***First Draft***

# Towards an African Information Society: Platform for Action

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## Executive Summary

This section presents the policy guidelines and describes critical areas of action for the development of the Information Society sector in African States, recognizing its critical importance, especially at this time of change and instability.

The ultimate significance of the network age is that it can empower people by enabling them to use and contribute to the world's collective knowledge, and the great challenge of the new century is to ensure that the entire human race is empowered – not just a lucky few.

The main concern is to create and activate the knowledge economy focused on extending Internet connectivity in the African states. In order to generate growth connectivity needs to be translated into economic activities stimulating services, applications and content that create new markets and reduce costs and eventually increase productivity throughout the economy. It is important to note that while information and communication technologies (ICT) are generally adaptable to different information needs and circumstances; their effectiveness in solving development issues still depends on their use and their content. Further, in most countries, ICT policies have relevance both vertically and horizontally. Vertically, ICT constitute a sector of its own. The acquisition of human resources and technical capacity, the procurement of equipment, the programming of software, and the installation of networks have made ICT a substantially important market in almost all countries and more critically so in countries whose development directly depends on the capacity to communicate, as in African states. This market has been fuelled by the growth of the Internet and the World Wide Web and by new Web-enabled applications, ranging in scope from e-government to e-commerce solutions. Horizontally, as a cross-cutting requirement for all sectors, ICT provide the means to support activities that benefit from prompt and reliable information, including the amelioration of conditions of underprivileged groups and poverty reduction efforts. For instance, in social service areas, ICT has made remote health care more comprehensive and affordable through telemedicine and education more effective through distance learning.

A dependable information system is also essential for efficient management and operation of the public and private sectors. This includes areas such as internal government information, citizen's services, trade, banking, and international relations. Security issues for the information network are essential ingredients for the success of the information society. The harmonization of internet management will also be a key parameter for the harmonious development of the Information society in addition to the usage of domain names in local languages.

Services and activities have to be run in the Information society in local languages and this shows how crucial is the issue of the local language on the internet and the importance of a local content industry to fuel this development.
Broadband is also a prerequisite in the near future and African states should work on installing it.

Over the last few years, many nations have taken advantage of the opportunities afforded by ICT within their policy framework, laid down guidelines and proceed with the formulation of regional and national ICT Action Plans as a part of their overall development aims. [1] A step-by-step regulatory process, including a coordinated and multi-pronged strategy, is essential to achieve the development of the sector. In this, education, investment opportunities, and infrastructure availability play a major role. African states intend to use ICT as the key driving element for socio-economic development. This policy paper aims at building a region fully benefiting from ICT services by the year 2015

**Various Roles**

In an Information Society, each segment has a specific role to play and responsibilities in serving the citizens. The following describes the major roles of government, the donors and international community, and the private sector in planting the seeds for the Information Society to become reality.

**Role of Government**

The Governments of African states, through their policymaking mechanisms, have the primary responsibility in the development of the regional information society and in filling the gaps that have been at the basis of the digital divide. These gaps range, among others, from education to income, and from gender to urban-rural imbalances. The Governments of African states are committed to forward-looking policies and legislations related to information, communication, and technologies, recognizing that they have the capacity to spur growth, to create vast amounts of employment, and to attract investment, both local and foreign. In turn, investment and improved economic activities require improved infrastructure and human capacity. The Governments of African states understand these relations and will drive the region to sustainable development through the use of modern means such as ICT, the Internet, and the other components and applications of the Information Society.

**Role of the International Community**

The bilateral development community has been fairly influential in the development of the Information Society, through financial and technical assistance often tailored to specific issues. The multilateral community, particularly UN Agencies and the World Bank has also contributed substantially to the implementation of new technologies and innovative partnerships. Most donors are shifting today to the implementation of comprehensive development strategies, rather than stand-alone projects. The principal shifts are, however, in the area of sustainability and the involvement of society. The Governments of African states have long advocated that a higher percentage of

[1] See the EU Action Plan at http://www.europa.eu.int/information_society/index_en.htm

development assistance (ODA) be used locally and by indigenous enterprises, rather than by foreign companies. This strategy increases employment generation, creates demand for and delivery of services, and generally directs development assistance toward a more business-oriented approach designed to ensure financial sustainability beyond donors' input. Another important role of donors is to ensure that millennium development goals (MDG) be timely implemented. As ICT is a critical factor in their implementation within the Information Society, it is important that impact of donor-assisted initiatives is closely monitored and best-practices widely circulated.

**Role of the Private Sector**

Realistically, in the long run it is the private sector that will be at the core of the Information Society. Private companies are able to scale up activities and achieve a larger impact than government or donors alone can. To this extent, private-public partnerships should be fostered in the hope of achieving the maximum return from already existing and new infrastructure, fresh investments, and competent and competitive management. To foster increased private-sector engagement, the Governments of African states are committed to initiating and carrying out the process of liberalization of information-related sectors. In the field of wireless communication, liberalization has already demonstrated positive returns and will be expanded to encourage a consistent regional approach.

**Role of Civil Society and the Nongovernmental Community**

As expressed in the following section, non-governmental organizations and civil society organizations should be considered pivotal to the formation of the Information Society as they will act as agents of change. With their understanding of communities and groups, civil organizations can substantially increase the impact that government initiatives will have on the population. Non governmental organizations and Civil Society Organizations often liaise across donors, governmental and citizens and are capable of cost-effectively promoting change, delivering skill training and implementing projects in a cost-effective manner.

## Table 1: Goals and Action Plan for the Creation of the Information Society

| Goal | Role of the Information Society | Action |
|---|---|---|
| 1. Eradicate extreme poverty and hunger | Support to programs related to poverty and food security | Rural information systems and community tele-centres to foster opportunities, employment and community mobilization. Coordination of foreign aid. Information systems for cost-effective management of poverty reduction initiatives. |
| 2. Achieve universal primary education | Teacher's education. Support to Ministry of Education and NGOs. | Teacher's education systems. Distance learning. Cost-effective use of content-driven Internet technology. |
| 3. Promote gender equality and empower women | Distribution and equitable access to information to ensure women's rights | Cost-effective delivery of human rights information. Gender sensitive employment and opportunities information networks. |
| 4. Reduce child mortality | Support to programs related to maternal and child health | Awareness through tele-centres, media. Health information networks, Training. |
| 5. Improve maternal health | Support to programs related to maternal and child health | Awareness through tele-centres, media. Health information networks. |
| 6. Combat HIV/AIDS, malaria and other diseases | Support to programs related to HIV-AIDS, social awareness. | Awareness campaign through media and tele-centres. Health information networks. Training. |
| 7. Ensure environmental sustainability | Support to programs related to environmental protection and awareness | Environmental information network. Social and corporate responsibility information. |
| 8. Develop a global partnership for development and: "In cooperation with the private sector, make available the benefits of new technologies – especially information and communications technologies" | Through partnerships, support to employment generation, trade, peace and stability, security, and debt reduction. Support to citizens in rural and distant areas and marginalized groups. | Development of specific ICT access and information distribution strategies applicable to developing countries. Partnership related to the achievement of these strategies. Development of the ICT sector per se and use of ICT in all other development sectors. |

# The Development of the Information Society

## Introduction

There is a great optimism over the potential for Information and Communication technologies (ICTs) to promote socio-economic development. In the new information age, Information Exchange has become the third variable for a three set triangle of indicators together with social and economic variables that are used to measure and monitor economies. The three arms of a triangle determine how balanced each country is in its development and thus its overall attractiveness to outside investors. New information and communications technology tools if used effectively are expected to influence every aspect of societies and cultures including home life, workplaces, schools, organizations and governments driving the emergence of what is called "Information Society".

The term "Information Society" describes a socioeconomic environment that makes the best possible use of new ICT, including the Internet. In a society where information is made available and distributed equitably, people benefit in all aspects of their personal and professional lives.

Examples of the use of ICT are many and in different fields encompassing education, health, agriculture social services, banking and financial resources, government effectiveness, and others. The Information Society wastes less time finding needed information, and is generally more efficient and productive. The benefits of ICT also extend to small, daily tasks: finding a train schedule, a hospital that delivers certain services, or the address of a government department responsible for a specific practice. Internet and email, which are now commonplace in most countries, add to the capacity to exchange and publish information quickly and inexpensively.

While information has implications for all aspects of society and economy, it poses a challenge to governments as business processes, laws, and policies need to be updated to support electronic transactions and people need to be educated in their use. Finally, the private sector plays a greater role than ever in providing infrastructure, services, and applications, and its development is critical to the success of the new Information Society; we should not forget the valued importance of NGO's who can deliver services to help in dissemination of the values of the information society.
In order to effectively apply IT to socio-economic development, world leaders, policy makers need to share information, experiences and to share a moment of truth concerning the distribution of ICT internationally, regionally and nationally and to formulate a common vision for building the Information Society while respecting diversity and offering equitable development opportunities for all. The World Summit on the Information Society is a unique opportunity for world leaders and major stakeholders to assemble at a high-level gathering to seek consensus on "a common vision and better understanding of the information society and the adoption of a declaration and plan of action."

