



Economic Commission  
for Africa

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## **Towards an Information Society in Africa: The Case for National Policies**

**B**uilding a sustainable information society in Africa is a central goal of the African Information Society Initiative (AISI). AISI calls for the development of National Information and Communication Infrastructure (NICI) plans in every African country. This plan should be rooted in national development priorities - such as health, education, job creation, food security, land reclamation, water, debt management, industrial development, trade, and tourism. AISI also aims to encourage regional cooperation between African countries to share successful experiences and to support regional development in the context of ICTs. This paper provides a brief introduction to the NICI concept in Africa and what the process entails.

### **WHY NATIONAL ICT POLICIES?**

The world has entered the Knowledge and Information Society, driven by information and intellectual products as raw materials. In this context, the ability to transmit data over information and communication infrastructure is a crucial resource for any nation, to participate effectively in the global information society and to address development challenges.

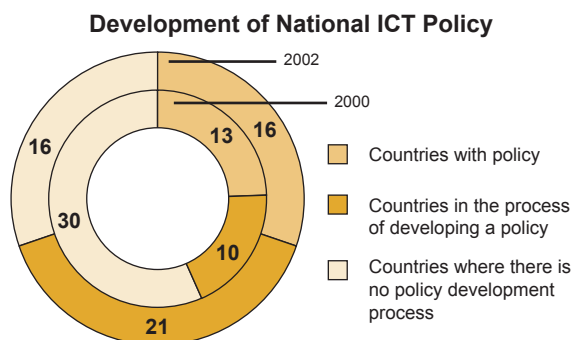
The successful deployment of information and communication technologies can contribute to the development of knowledge societies in the countries on the continent and contribute to bridging the digital divide.

In May 1995, the Conference of Ministers of the Economic Commission for Africa (ECA) adopted a resolution called “Building Africa’s Information Highway”, to establish an Information Society agenda. An action plan known as the Africa Information Society Initiative (AISI) was adopted by the ECA Conference of Ministers and African Heads of State and Governments.

According to its vision AISI aims at “supporting and accelerating socio-economic development across the region”. Driven by critical development imperatives, it focuses on priority strategies, programmes and projects, which can assist in the sustainable build-up in countries. This led to the national ICT policy process, known as

*“.. .....in the  
case of Rwanda,  
the deployment,  
exploitation, and  
the development  
of ICTs to  
support the  
country’s  
socio-economic  
development  
process is not a  
matter of choice  
but that of  
necessity. ICTs  
could power the  
economy and  
move it towards  
an information  
and knowledge-  
based economy.”*

*H.E President  
Paul Kagame*



the National Information and Communication Infrastructure (NICI) Plan.

### What is NICI?

The development of NICI plans and strategies is one of the most important programmes supported by AISI. The plans provide a framework for the sustainable development of the information society in Africa.

Plans and policies under this framework can be defined as “an integrated set of decisions, guidelines, laws, regulations and other mechanisms which are geared to directing and shaping the production, acquisition and use of ICT’s.”

The plans and strategies are always based on national needs and development priorities as determined by all the relevant stakeholders of any country. Governments play a central role in the creation of an enabling policy and legislative framework to promote an integrated national information and communication infrastructure.

While the national development agenda forms the bedrock of the NICI plans, the following areas are also critical for the implementation of the plans:

**Physical infrastructure:** Without adequate infrastructure the vision of AISI may not be realized. Central to this is the need to upgrade and establish telecommunication networks and services at national levels. In addition, improving interconnectivity in the region and the

provision of gateways to international telecommunication networks need to be considered. Other important areas include the development of broadcasting infrastructure for radio and television services, and the production, assembly and distribution of affordable hardware. The NICI plans and policies should also consider the development of software applications, including addressing issues such as Intellectual Property Rights (IPR).

### Creating a legislative and regulatory framework:

A comprehensive review of existing regulatory frameworks should be conducted. This will include all the applicable laws and the institutional arrangements. A stable and predictable legislative and regulatory environment is considered a prerequisite to attract investment into the information and communication sector.

### Building national information resources:

Developing content in Africa is as important and challenging as developing the information and communications infrastructure. There is already a wealth of information available on the continent, which is not always easily accessible or exploited. This will play a critical role in planning and decision-making by both public and private sectors and the development of all economic and social sectors of African societies. Here issues of Open Source software have to be addressed.

