can greatly expedite the flow of relevant know-how and information.
  - ◊ The Strategy rests on the assumption that documenting and sharing African experience emerging in all sectors of society will provide the surest path to the development of African responses to the challenges of the global information society.
  - ◊ It calls for the development of networks and communities of practice to exchange information and build African knowledge bases related to broad information society issues and specific application areas (regulation, global governance issues, telemedicine and education).

The role of the United Nations System:

- The document calls for policy coherence and coordination.
  - ◊ The African Information Society Initiative as revised through the ADF '99 process provides a coherent framework for Africa.

- It recommends that the international community, governments, the private sector and civil society work together to achieve universal access to ICTs by 2004.
  - ◊ ECA – in its policy advice – recommends that

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all sectors be involved in policy processes. The measures outlined in the strategy call for extending access through schools, community services for out-of-school youth, universities and e-commerce support for small businesses. Representatives of the private sector and the development community will be invited to sit down with government leaders at the Summit to build collaborative mechanisms to support the proposed initiatives.

- Finally, the ECOSOC report proposes the creation of an ICT Task Force to provide overall leadership and strategy for ICT development.
  - ◊ ECA – on the basis of the leadership it has provided in Africa on ICTs for development – has earned a place on that task force.

The Way Forward

ECA has built up a history of partnership through the implementation of PADIS, CABECA and the AISI. These partnerships have been reinforced through the key conferences it has convened on ICTs and development: the landmark African Regional Symposium on Access to Telematics for Development (95), Global Connectivity Africa (98) and ADF '99: the challenge to Africa of globalization in the information age. PICTA, the Partnership for Information Technology in Africa, and the Global Knowledge Partnership have demonstrated new ways of operationalizing collaboration.

The ECA is uniquely placed to link its widespread networks in African countries with organizations outside the region interested in lending support to Africa as the region grapples with the development opportunities inherent in the new technologies.

ECA counts therefore not only on its traditional partners, but on new ones as well, to support the implementation of:

- the AISI/ADF '99 Strategy to accelerate African development through the increased use of ICTs;
- the Comprehensive Information and Communications Technology Strategy for ECA; and
- the Business Plan for ITCA.