The African continent is a very dynamic area, with countries in various stages of development. Average overall teledenesity (2.5%) is low, PC and Internet penetration levels are very low, and it is on of the few left regions in the world with high growth potential.

The African Continent faces many political and economical problems, yet governments are very determined to help develop its societies and enter into the new world era. New innovation models to harness the ICT revolution and leap frog to the information society has been adopted by several governments
Faced with pressures of deregulation, technological development and globalization, coupled with the current shortage of foreign investment due to world recession, current instability in the region and the telecommunication industry crises. The industry has an acute need to develop an aggressive model of partnership and cooperation. This model is required to balance the needs of different stakeholders: governments, industry and society. And to have integrated approach towards society and industrial development maximizing the local added value and helping to capitalize on local resources to become a net contributor in the new era.

The region has ample resources in terms of capital, human resources, know how and expertise, which require effective cross utilization in an integrated context to complement the shortage in each country. Several common issues are real impediments for growth, including the high cost of Internet bandwidth lack of proper local content, perceived threat to national security and market fragmentation. These issues in addition to the regulatory harmonization needed to facilitate regional integration, are essential and require collective efforts and cooperation at all levels between governments, industrialists, businessmen, and Non Governmental Organizations in the region.

**Actions**

The recognition that the Information Society is a critical step forward toward sound socioeconomic development is, per se, the decisive factor in a shift toward modernization, openness, and good governance. In African states, this is today likely to assume greater proportions than other regions, as greater information and communication has the capacity to increase peace and stability and bring the region closer to the international community. Hence, by endorsing this paper, the Governments of African states pledge to adopt the policies, technologies, and other measures necessary to make the Information Society a reality. Since ICT have both vertical and horizontal significance—as a sector per se and as important components of other sectors—the first step is to publicly declare the creation of the Information Society and the ICT tools necessary to create it a regional priority.

**Creating a favorable and responsive multi-segment environment**

During the last few years, it has been proven and verified that, for the Information Society to be created and to thrive; all segments of civil society must come together and work in unison. Besides government, especially important are the private sector, civil society organizations and associations, and nongovernmental organizations. The role of each is distinct and pivotal. The partnerships forged across these four segments and the recognition of each other's critical function and responsibilities are a further step toward the creation of the Information Society.
The African Union AU should consider the ICT as an axis by itself in the NEPAD and not under different axes such as infrastructure and transportation and communication,. The AU will support the e-Africa commission and it partner ISPAD and vitalize them to take their full fledged roles. These two bodies mandate will be

to provide advisory services to the Governments in matters related to ICT and act as a coordinating focal point. Additionally, and since there is a substantial amount of discrepancy in the development of the Information Society across the region, it is imperative that a concerted effort is made to provide support to those in the private and public sectors alike engaged in the advance of ICT, by drafting and implementing appropriate and forward-looking policies and by allowing permanent or temporary concessions designed to boost the ICT sector. Among these one may cite appropriate budgetary allocations to education and capacity building, a favorable taxation regime, import and export facilitations, and licensing and regulations designed to encourage the development of the Information Society. A draft of these measures should be prepared by the year 2005.

It is foreseen that a more favorable environment will increasingly attract foreign investment in the ICT and other-related sectors. This has already happened spottily throughout the region, but has never been the by-product of a concerted regional effort. Hence, the Governments of African states will consider simplifying procedures for regional, multi-country investments, much like Unions in other regions have done (EU, ASEAN, and others). This may further encourage donors to consider economic and financial exchanges with African states.

**Policies and Legislation**

Even if all sectors are critical to development, the success of a vibrant Information Society depends primarily on the policy dimension and general attitudes of government regarding information. These affect the development of the private sector, of human resources, the capacity to attract investment, etc. Hence, it is important that a platform for action encourages decision-makers to develop and state viable strategies and their indicators and come to consensus on the importance and impact of the policies they will be adopting on behalf of the citizens of their region.

**Vision**

To call for a collective regional effort to establish the Information Society and to enable African states:

1. To use information to accelerate development, induce good governance, improve social services, and health care and foster stability;
2. To increase employment, create a vibrant private sector, reduce poverty, and support underprivileged groups, especially women;
3. To enhance the natural assets and human capacity of the region and minimise internal inequalities; and,
4. To further benefit from information by fully becoming part of the global information society.

**Strategies and Policies**

To achieve this vision and create an information society, governments need to develop and implement regional policies that:

- Make the Information Society by making information, communication, and their underlying technologies central to the development of the region. Today this is of fundamental importance given the circumstances that affect countries within the region and the region itself vis-à-vis the rest of the global community;
- Make the Information Society by making information, communication, and their underlying technologies known, available to and accessible by the public, regardless of gender, age, religion, financial status, location, and race;
- Establish the information and communication sector and fostering growth and employment generation in this area, using not only innovative private-public partnerships between government and the private sector but also partnerships with civil society and nongovernmental organizations;
- Ensure Governments' understanding and use of ICT at all levels to promote efficiency and transparency and provide cost-effective ICT-based information services to citizens. Fostering regional e-procurement and sharing of e-government applications, technologies, and best practices;
- Promote ICT education in schools and universities and ICT skills training in the workplace. Fostering exchanges in faculty;
- Initiate and maintaining a comprehensive assessment of the ICT situation in African states and establishing a benchmark, using relevant, realistic indicators. Updating the findings periodically and presenting them to the regional and global community. Ensuring that data pertaining to return on investment related to ICT is made available to donors, so that funds can be appropriately prioritized and earmarked to develop the sector.
- Ensure that best practices are followed and ICT experiences are exchanged horizontally across countries within African states and with the international ICT community.
- Ensure that computers and internet are made available at low cost and affordable measure ( free internet model, affordable PC on installment basis)[2]

**Regional Policies**

Governments of Africa need to develop and implement the following policies for the support of the information society.

- **Recognizing** that the development of the **Information Society** is critical to the future of the region and its socioeconomic progress, and that ICT is the fundamental precondition for it, the Governments of African states declare the ICT sector a priority sector effective immediately;

- **Keeping in view** the important role that the private sector will play in the development of the Information Society, and to create an environment conducive of investment and partnerships between the private and public sector for the cumulative benefit of the region and its civil society, the Governments of African states will foster a favorable environment for the development of ICT-related activities. This environment will not only include partnerships across all actors, but it may extend to facilitation of imports, duties levied on technology, and other measures. While the timeframe of these measures will be of the choice of each National Government, efforts will be

made to publicly report on the extent of these measures and the effectiveness of ICT-related partnerships by the year 2006;

- **Understanding** the importance of fostering the creation of an environment that will allow, by the year 2008, the capacity to trade goods and services by electronic means (e-commerce), the Governments of African states will draft appropriate legislation and will establish the necessary mechanisms to foster the sector while protecting the rights of consumers and the interests of operators.

- **Acknowledging** the importance of the development of infrastructure, including rural areas within national territories, the Governments of African states will provide, through a competitive market environment, universal access to information and communication facilities, including adequate access to the Internet and will do the necessary awareness campaign on the value of ICT for development.

- All villages will be connected by 2010 with a community access point by 2015.
- All universities to be connected by 2005
- All schools to be connected by 2010 and all primary schools by 2015
- All hospitals to be connected by 2005 and health centers by 2010
  90% of the population should be within wireless connection coverage by 2010
- All government departments to have a website and email address by 2005 and all local government departments by 2010

- Moreover, **anticipating** the convergence among telephony, data transmission, and broadcast through Internet broadband, the Governments of African states will ensure adequate planning of infrastructure to enable the region to embrace new communication modalities. The planning will include studying the implementation of a regional communication and information backbone;

- **Recognizing** the importance for a vibrant Information Society of building a skilled workforce capable of understanding, entering, and benefiting from the digital age, the Governments of African states, through the appropriate official bodies and associated learning and higher learning institutions, will support efforts to eliminate illiteracy, foster the use of local language, and establish effective ICT training courses at secondary and tertiary levels. Moreover, the Governments of African states will build partnerships with the private sector to implement corporate training facilities as needed; and,

- **Realizing** the importance of government efficiency, the Governments of African states will strive to achieve computerization of processes and digitization of public records by the year 2010. The Governments of African states will support efforts to enhance their effectiveness by using e-government technology Moreover; the Governments of African states will actively develop information systems to enhance health services and to foster employment, economic growth, and rural development by the year 2010. The Governments of African states will give particular attention to services targeted to underprivileged groups, women, and the poor.

### Indicators

The rational behind indicators is to show focus on output i.e. the final objective of policy and not the policy itself (measures of accessibility rather than the number of telephones). The objective of benchmarking is policy development. Indicators that are used by international organizations do not reflect the political objectives of the African states. Statistics become outdated very quickly and to retain policy relevance indicator measurement must be available.