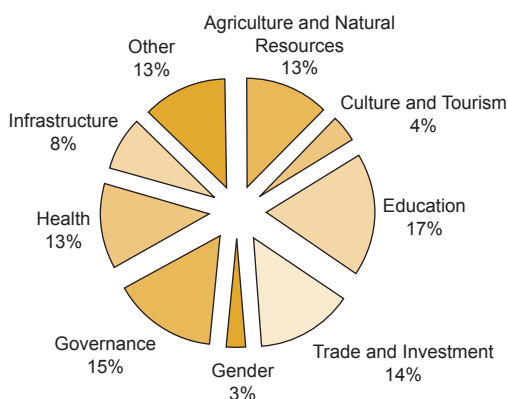
“.....the whole world is going towards a plug and play society but in Africa we don't even have the plug”.

Hon. Mrs. Mary Kaphwereza Banda,  
Minister for Gender,  
Malawi

### ICT applications in key social and economic areas:

Creating applications in line with the development priorities of the country could make a significant contribution. Applications should address e-governance, to improve the efficiency of the public service and service delivery to citizens; education, health and e-commerce for instance.

### Sectoral Areas of Focus in NICI Plans



**Links to national, regional and global development goals:** The NICI process should be based on initiatives that aim to reduce poverty such as the Millennium Development Goals that all UN Member States have pledged to, as well as other efforts such as the Poverty Reduction Strategy Plan (PRSP).

**Development of human resources:** The development of human resources is the cornerstone of the sustainability of the Information Society. NICIs call for capacity building of both technical and managerial skills through education and training in order to equip Africans to become empowered citizens in the knowledge age. Education and training institutions should develop curricula to enhance the skills of managers, engineers and IT specialists, workers and students.

### The NICI development process and cycle

Formulating NICI plans involves a dynamic and on-going broad-based consultative process. Experiences derived from the various NICI processes of a number of African countries operating under the AISI framework has yielded a phase-wise methodology that can be adapted for implementation in other countries.

Although the NICI Plan can be a long process, the duration varies from place to place. Countries have to be flexible and need not wait for the end of the process to begin implementation of some concrete and action-oriented programmes.

**Phase 1:** The methodology concentrates on the development of the Framework Document. This is based on the review and analysis of current national socio-economic development frameworks, policies, strategies and provisions as well as ICT development, deployment and exploitation in the country. The Framework Document specifies and defines the general problems highlighting specific strategies required to guide the Policy development process and the subsequent Plan.

**Phase 2:** The Policy Document is developed, providing details of commitments in relation to WHAT needs to be done through the exploitation and development of ICTs. The Plan, to be developed in the 3rd phase of the process provides details of HOW policy commitments can be translated into concrete programmes and initiatives for implementation.

**Phase 3:** This is the final phase and is devoted to the development of the 1st ICT Plan guided by Government policy commitments. This Plan, the first of a series serves

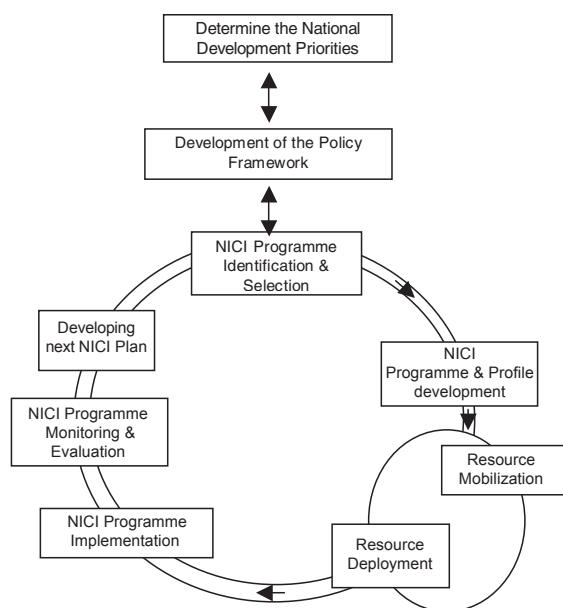
*“.....in putting together the ICT policy in Ghana, it is important to take into account issues related to supporting the involvement of the academic sector in order to develop the necessary human resources required for the information/knowledge economy”.*

*Dr. Seth Laryea, President, Valley View University, Ghana*

as a cornerstone for the country's socio-economic development plan over a specific timeframe (3 - 5 years). The Task is to develop an integrated ICT and socio-economic development Plan with the capability to support the development of the necessary economic base and environment for accelerating countries towards an information and knowledge-based economy/society.