**Actions**

- The African states will set a task force to develop relevant indicators suitable to them
- Run a survey on African states as a measure to where we are from the information society and rerun it every year to see how the information society is coming into reality.

## Urgency of Regional Integration

Looking at the region as one entity points out potentials to cooperate legislatively, economically, and technologically to achieve regional integration. Such a cherished integration is achievable in many forms ranging from collaborative work of experts and organizations in the region to formulate studies and set priorities, tackling the means to open markets and integration, and ending with partnership-based integration.

Regional integration is believed to be an essential condition to cut down on the cost of ICT services. Such a target could be achieved by either call/data traffic reshaping or finding better preferential status when procuring hardware and equipment from foreign markets, or by exchanging the expertise available in the region instead of importing them from outside.

Examples of integrated regional projects include the establishment and development of a regional backbone that is essential for the provision of low-cost Internet service. Such a decrease in cost would lead subsequently to a drastic drop in the cost of many elements related to providing Internet service, such as the cost of bandwidth, which is currently ten times higher than the international cost. This project, which is expected to have a steadily increasing demand in the coming period corresponding to the increase in demand in broadband applications. The regional backbone has three main characteristics:

- This network is based on centers to transfer data and focal points for internet exchanges in the region. Such centers are the cornerstones and base of the network.
- Data centers and exchanges require fast connecting lines of fiber optics to link such points together.

- This regional network is connected, on one hand, with corresponding ones in other regions such as Europe, Asia, and is also connected with national networks in the region.

African States will leverage existing resources and make use of the current regional fiber optics network to establish the regional backbone. This solution helps reduce the operating cost of both networks and also decreases the time to launch the regional backbone in the future. Subsequently, the cost of Internet service will decrease, and interoperability among countries in the region will increase. Countries will be able to expand the pace of establishing data centers and Internet exchanges and thus accelerate the provision of modern services and high-speed applications.

**Action**

Integration enabling regional projects should include the establishment and development of a regional backbone that is considered as a zealous, essential project to expand Internet service providing at a much lower cost. Such a decrease in cost would lead subsequently to a drastic drop in the cost of many elements related to service providing, and on top of which is cost of bandwidth that is 10 times more than the cost worldwide. This item, which is expected to have a steadily increasing high demand in the coming period with the increase in demand in broadband applications. 3 features could depict such backbone:

- This network is based on centers to transfer data, and focal Internet exchanges in the region. Such centers are the corner stones and base of this network.
- Data centers and exchanges require fast connecting lines of fiber optics to link such points together.
- This regional network is connected, on one hand, with corresponding ones in other regions (such as Europe, Asia, and others) that some of which have been established already, while others are still under construction. On the other hand, this network is connected with national networks of the region.
- The African states will make use of innovations such as wireless fidelity commonly known as Wi-Fi and other low cost technologies and business models that are now being explored and should aim at providing cheap, fast and eventually free internet. African states should make use of the existing fiber optics network in the region to establish regional backbone.

This solution helps reduce the operating cost of both networks and also decreasing the time and starting time of operating the regional backbone in the future. Subsequently, the cost of internet service would decrease and interoperability among region countries, and increase educing countries to expand in establishing data centers and internet exchanges, and thus accelerating the provision of modern services and high-speed demanding applications.

**Planning for convergence and building a regional information infrastructure and info-structure**

The logical structures that utilizes infrastructure to make the knowledge services seamless have been taken care of outside Africa Such as Internet domain names and numbers registries, certificate of authorities, secure escrow, legal framework and others.
The Internet Info-structure has two main parts: domain names and addresses these two structures are a measure of Internet in Africa. The flexibility of the domain name system reduces the efficacy of as a measure of the Internet development in Africa. Addresses have been specified to be within regions of continental size. The addresses will also be used as a measure of the internet in Africa.

While the time may have not come yet for consumers and businesses to enjoy the benefits of broadband transmission in most of the region, the convergence among broadcast, voice, and data communication, including the Internet, is a reality in many regions. It is, however, a reality that has been planned, often on a regional scale, for many years past and only recently come to fruition.

**Actions**

The Governments of African states, recognizing the importance of anticipating global convergence of various technologies underlying the Information Society will ensure that:

- The Pan African Satellite is expected to provide cheaper and better network services to African states.
- African states will go for bulk purchase of International bandwidth to reduce cost of internet connectivity to the international backbone through coordination with the e-Africa commission.
- The governments of the African states recognizing the importance of the infrastructure will work on starting their own data centers or will set peering agreements with the existing data centers in the region, thus preventing regional communication from passing into other regions
- Adequate studies are in progress to assess the present national situations from the communication infrastructural viewpoint and to ensure that the steps to transition to broadband are identified by 2004.
- Give the mandate of developing a portal on projects and initiative in Africa to the e-Africa commission. This portal will help in eliminating duplication of efforts and coordination
- Planning and financing for a regional backbone have been considered and identified and that work could commence at the earliest date and that completion of a regional infrastructure could be completed by 2010
- Finalize the establishment of AfriNIC the African address registry.
- Encourage e-business and content development to achieve a fair formula for payment for internet connection which should only be based on half a circuit and not both circuits in country and in termination country.
- The Top level domain "Africa" should be delegated to e-Africa Commission and operate dotAfrica for its purpose.
- Support the operation of a root server in Africa as part of e-Africa to participate in all aspects of the Internet

- Promote the establishment of Uniform Domain name dispute-Resolution policy UDRP service to provide for Internet domain names disputed in Africa

**Universal Access to Information and Knowledge**

One of the purposes of ensuring that information is provided to all segments of the population, in the endeavor of creating an Information Society, is to decrease marginalization and increase the equitable distribution of opportunities and resources. Access to information is the first step in achieving this. Unfortunately, the capacity of poor and marginalized people in the region to pay for access is limited, unless innovative solutions are found to decrease costs, improve information quality and content delivery, and encourage the acquisition of new skills. In a region, as mentioned in other sections, with a substantial amount of illiteracy, it is of critical importance to ensure that, when discussing high-level, technology-oriented policies, the basic and fundamental skills, such as literacy, are appropriately addressed. Innovative solutions that are discussed in other section include the creation of telecentres as information outlets and training hubs.

The Governments of African states commit to having a total of 60% of the population in the region with interactive access to information, via phone or the Internet or wireless by the year 2010 and 80% by the year 2015. For these targets to be achieved, the following actions will be carried out.

**Actions**

The Governments of African states commit to improving universal access to information by implementing appropriate policies to:

- Ensure that universal access to the telecommunication infrastructure has been planned and is in the process of being implemented by the year 2005;
- Ensure that the cost of telecommunication remains affordable and commensurate to salary levels;
- Create a regional and national network of community-based telecentres, using sustainable financial mechanisms, such as franchises and facilitated access to the telecommunication infrastructure; and,
- Create a regional clearinghouse for community-based best practices and exchange of community-based content in the appropriate language.

**Capacity building: human resources development, education, and training.**

**Human Resource**
Human resource development is about creating an environment in which people can develop their full potential and lead productive creative lives in accordance with their needs and interests fundamental to enlarging their choices in building human capabilities.

Human resource development is not only critical in respect to the technical capacity to create, distribute, and use information but also in terms of the more practical capacity to leverage information for socioeconomic development. Much of the developed world has demonstrated the importance of these**.** Human Capital is a major cornerstone for building the African Information Society. Information and communication technologies (ICTs) offer the promise of new business and employment opportunities along with higher productivity gains, but also make new demands on skills.

The African states are confronted with the dual challenge of ensuring that the growth of new industries and activities is not stifled by labor bottlenecks and skill mismatches and that their population is equipped to master the basic IT skills which ICT revolution require. In African states, several countries have, in the past years, readjusted their education curricula to include learning programs tailored directly, at secondary level, to ICT knowledge and, at tertiary level, to the ICT market segment. However, the Governments of African states recognize that a vision to facilitate an education model responsive to the development of ICT is needed. Moreover, plans and predictions on the future needs of the information technology-related workforce are based often more on past or present requirements than on a regional and forward-looking strategy. In government, for instance, a cadre of ICT-savvy middle-managers should be developed to tackle activities and projects successfully in both the private and public sector

**Action**

- Harness ICTs for their multiplier effect in offering training opportunities for communication and information professionals. The recommended strategy consists of consultations with decision makers, training institutions and experts to identify integrated approaches to addressing training needs and strengthening institutions. Close cooperation may be sought with donors, stakeholders and professional organizations in co-financing, assessing best practices and evaluating training activities.
- High priority must be given to the training of trainers in order to ensure the long-term impact of UNESCO's action in this area as well as hands-on training, especially for women and young professionals in developing countries and countries in transition. Training of IT professionals must focus on new methods and techniques for the development and provision of information and communication services.
- The provision of support for the production and distribution of multimedia, modular training course materials and information processing tools, based on the model of open source software, as a key means to dissemination of information and knowledge. In this context, an African Knowledge Portal is expected to provide a platform for facilitating networking as well as international and regional cooperation among professional communities and organizations. The promotion of open and distance learning methods and lifelong learning among communication and information professionals as well as the establishment of open access agreements to further broaden access to the training materials and information processing tools are important element of the strategy.

- The Governments of African states recognize that education and the availability of a skilled workforce are critical to capitalize on the promises of the Information Society. African societies and economies are challenged to adapt to a rapidly changing information paradigm and to use new tools for competitive economic advantage while respecting social and cultural integrity.

**Illiteracy eradication**

There is heightened awareness today that illiteracy should be tackled through a concerted effort by all government and nongovernmental bodies involved and that it is a key to an interactive and dynamic Information Society that takes full advantage of services distributed by technologies such as the Internet. The use of ICT should be dedicated to illiteracy eradication. The inclusion of ICT in the secondary and tertiary curricula is also a critical factor that requires a multi-pronged inter-ministerial approach, not only to bring technological innovation in schools and universities, but also to create and modernize content and courseware accordingly.
Technologies such as CD Rom, radio and TV or a mix of them can be combined with the Internet to extend its reach. Radio can be used as a gateway to the Internet for its listeners in remote rural communities. The broadcaster searches for the information on the Internet, downloads it and makes available through wireless technologies, thus enabling areas with poor telecommunication to access the information.

**Actions**

The Governments of African states, being keenly aware that education is at the core of the region's progress and stability, will take the following measures:

- Ensure that a renewed, concerted effort is made to tackle and substantially reduce illiteracy by the year 2008, using all available methods and media, including television and leveraging on the investment made on community telecentres;
- Recognizing how important the local language is to the development of the region and to the maintenance of its cultural identity, ensure that local language will reach a critical mass of content and is widely used in all educational activities;
- Ensure that by the year 2008, 80% of all secondary schools will have access to the telecommunication infrastructure and the Internet and will have a computer lab, however small, available to students and teachers in both urban and rural areas. All secondary schools should be so equipped by the year 2010;
- Ensure that all tertiary institutions will offer ICT-related curricula by the year 2008 and that additional extracurricular courses will be available to re-equip individuals with more marketable skills as needed;
- Through partnerships with the private sector, make widely available training for both proprietary information systems and for open source systems; and,
- Tackle at the regional level the Information Society frame of mind by encouraging citizens to learn about new technologies and the Internet and by ensuring that appropriate, usable content is made available through these technologies

- The African states will ensure running a survey of supply and demand for e-skills and make it public on the information portal to be established
- Create a repository for brain ware.
- E learning is a solution for education and training. African states should work on having a common e-learning Institute and provide the relevant African local content for it.
- Encourage the establishment of the African Diaspora Network

**Security**

The more networks and computers become essential part of business and daily life, the more e-security becomes a necessity. The wide and pervasive integration of computers into modern society is what makes it vulnerable to cyber-attacks. The profound integration of information and computers is obviously the strength of modern life, but it is also its vulnerability. The greater the vulnerability, the greater the ease with which it can be exploited. We will continue to enjoy the benefits of the information age, but we must also remain constantly aware of the dangers and pervasive pitfalls of privacy, cyber theft, cyber-threat, cyber-crime, and of course cyber-terrorism and cyber-war.

**Action**

The governments of the African states should consider this issue as a high priority and:

- Creation of a cyber-security task force under the AU under the e-Africa commission
- Work on having their regional network based on local exchanges in each country or data centers that can serve the same purpose to minimize information traveling through international exchanges before reaching destination and to reduce cost
- Regardless of the ownership of the critical infrastructures governments should implement national information security programs and ensure that regular information security audits are conducted for critical infrastructure and key function of government agencies
- African states will adopt and promote international standards and promote best practices for information security.
- African states should encourage the UN to embark on a law for cyberspace.

**Software Piracy and the Economy**

Software is one of the most valuable technologies of the Information Age, running everything from PCs to the Internet. Millions of people around the globe depend on the commercial software industry for their livelihood. It is estimated that the commercial software industry generates hundreds of billions of dollars in revenues, billions in tax revenues, and employs millions of people across the globe.

Unfortunately, because software is so valuable, and because computers make it easy to create an exact copy of a program in seconds, software piracy is widespread. From individual computer users to professionals who deal wholesale in stolen software,

piracy exists in homes, schools, businesses, and government and on the Internet. Software piracy amounts to loss of revenues and profit, loss of taxes, loss of jobs, and substantial decrease in amount of spending for research and development.

Therefore, intellectual property protection is crucial for the future of technology. Governments need to demonstrate serious commitments regarding the protection of the software industry by taking the following steps:

**Action**

- Adopt or amend copyright laws which would secure effective and strong legal rights and appropriate remedies for right holders, and extend such protection to the digital environment;

- Employ a sound anti-piracy policy which would include effective enforcement actions against infringers;

- Organize public awareness campaigns aimed at improving the public's knowledge and understanding of the importance of intellectual property rights and software protection;

- Send a clear message to the private sector regarding the importance of intellectual property rights by legalizing the use of software in government authorities and public institutions

**Serving Citizens**

The Governments of African states are committed to moving toward an Information Society in which citizens are empowered to be more informed and productive through access to information, communications and their underlying technologies (ICT). African states' approach to providing citizens with access to information emphasises enabling people to reach their full capacity, both because informed citizens are more productive and because connected citizens are the driving force behind the transition to the Information Society.

The region's vision for the Information Society is based on the broad and genuine participation of citizens, including traditionally marginalized segments of the population. The Governments of African states are committed to using the transition to the digital age to broaden access to opportunities by promoting equity for groups that sometimes have been excluded from the benefits of development. These include, for example, rural populations, women, and the poor and ethnic minorities. By better serving these and other citizens through the tools of the new Information Society, such as telecenters and e-government, the region will foster socio-economic growth, reduce poverty, and improve people's lives in key areas such as health, education, and employment.

**Actions**

To that end, the Governments of African states will foster the creation of the Information Society centered on providing better services to citizens and the use of ICT to deliver such services. In particular, the following items, which have regional significance, are endorsed here:

- Establishing information outlets that ensure that the majority of citizens have access to the benefits of the Information Society;

- Ensuring that non-governmental organisations (NGOs) and civil society organisations (CSOs) have tools and incentives for acting as agents of change for the Information Society by encouraging citizens to understand and use ICT;

- Creating information portals that offer national- and local-level information in African local content that is useful to citizens; and

- Committing to using ICT to offer citizens the range of e-government services that they need to participate productively in society.

In the experience of the Governments of African states, these objectives represent the four pillars of a successful approach to connecting the majority of citizens with ICT. In addition, all four activities must take place simultaneously as part of a coordinated approach, which has proven to work in implementing smaller-scale ICT projects in the region. The following sections discuss how the region will implement these initiatives.

**Connecting Citizens to Information**

The Governments of African states are committed to strategies that can be implemented immediately to connect citizens with ICT, allowing them to participate fully in the transition to an Information Society. Experience has shown, in fact, that a critical mass of connected users is necessary to sustain initiatives by governments and the private sector to provide electronic alternatives to established ways of interacting and transacting.

Already, some African states have been leaders in efforts to broaden citizen access by establishing community centers (telecentres) offering access to ICT. These telecentres typically provide training courses, and services such as telephones and fax machines, Web and e-mail access, photocopy machines, and desktop application and printing.

Telecenters have the potential to help break down some of the largest barriers to development that are presently faced by low-income populations, particularly in rural areas. Use of a telecenter would enable a rural inhabitant, for example, to gain on-line access to distant productive assets and services; opportunities to learn better practices through formal and informal sources; to crucial market intelligence through informal networks that enhance bargaining power; to information on projects, financing institutions and options and support for the rural population; to expanded distant job opportunities and telework; and to persons with similar interests willing to work for a common cause. The telework component of telecenters is in many ways the most challenging component. There is less experience to draw on then is the case with training and technology services and resources. At the same time, this component provides a great opportunity for creativity, thinking

outside the box, and developing approaches customized to meet the needs and circumstances of particular communities and regions.

**Telecentres** will offer the majority of African states citizen's access to ICT tools that would be too expensive for them to afford individually. The Governments of the region are committed to transitioning to an Information Society, as part of a multi-pronged approach to promoting economic growth. But offering citizens affordable ICT access until per- capita incomes increase is a critical step in the transition to an information-based economy. Telecentres are the means for providing broad citizen access in the interim. It is anticipated that in the long term, the rates of penetration of home computer use will rise with increasing incomes region-wide.