Once the plan is developed and implemented, the progress of the implementation is monitored and evaluated on a regular basis. Normally, the plan provides for annual reviews.

### The NICI Cycle



### Sensitization and participation of stakeholders

It is recommended that all stakeholders be involved in the preparation of NICI plans and policies from the beginning. Therefore, this activity involves an intensive consultative process where governments take the lead.

Ideally the process of developing the NICI plan is managed through a high-level taskforce or commission. In countries where the process has been very successful, the Task Force or Commission was appointed by the President or the Cabinet. Representatives include govern-

*“As much as we must invest resources in developing the national ICT infrastructure, we also need to invest in developing the ICT literacy levels in the schools and in the country as a whole. --- We need to move beyond the 3Rs and embrace computer literacy as well”*

*Professor Francis, K. A. Allotey, Renowned Ghanaian mathematician and former Chairman of the Ghana Atomic Energy Commission*

ments (agencies/ departments / ministries); civil society groups; private sector; independent regulatory bodies; academia, and labour unions, etc. It is through this consultative process that certain issues can be addressed, such as how gender and youth considerations can be incorporated in the plans and strategies for instance. According to

Marie Koumandial Nanalbaye a Chadian MP, “there is need for sensitisation campaigns to promote women’s access to ICTs and the Chadian Government and Parliament should start a national policy and plan in favour of women”.

As a first step it is recommended that a workshop be held with all parties to sensitize them on the process. This is ensure buy-in and support from all societal actors from the start.

### Building the African Information Society: The challenges and opportunities

There are many challenges to overcome in building the information society in Africa. Embedded in these challenges are opportunities for the continent to make its contribution in developing innovative solutions for addressing the many social and economic imperatives facing developing countries today.

The role of government is to provide a vision and strategy, within a legal and regulatory framework that will promote the development of the information society and to ensure that all sectors of society can benefit from it.

#### Consulting the People: the NICI Process in Rwanda and Malawi

Consultations in the two countries have involved: a series of meetings with cabinet Ministers, key stakeholders in the public and the private sectors, including the various constituencies of the ICT industry. In addition public fora and briefing sessions are held with universities and other institutions of higher education, followed by civil society gatherings including the media.

During the consultation in Rwanda for instance, many members of the public felt that with respect to government services “there was need to establish what the government can do with ICTs, and what the country as a whole can gain from the exploitation of ICTs”. Others felt it could be used to bring government closer to the people.

In Malawi some members of the public cautioned policy-makers urging them to avoid an undue emphasis on policy formulation without developing the relevant programmes to implement the policy.