Further, telecentres afford immediate benefits to traditionally disenfranchised populations in African states, such as those in rural areas, women, and the poor. Through telecentres, small farmers receive critical information, such as weather predictions or the market price of their goods, giving them more leverage in negotiating with middlemen. The unemployed obtain information about available jobs and training resources. Women get information on their legal rights and available opportunities, such as for micro loans for small business startups. Telecentres, therefore, offer a long-term point of information access and skills building for these and other underserved groups.

**Actions**

- The Governments of African states will implement a series of strategies designed to establish and ensure the ongoing operation of a regional network of information outlet (telecentres). The region's Governments commit to setting up telecentres with a sufficient density to ensure that all citizens have access to a centre within a reasonable distance from their homes.

- Though telecentres take many forms around the world, regional experience has indicated that a "franchise" model offers the most promise for ensuring telecentre sustainability. Through this model, funds will be lent to local entrepreneurs to operate a telecentre franchise, with the loans repayable in up to 5 years. Where local entrepreneurs are not forthcoming, Governments will identify alternative ownership arrangements, such as offering to lease or sell franchises to cooperatives, NGOs, or CSOs.

- Concurrent with telecentre startup, to begin in 2004, will be region-wide activity to disseminate information about the availability and locations of telecentres and the services that they provide. To that end, the region's Governments will support a series of outreach campaigns on the Information Society and access to telecentres that will be coordinated through a regional body, These campaigns, to be launched by 2004, also will include messages about the importance and benefits of all citizens being connected as the region transitions to an Information Society.

- In addition, as in all franchise arrangements, telecentre managers will be expected to operate franchises at high and uniform standards of quality that are

established through a clearinghouse for community-based best practices. Because franchisees may lack the background and expertise for doing so, support systems will ensure that telecentres are sustainable and serve citizens effectively.

- The monitoring and evaluation functions will be closely coordinated with training and technical assistance provision to ensure that the assistance is appropriately tailored to the needs of each franchisee. Finally, the regional clearinghouse for community-based best practices will collect and disseminate information on promising approaches, sponsor regional seminars, and collect statistics.

- This coordinated system, to be established by 2005, will ensure that telecentres meet the needs of citizens, are sustainable, and generate reasonable profits for franchisees.

**Creating content to benefit Citizens**

The experience of the Governments of African states shows that offering citizens useful ICT content is equally as important as providing them with ICT access. Clearly, if information portals do not offer content that is useful to citizens, they will be unable to realize the benefits possible through ICT. In addition, while it is important that portals provide national-level information, such as national news or nationwide health alerts, it also is critical that they offer information tailored to local residents, such as local agricultural prices or weather forecasts.

Of prime importance is providing content in local languages. A minority of the population speaks English, and they are already the group most likely to have access to ICT tools. Offering local content, therefore, will make Internet content accessible to the majority, who are not ICT-enabled.

**Actions**

Public investment in content should not imply public administration only. The combination of State investment with private sector development of public information and virtual service systems has as a side advantage the stimulus to the development of an indigenous ICT sector, especially if contracts are awarded to private entities on a merit basis.

Priority must be given to launching portals that offer **public services online**, aimed primarily at meeting the economic and social needs of the low-income population, including educational portals using simple language that broaden labour and self-employment opportunities.

In light of the foregoing, by 2004 the Governments of African states commit to coordinating the development of Internet-based information portals in tandem with the startup of the regional telecentre network. While the e-commerce legislation and policies will help to stimulate the private sector to create useful information portals in the long term, companies are not likely to do so until there is a critical mass of potential customers on line. To bridge that transition period, therefore, the Governments of African states will develop local and national local-language information portals that provide, but are not limited to, links to the following:

- Financial information, such as about obtaining small-business loans and current interest rates;
- Free e-mail access and local user groups;
- Productivity applications on line, calculators, etc.
- Newspapers and information from other news outlets;
- Daily use, convenience-based and constantly updated information such as public transit information, bus and train schedules;
- Weather forecasts, agricultural information and other features designed to enhance productivity; and
- The range of e-government portals offering services in the areas of health, housing, and social services (discussed below)

The Governments of African states anticipate that as the ICT user base grows and more citizens are able to afford computers in their homes, regional Internet Service Providers will be launched that offer local-language content similar to the foregoing. Over the long term, therefore, the region anticipates that ongoing Government-sponsored portals can be gradually phased out.

**Bringing Government into the Digital Age While Serving Citizens and Reducing Poverty**

Government efficiency has always been at the forefront of political, financial, and social debates. The relation between citizens and their governments in the region is often overly complex and interactions slow and difficult. This hampers development and curbs entrepreneurial efforts and success. The Governments of African states recognize that to rapidly move to the Information Society, much effort should be devoted to re-engineering business processes, re-equipping government servants to enable them to use these processes, and opening new services to citizens to accelerate socioeconomic growth. It is also evident that much has to be learned at the Government level about practices and procedures, budgeting for e-government and new technologies and systems, their effectiveness and cost, and the learning curve for implementing new processes and systems.

In general, e-government systems apply ICT to improve service quality and quality control, make services more accessible and relevant to citizens, improve feedback, and foster transparency and openness in government. E-government systems can also expand the outreach of government recruitment, making jobs available to citizens in secondary centers. Other efficiency-boosting applications include e-procurement and monitoring and evaluation systems to, for instance, follow the effectiveness of poverty alleviation schemes and identify service delivery problems. Internal

operations, such intra-government correspondence and information exchange, can be more effectively conducted using ICT.

**Establishing E-Government systems and providing E-Government services**

The governments have an important leadership role in enhancing the extent to which businesses and the community takes full advantage of the opportunities provided by the information and knowledge economy. It is doing this by maximizing the opportunities provided by technology to help transform government activities. This transformation has a significant 'demonstrator' and 'pull-through' effect on the region's wider information economy.

E-government will involve the transformation of government service delivery through the appropriate use of new technologies. This phase has the potential to provide better customer focus and access, greater availability of information, improved business processes, and efficiencies. It will improve the people lives by delivering better government and better services to citizens and businesses.

New technologies, however, are only part of the solution. While they provide the tools or 'enablers', it is the transformation of the business processes of departments and agencies that will deliver the benefits and outcomes.

E-government strategy is characterized by six key objectives: to achieve greater efficiency and a return on investment; to ensure convenient access to government services and information; to deliver services that are responsive to client needs; to integrate related services; to build user trust and confidence; and to enhance closer citizen engagement.

Investing in e-government should deliver tangible returns, whether they take the form of real cost reductions, of increased efficiency and productivity, or of improved services to business and the broader community. However, a significant barrier to addressing the needs of marginalized groups is addressing illiteracy, a challenge that the region is firmly committed to addressing through the use of ICT applications.

Online services are a part of a comprehensive redesign of government service delivery. For government agencies, service delivery will entails managing multiple delivery channels. Services will still be delivered through traditional means such as via telephone access, fax or counter services. The overall goal though is to improve the quality of services across the board, and reduce the costs of both using and providing services. Online services, of course, have the distinct advantage of being accessible round the clock and from any location with access to the Internet.

Equally important is ensuring that citizens know that services are available through e-government portals and trust that new ICT-based alternatives are reliable. Even when Governments create e-portals and citizens have access to the ICT tools, individuals still may not access services electronically because of inexperience or mistrust. Demonstrating and building acceptance of the reliability of electronic options, therefore, is critical to ensuring that citizens choose the easier, faster ICT-based approach, once widely available.

**Actions**

Recognizing the above, the Governments of African states will do the following:

- Setup a **Regional E-government Institute** to foster and promote e-government, provide advice and conduct research. The Institute will adopt a multidimensional approach to e-government, addressing its legal, technological (ICT) and administrative aspects, and focus on policies and processes necessary to deploy e-government services. The Institute should be operative by the year 2006.
- Conduct regional training of decision makers to enable a better understanding the dynamics of e-government;
- Exchange successful experiences and e-government applications from within and outside the region;
- Prepare a step-by-step action plan for the rollout of citizen services by the year 2005 and implement it by the year 2008;
- Foster the participation of the private sector in cooperating in the transition between paper-based and digital processes and applications; and,
- Engage donors and the international community to actively support investments in e-government.

The new E-Government Institute will serve as a resource for governments in implementing this shift. In addition, through the Institute, governments will engage in an ongoing effort to identify new services that can be automated, including facilitating better intergovernmental coordination of services through the creation of government intranets. Services that the region's governments will provide through e-government include, but are not limited to, the following.