## NICI Development Considerations

Priority Areas	Challenges	Opportunities
Job creation	<ul style="list-style-type: none"> <li>▪ What jobs to create?</li> <li>▪ How will the jobs be created?</li> <li>▪ What resources will be used to reduce unemployment?</li> </ul>	<ul style="list-style-type: none"> <li>▪ New job opportunities in the information economy – tele-working and online recruitment.</li> <li>▪ New job opportunities through the provision of information based services to the world market.</li> <li>▪ Use of ICT in decision-support systems to manage the job market more efficiently and human resource (HR) development.</li> <li>▪ Employment data by sector, gender and location.</li> </ul>
Health	<ul style="list-style-type: none"> <li>▪ Epidemics and the spread of infectious diseases – AIDS, TB etc.</li> <li>▪ High rate of infant mortality.</li> <li>▪ Low life expectancy.</li> <li>▪ Lowest ratio of doctors per capita.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Medical Information Systems to assist in health administration and management.</li> <li>▪ Establishment of health profiles on regional, national, rural and district levels.</li> <li>▪ Improving access to skilled diagnosis through tele-medicine.</li> <li>▪ Improving distribution and reducing costs of medical supplies.</li> </ul>
Education	<ul style="list-style-type: none"> <li>▪ Lowest literacy rate, especially amongst women.</li> <li>▪ Low ratio of teachers to students.</li> <li>▪ Few schools and universities.</li> <li>▪ Lack of educational materials.</li> <li>▪ Limited access to libraries</li> <li>▪ Lack of research capacity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Providing equitable remote access to resources in support of both distance education and strengthening local educational capacity.</li> <li>▪ Connecting schools, universities and research centres to the Internet and information resources.</li> <li>▪ Improving management in the education system.</li> <li>▪ Promoting and supporting collaboration between teachers and researchers.</li> <li>▪ Extending the reach of educational facilities in informal and life-long learning to community level.</li> </ul>
Culture	<ul style="list-style-type: none"> <li>▪ Deteriorating resources for the preservation of cultural heritage</li> <li>▪ Lack of regional and local access to national cultural sites.</li> <li>▪ Lack of knowledge about different African cultures.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Making Africa's museums accessible.</li> <li>▪ Electronic preservation and documentation of manuscripts and artefacts.</li> <li>▪ Increasing accessibility of rare manuscripts and artefacts to researchers and the public through CD ROM products.</li> </ul>
Trade and commerce	<ul style="list-style-type: none"> <li>▪ Intra-African trade is less than 5% of total trade.</li> <li>▪ Trade is hindered by poor transport and communications systems.</li> <li>▪ Lack of information on procedures, import and export opportunities, markets and prices.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Linking chambers of commerce, trade associations and the business sector to support SMMEs and increase global and regional trade.</li> <li>▪ Reduce cost of commercial transactions.</li> <li>▪ Online trade related information and import/export opportunities.</li> <li>▪ Development and marketing of new products through electronic networks.</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>▪ Lack of information on tourist resources, which remain an unexploited source of wealth generation from national and international visitors.</li> <li>▪ Lack of information on tourism destinations, services and facilities.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Attracting more tourists by offering high-quality information and telecommunications services in tourist resorts.</li> <li>▪ Reducing costs of international promotions for attracting tourists.</li> <li>▪ Improving the image of Africa through online promotional campaigns.</li> <li>▪ Building regional and national tourism related databases for destinations and facilities.</li> <li>▪ Providing a mechanism for virtual travel and information gathering using the Internet.</li> <li>▪ Provision of tourism related information and indicators to encourage investment in tourism projects.</li> </ul>

## NICI Development Considerations (cont'd.)

Priority Areas	Challenges	Opportunities
Agriculture and food security	<ul style="list-style-type: none"> <li>▪ Limited national food production to satisfy market needs, because of under-utilization of available resources.</li> <li>▪ Lack of information on importing from the best markets on the best terms.</li> <li>▪ Lack of information on agricultural exports with the most competitive advantages.</li> <li>▪ Lack of guidance for planning of crop planting and knowledge of new methods and technologies.</li> <li>▪ Lack of access to food market information and pricing.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establishment of information systems for monitoring market performance.</li> <li>▪ Improving food security through timely access to information for optimal planting and harvesting times, locating sources of surplus, distribution channels and storage facilities.</li> <li>▪ Provision of access to government subsidies.</li> <li>▪ Monitoring water and land resources.</li> <li>▪ Efficient marketing of agricultural products.</li> <li>▪ Provision of equitable access to new techniques for improving agricultural production.</li> <li>▪ Improving communication for better research and extension services.</li> </ul>
Gender and development	<ul style="list-style-type: none"> <li>▪ Issues of gender equity such as equal pay for equal work.</li> <li>▪ Discriminating practices against women.</li> <li>▪ Women have more limited access to technology and information resources than men.</li> <li>▪ Lack of information on women in society, culture and economy.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improve rights of women through access to information and indicators for tracking gender issues.</li> <li>▪ Ensure equitable access of women to information, technology and technological education.</li> <li>▪ Enhance the role of modern media to promote awareness of equality between women and men.</li> </ul>

### What is AISI?

The African Information Society Initiative (AISI) is an action framework that has been the basis for information and communication activities in Africa for the last five years. AISI is not about technology. It is about giving Africans the means to improve the quality of their lives and fight against poverty.

AISI was launched at the 22nd meeting of ECA's Conference of Ministers in charge of social and economic development and planning in May 1996, and adopted by the OAU Heads of State summit at the 64th Ordinary Session of the Council of Ministers meeting held in Yaounde, Cameroon, from 1 to 5 July 1996. AISI was evaluated and updated during the African Development Forum 1999.

### Why AISI?

AISI was initiated in 1996 as Africa needed a common vision for its quest not only to bridge the digital divide between Africa and the rest of the world but more importantly to create effective digital opportunities to be developed by Africans and their partners, and to speed the continent's entry into the information and knowledge global economy.

<http://www.uneca.org/aisi>

### About the AISI Briefing Papers:

The AISI briefing papers focus on issues related to promoting ICTs for development and aim at sensitizing African policy makers about ICT trends and developments in the continent.

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