## Actions

- Health information portals targeting citizens, which provide them with information on disease prevention, locations of available medical facilities, healthy lifestyle habits, and other topics. Portals targeting health care professionals will offer information on diagnostics, health statistics, disease trends, training for clinic assistants in rural areas on basic disease prevention strategies, and other information that facilitates improved treatment and promotes public health;
- Web-based job banks and databases that list vacancies, allow job seekers to apply on line for jobs and register for employment services, offer job search tips, and provide information on labor regulations.
- Information portals on housing-related issues, such as typical rental rates, Government services to tenants, and forms that facilitate requests for water and electricity activation;
- Web pages designed to promote higher agricultural production and food security for those in the agricultural sector, including current information on average national agricultural prices, weather alerts, and education and training resources;
- Region-wide ICT-based literacy training, in tandem with other regional literacy eradication efforts. Multimedia literacy skill-building CD-Rom programs comprising simple tutorials that require only basic input from students already have been successfully used in the region.
- Family-related legal information and other legal assistance services that offer users access to legal counsel and knowledge of their rights;
- The ability to apply online for permits and licenses, such as driver's licenses and building permits, along with information on the process for doing so; and
- A region-wide portal that brings together the results of applied research and development institutions in African states and elsewhere with potential beneficiaries in the public and private sectors, such as information on new genetic research results that have health implications.
- The African states should have ensured that basic public services are interactive where relevant, accessible for all and exploit both the potential of broad band network and multiplatform access. People with special needs should also be addressed.
- African states should address the issue of public procurement where relevant and accessible. This should help reduce the public expenditure

## Supporting Culturally Diverse and Multilingual Content

The media industry and information and communication technologies are transforming the perceptions and lifestyles of millions of people around the world. In this context, African states are positioned to lead an active role in promoting the creation and dissemination of local content reflecting the values and experience of local cultures.

There is a growing conviction that digital content production will fuel the knowledge driven economy and in turn nurture the information society. A broad range of companies in the world are finding a compelling common interest in using the tools and functions of interactive digital media to bring new products and services to the market. These products are primarily in English. Content is an important sector in the knowledge economy; emphasis should be placed on the development of home-grown content industries including broadcasters, educators, journalists, film-makers and academics.

In information society, the tools to record, preserve and distribute culture are easily accessible. In contrast with traditional media, the Internet makes publishing possible at a fraction of the cost of traditional media. There are, however, a set of obstacles to the widespread use of ICT, among which is the absence of suitable content and unified standards, the lack of awareness, and the limited number of digital subscriber lines. "Brain drain," or the export of African expertise outside the region, and poor funding exacerbate the problems.

***Based on the principles set forth in the Universal Declaration on Cultural Diversity, the strategy for promoting cultural and linguistic diversity in the media will involve sensitizing decision-makers to the need to encourage the production, safeguarding and dissemination of diversified contents in the media and global information networks; developing training modules, guidelines and reference materials for communication and information professionals, particularly in developing countries; and providing seed funding for innovative content production and co-production and supporting their dissemination and exchange at the regional and international levels. Actions will target television, radio, print journalism, ICT schools and training institutions, producers, ICT-based media developers, and information institutions.***

The mobilization of partnerships with international associations, NGOs, institutions from both the public and private sector, to co-implement or co-finance the activities envisaged will be a key element of the strategy. It will also involve encouraging an optimal use of ICT for the circulation of local content – from local to local and local to global.

ICT support for multilingualism must be strengthened through a freely accessible online inventory of linguistic resources and statistics, and pilot projects designed to facilitate the development and application of technologies and to make linguistically diverse information contents more widely available should be supported.

### *Actions*

The governments of the African States, recognizing the obstacles that is presented to their nations in building an information society by the absence of adequate local content, will work on developing the content industry and to ensure the success in other sectors that depend on the output of this sector (education, media, e-commerce, e-health, e-government, etc.). To achieve this important target, governments will be committed to forming a strong partnership with this converging industry to ensure

maximum benefit to the African states and to enable them to play a leading role in the information society.

Content should be tailored to the needs of different segments of population using local languages/dialects. A broader use of open source software should be promoted, along with a multiplatform approach and the use of open platforms. Harmonization and standardization efforts in the field of terminology and other language resources are of utmost importance.

Other actions include:

- Establishing a digital content forum;
- Developing a digital content portal for business and industry;
- Establish a fund for small to medium enterprises to work in this industry;
- Add the requirement of a copy of digital content to be deposited with the paper copies according to the reposition law;
- Raise awareness on intellectual property issues;
- Create a demonstration to be made available to schools, universities and trade unions to promote career opportunities in content industries;
- Establish research and development mechanisms for the development of local content software and communication tools;
- Promote production and dissemination of local content and build the capacity of content providers;
- Support linguistic diversity in cyberspace
- Mount a road Show to be made available to schools and universities and trade unions to promote the career opportunities in content industries.
- Establish research and development mechanisms for the development of the local languages tools
- Use codes and standards in software that allow for the use of different languages and establish an open source software community to develop relevant applications;

- Promote production and dissemination of local contents and building capacity of content producers
- Supporte linguistic diversity in cyberspace
- Use codes/ standards in software allowing for usage of different languages and establishing open source software community to develop relevant applications
- Ensure a network of institute working in this subject in the African world as well as abroad

## Preserving information and audiovisual heritage

The world's documentary heritage constitutes a major part of mankind's memory and reflects the diversity of peoples, languages and cultures. This heritage is stored in libraries and archives and increasingly in electronic form, especially online repertories. Through the Memory of the World Program and other initiatives such as the Digital Silk Road Project, UNESCO has played a leading role in preserving information and communication contents as well as in optimizing access to this heritage. The Organization's action has helped national news agencies to anticipate technical advances and to adapt to technological change, especially in news and information preservation and storage.

Actions:

Development of UNESCO is called upon to continue the Memory of the World Program as the international reference framework for information preservation and also to expand its reach in African states. Preservation and access policies relating to documentary heritage across all media will be further elaborated. The strategy must also implement pilot projects to demonstrate innovative methods for preservation and access with special attention given to libraries and archives collections affected by natural and man-made disasters. The elaboration of strategies to facilitate the digital collection and storage of cultural heritage contents is strongly encouraged. This includes the strengthening of national news agencies by equipping them with modern information preservation means. The promotion and dissemination of the International Charter for the Preservation of Digital Heritage, once adopted will be an important element of the strategy. Specially designed training materials and programs on digital heritage will be developed for information and communication professionals making use of distance learning techniques.

Actions

- guidelines and methodologies for preserving, promoting and archiving digital content
- Capacity-building of communication professionals for digital preservation of media heritage

## Trade and commerce in the Information Society

While African states have, since ancient times, thrived on trade, the modern, global environment requires today different methods and the adoption of new technologies for any region and countries within it to remain economically viable. From this viewpoint, financial operators, industrialists, traders, and small and medium-size

entrepreneurs are likely to benefit from the Information Society's capacity to deliver data related to goods and services, market prices, production costs, and especially, from the capacity to promote their offerings to a much wider audience than ever before. This capacity, however, comes at a cost and needs to be built gradually and on many different fronts, which must co-exist to be effective. The term e-commerce describes this capacity.
The African states will review relevant legislations where appropriate with the aim of identifying and removing where appropriate with the aim of identifying and removing barriers that prevent enterprises from using e-business. This review will in particular aim at extending existing e-commerce, friendly rules of off line delivery of goods and services online

**Actions**

The Governments of African states recognize that an e-commerce infrastructure must be build throughout the region by the year 2008 to allow its participation in the global market. Critical mechanisms that will be created during this period include, but are not limited to, the following:

- The implementation of a regional root Certificate of Authority (CoA);
- The implementation of a regional, secure backbone;
- Multilateral and/or bilateral agreements on electronic commerce and trade;
- Facilitation of regional transport and shipping mechanisms to accelerate the movement of goods; and most importantly,
- The adoption of uniform legislations to protect the rights of the consumers and operators and establish policies and guidelines for electronic commerce.
- Establish an African top level domain name
- The African states with their rich culture and history should invest in e-services and offer user friendly public information for culture and tourism.

To this extent, and much like other regions are in the process of doing, the Governments of African states will use **ISPAD** to advice on matters related to e-commerce and monitor progress. ISPAD will ensure harmonization of practices, will provide technical and procedural solutions and may directly or indirectly manage the root CoA for the region, if so necessary. Additionally, the body will drive the adoptions of uniform agreements, policies and legislations to foster e-commerce in African states.

**ICT Funding and cooperation**

The Action plan sets ambitious objectives and proposes actions that will need significant resources. This will be met by using and where necessary refocusing on existing programs
There is a need for a new partnership model for the region. This model should fulfill the above criteria and be in line with the common characteristics of the successful examples, or by creating joint ventures with leading partners. The policy of African investors, businessmen, and investment banks should be to develop financial resources to fund joint investments in the region, not outside.
It is very important in views of the current world development to create regional economic blocks. Our region is no exception; there are more synergies and bonds

between countries, than between any of the currently existing blocks members. Regional integration is no longer and option, it is a must to create sufficient economy of scale to overcome the fragmentation of the market. Regional business and operators mergers and acquisition is a very important aspect of the overall integration process. The previously proposed mechanisms will help pave the way in the pre-merger stage and promote ideas. An African Fund for ICT development and Integration is essential to help foster the merger and acquisition process and provide funding for regional initiatives, and buy out of international companies.

***Actions***

- Create an ICT Solidarity fund.
- Create an ICT trust fund for infrastructure and project development;
- Encourage business partnerships to increase technology transfer and build intellectual capital in the African states.
- Foster alliances with multinationals and with technology providers.
- The creation of competition among providers by funding the demand side of ICT to stimulate the market
- Encouraging incubators as a vehicle for initiating new enterprises that will keep Africa in the business and not the usage.

**Research and Development**

The African states recognizing that research and development are crucial issues for the sustainability of the information society will

**Actions**

- Connecting research and education institutes of African countries by a high speed network
- Establishing a centre of excellence of research and development in ICT in the region.
- Rich countries could support a global offer to create incentive and new partnerships for research & development, boosted by new expanded sources of financing.
- 10% increase in official development assistance if dedicated to R&D would put $5.50 billion on the table.
- Swaps of dept in favour of R&D would put on the table $1 billion.
- Developing countries would introduce tax incentive to encourage their billionaires to set up foundations.
- Research areas need

  1-Design and implementation of low cost computers

  2-wireless connectivity

  3-prepaid chip - card software for e- commerce without credit cards.

4-Low cost fuel cells on photo voltaic for decentralized electricity supply.

5-Computational Linguistic research

**Ensuring that NGOs and CSOs become change agents of information**

Experience in African states has shown that moving to the Information Society will require that key stakeholders act as agents for promoting technology to citizens. NGOs and CSOs can serve as change agents for information in two ways. First, they can shift to information-based methods of assisting their constituents. In doing so, they will expose citizens to ICT's benefits (for example, when they are able to print out a form electronically from the Internet rather than sending the constituent to another office to obtain it in person). Second, they can inform citizens about the available information access points (such as telecentres) and/or offer training on using ICT tools.

In serving as agents of change, NGOs and CSOs have several strengths. NGOs can access to sometimes hard-to-reach marginalized populations, such as street youth; have credibility among those groups; and understand the characteristics that affect those individuals' comfort level with or ability to use technology. CSOs, through their associations, know the interests and needs of their constituencies and therefore understand how regional and national initiatives can best stimulate buy-in among these groups.

Equally important, the activities of NGOs and CSOs will be made more effective through information and ICT. ICT can help them improve their key activities, have access to a broader range of information, and allow them to communicate more efficiently. All of these elements can allow organisation organizations their administrative costs, freeing up resources to serve constituents.

**Actions**

In light of these considerations, by 2005 the Governments of African states will launch a regional outreach effort to these organizations about their role in helping to move citizens into the Information Society. That effort will include providing them with information about the region-wide initiative to broaden citizens' access to ICT and the ways that ICT might benefit their operations and their constituents.

The Governments of African states will establish initiatives, such as annual conferences and smaller local cluster meetings, for bringing together NGO and CSO representatives, appropriate Government ministries, and the private sector. These events will do the following:

- Allow participants to identify areas in which NGO and CSO activities might be strengthened through ICT applications;

- Provide NGOs and CSOs the opportunity to share best practices in the use of ICT and plan how they might coordinate their purchases to take advantage of the savings available through bulk orders; and
- Give policymakers the chance to discuss with NGOs and CSOs how these organisations could better educate citizens about and connect them to ICT.

## Conclusion

Information and communication technologies, if used effectively, can leverage scarce resources, leapfrog barriers common to developing countries, and foster and increase the pace of development. This action plan details the critical areas of action for the development of an information society in the African states.

To move towards an information society, African governments must create an environment conducive to investment and innovation, foster regional cooperation and partnerships between the public and private sector, and invest resources and capital in improving access to and awareness of the potential of ICT in all fields. The barriers of inadequate bandwidth, illiteracy, and lack of local content must all be overcome. Schools and universities must be given the resources to provide a consistent pool of educated and sophisticated ICT engineers, software developers, content providers, innovators, and users.

Over the last few years, many nations have taken advantage of the opportunities afforded by ICT within their policy framework, laid down guidelines and proceed with the formulation of regional and national ICT action plans as a part of their overall development aims. With this document, governments in the region commit to start down the road of fundamentally transforming their societies. The challenge will be not only to effect these changes, but also to keep pace with the technological and social changes happening concurrently throughout the world, leapfrogging technologies where appropriate and bringing their societies striding into the information age, confident of their abilities and excited for their future.

## References

1. Plan of Action of the World Summit on the Information Society.

2. Arab Strategy for Establishing the Arab ICT Society.

3. Proceedings of the West Asia Preparatory Conference in Beirut in February 2003.

4. Egypt's Input to the Declaration of Principles.

5. Papers written under the auspices of the league of Arab States ( www.ictdar.org/wsis)

6. Draft Action Plan and Draft Declaration ( www.wsis.org )

7. Pan – European Regional Ministerial Conference in preparation for the WSIS (www.wsis-romania-ro)

8. Arabic Digital Content. Current Status and Means for Promotion, ESCWA.

9. Developing ICT Infrastructure in ESCWA – Member States, ESCWA.

10. Strengthening capacities of communication and Information Professionals and Institutions, UNESCO.

11. Promoting the Expression of Cultural and Linguistic Diversity Through Communication and Information, UNESCO.

12. On Open Source Software: Empowerment of Education in Developing Countries through Open Source, Software and Public Domain content, UNESCO.

13. Policies and Legislation, ICTDAR.
14. Serving Citizens, ICTDAR **UNDP**
15. Information and communication technologies for African development An assessment of progress and challenges ahead ICT Task Force Series2
16. Human development report (UNDP) 2000
17. Creating Development Dynamics Final Report of the Digital Opportunity Initiative July2001 Accenture Marklefoundation UNDP
18. Towards a Strategy for Universal Access . Telecommunications and Information Services for the Poor, Sabatna Juntunen , World Bank Discussion Paper No 432

# ANNEX

# African contribution to the WSIS

The WSIS will provide a unique opportunity for all key players to contribute actively to bridge the digital and knowledge divide .The purpose of this contribution is to highlight ICT and Information Society issues which have national, regional, and global relevance and implications with the objective of including the proposed contribution in the final WSIS declaration and action plan.

## I. List of issues

### 1) Information and communication infrastructure: Financing and investment, affordability, development and sustainability.

The region should respond more rapidly towards comprehensive access of infrastructure, and to stress its common features by adopting partnership and integration initiatives among various entities and bodies in the region. Addressing planning for infrastructure on all levels will definitely lead the region to witness a great quantitative and qualitative unprecedented leap worldwide.

- **Development of Regional ICT Infrastructure**

  - Establishing and managing a regional fiber optics backbone**.**
  - Building and developing an internet regional backbone to expand in providing internet services at a much lower cost. This would score a drastic decrease in the cost of many elements that are associated with service providing, the most important of which is cost of bandwidth
  - Finalizing the design of national backbones development as soon as possible in preparation for connecting them to one regional network.
  - Defining an African regional hub that acts as an intersection for regional internet network
  - Establishing advanced data centers in the region in order to create poles and a corner stone of regional internet network
  - Setting association agreements between countries that lack such centers in order to achieve easy regional transfer of data and preventing data from going abroad.
  - In order to promote connecting to the internet, international IP (Internet Protocols) carriers should be encouraged to extend their backbones by establishing new PoP in regions of the developing world.
  - Expanding in broadband applications and 3G mobile applications
  - Make use of Wi-Fi and other low cost technologies

- Go for bulk purchase of international bandwidth to achieve lower prices
- Develop a portal on ICT initiatives in Africa to eliminate duplication and achieve better coordination
- Finalize the establishment of AfriNIC for African address registry
- Encourage e-business and content development to achieve a fair formula for payment for internet connectivity which only be on half a circuit only to destination and not both ways
- Support the operation of a root server in Africa
- Promote the Establishment of Uniform Domain Dispute Resolution policy UDDR service

- **Financing and Investment**

- Encouraging the creation of a digital solidarity fund.
- Establishing regional funding mechanisms for building and operating a regional digital fiber optics backbone.
- Identifying means of international funding for building infrastructure to connect rural areas and unprivileged communities.
- Building incentive programs to attract foreign direct investment in infrastructure development through partnership with foreign investors in the transfer of technological knowledge and promoting capabilities

- **Convergence of various technologies**

- Considering wireless solutions as the strategic alternative for fixed technologies, and formulating a specific future regional project in this respect.
- Taking into consideration the design of networks that can be simultaneously used in telecommunications, internet, and TV in a way that achieves the highest revenue on investment, and provides a possibility to develop modern services that couples media and communications.
- Updating the Data transfer services through the Integrated Services Digital Network (ISDN).

- **Connectivity to all.**

- Ensuring low-cost access solutions for end users.
- Solving PC affordability by adopting monthly installment method. In this respect, reference should be made to the Egyptian initiative to provide PCs through Telecom Egypt on installment basis, added to and guaranteed by phone bills
- Reducing taxes and customs on informatics and telecom materials and equipment, software and hardware, and other related items, and also on telecom services to make it affordable for most layers of the society
- Improving low cost connectivity by adopting policies of universal access that offer the best connection levels as a considerable cost for regions that suffer shortage of services.

- Utilizing satellite capacities to improve low-cost connectivity among developing countries.
- Building a regional hardware industry to provide PC's at low cost.
- Expanding in public service telephone booths and community telecenters to reach low-income citizens; thus fulfilling the principle of universal access, and raising attention to rural and remote areas to take them up to the level accepted globally.
- Creating a regional and national network of community-based telecenters using sustainable financial mechanisms, such as franchises and facilitated access to the telecommunication infrastructure.

## 2) Access to information and knowledge

Collective technological and regulatory solutions that enable the use of ICT by each and every individual in the society should be adopted.

- **Access to public domain information.**

  - Making public domain information available in electronic forms, and public information repositories (such as bibliotheca), and accessible by all members of the society, including the disabled.

- **Content access strategies**

  - Working out coherent content integration strategies locally and regionally between access and content providers in order to encourage and facilitate access to content avoiding the formation of isolated islands.
  - Spreading the use of multi-lingual names for internet domain in order to overcome the linguistic barrier in accessing the internet.
  - Setting mechanisms subject to e-payment to facilitate the access of paid domestic and international content.
  - Ensuring the inclusion of rural areas through the availability of online content as well as off line content that is distributed through CD's, publication and other forms of media.
  - Use of all media together to deliver content (TV, Radio, CD ROM and Internet

- **Open standards and open-source software.**

  - Adopting Open Source/ free software by all public authorities and bodies.
  - Compiling, categorizing and updating a global index of existing Open Source Software (OSS) in the form of an Internet-based portal as well as on CD’s for wider distribution.
  - Establishing promotional and incentive schemes on both the national and regional levels towards the nucleation of OSS developer communities.

- Customizing a selection of key OSS packages proven to be most useful to education specialists to best suit their needs, cultural values and linguistic requirements.
- Establishing a portal for public domain educational resources created by the developer communities using OSS resources.

## 3) The role of governments, the business sector and civil society in the promotion of ICTs for development.

During the last few years, it has been proven and verified that, for the Information Society to be created and to thrive; all segments of civil society must come together and work in unison. Besides government, especially important are the private sector, civil society and nongovernmental organizations. The role of each sector is distinct and pivotal. The partnerships forged across these four segments and the recognition of each other's critical function and responsibilities are a further step toward the creation of the Information Society**.**

Governments can establish training centers that involve the private sector, they can use fiscal incentive or matching grants to encourage industry associates to establish and manage such centers.

Governments should encourage the private sector & the NGO to have a role in education and training. In addition, the private sector plays a greater role than ever in providing infrastructure, services, and applications, and its development is critical to the success of the new Information Society.

- **Development of the vertical ICT sector**

The private sector plays a greater role than ever in providing infrastructure, services and applications. Its development is critical to the success of the Information society

- Fostering private-public partnerships to achieve the maximum return from already existing and new infrastructure, new investments, and competent and competitive management.
- Liberalizing information-related sectors. This was demonstrated in the field of wireless communication.

- **Empower NGOs & CSO Role**

- Creating partnership with the community.
- Empowering NGOs and CSOs to serve as change agents for information in two ways especially for the marginalized populations. First, they can shift to information-based methods of assisting their constituents. In doing so, they will expose citizens to ICT's benefits. Second, they can inform citizens about the available information access points (such as telecentres) and/or offer training on using ICT tools.
- Making the activities of NGOs and CSOs more effective through information and ICT that will help them improve their key activities,

have access to a broader range of information, and allow them to communicate more efficiently.

- Creating incentives for partnership with the government to bring together strengths while balancing out conflicts of interests. Such incentives may include purchase funds, prizes, tax credits, and public grants.
- Promoting change, delivering skills training and implementing cost effective projects through NGO and CSO liaise across donors, government and citizens.
- Establishing government initiatives such as annual conferences and smaller local cluster meetings, for bringing together NGO and CSO representatives, appropriate government ministries, and the private sector to achieve the following:
    - Allowing participants to identify areas in which NGO and CSO activities might be strengthened through ICT applications.
    - Providing NGOs and CSOs the opportunity to share best practices in the use of ICT and plan how they might coordinate their purchases to take advantage of the savings available through bulk orders.
    - Giving policymakers the chance to discuss with NGOs and CSOs how these organisations could better educate citizens about and connect them to ICT.
- Establishing Community centers.
- Establishing rural information systems and community tele-centres to foster opportunities, employment and community mobilization.
- Establishing associative networks and linkage between NGOs.

- **Technology transfer.**

    - Encouraging technology transfer in the creation of national and regional ICT production facilities.
    - Fostering innovation and entrepreneurship in public policies.
    - Encouraging the development of technology-based firms through venture capital funds, technology parks, business incubators, franchising IT clubs, together with the participation of academic institutions and research networks.

## 4) Capacity building: human resources development, education, and training.

Capacity building in communication and information technology is crucial for reducing the digital divide and for building knowledge societies based on freedom of expression and pluralism. In a rapidly changing media landscape, the constant evolution of ICTs and the emergence of new professional profiles in both communication and information fields require a continuous process of improving the skills and knowledge of professionals.

- **Use of ICT in education**

  - Ensuring that all schools will have access to the telecommunication infrastructure and the Internet and will have a computer lab regardless of the size, however small, available to students and teachers in both urban and rural areas.
  - Ensuring that all universities and institutions offer ICT-related curricula and that additional extracurricular courses will be available to re-equip individuals with more marketable skills as needed.
  - Ensuring that Local content is represented in a critical mass of content and is widely used in all educational activities.
  - Using mobile units for remote areas.

- **Corporate training assessment and needed ICT-skilled workforce**

  - Offering training to individuals at a cost-recovery basis through nominating selected training regional institutions to handle training programs all over the region.
  - Creating partnerships with the private sector to make training widely available for both proprietary information systems and for open source systems.
  - Providing training of trainers especially for women and youth in African countries
  - Providing training of IT professionals that focus on new methods and techniques for the development and provision of information and communication services.
  - Producing and distributing multimedia, modular training course materials and information processing tools, based on the model of open source software. In this context, an local Knowledge Portal is expected to provide a platform for facilitating networking as well as international and regional cooperation among professional communities and organizations.
  - Preparing and disseminating Open Source information processing tools in Local content language.
  - Promoting open and distance learning methods and lifelong learning among communication and information professionals.
  - Training of media professionals and media trainers; production and dissemination of media training modules.

- **Community media should be used in capacity building programs.**

  - Ensuring that a renewed, concerted effort is made to tackle and substantially reduce illiteracy, using all available methods and media, including television and leveraging on the investment made on community telecentres.

- Agreeing with software providers to give licenses to educations institutes and schools for a fraction of the cost.
- Using mobile units for remote areas.

- **Fight illiteracy as a prerequisite to use and learn ICT**

  - Tackling illiteracy through a concerted effort by all government and nongovernmental bodies involved is key to an interactive and dynamic Information Society that takes full advantage of services distributed by technologies such as the Internet

- **Role of NGOs in capacity building in ICTs**

  - Increasing the opportunities for training/ education for people in underprivileged areas through distance training
  - Offering training opportunities tailored to target groups & those in employment who are at risk of seeing their skills overtaken by rapid changes

- **Research and Development**
  - Connecting research and education institutes of African countries by a high speed network
  - Establishing a center of excellence of research and development in ICT in the region.
  - Creating an incentive and new partnerships for research and development though a global offer supported by rich countries and boosted by new expanded sources of financing.
  - Increasing official development assistance by 10% increase in official development assistance to be dedicated to R&D ( approximately $5.50 billion ).
  - Swapping dept in favour of R&D (approximately $ 1 billion).
  - Introducing tax incentive in developing countries to encourage the set up of foundation by local.
  - Providing for research areas with low cost computers and wireless connectivity as well as prepaid chip - card software for e- commerce without credit cards.
  - Providing research areas with low cost fuel cells on photo voltaic for decentralized electricity supply.

## 5) Security.

The wide and pervasive integration of computers into modern society is what makes it vulnerable to cyber-attacks**.** The governments of the African States should consider this issue as a high priority

- **Infrastructure Security**

  - Creating a cyber-security task force under the AU.
  - Having the African regional network based on local exchanges in each country or data centers to minimize information traveling through international exchanges before reaching the final destination and to reduce cost**.**
  - Implementing national information security programs by governments regardless of the ownership of the critical infrastructures.
  - Ensuring that regular information security audits are conducted for critical infrastructure and key function of government agencies.

- **Information Security**

  - Involving African states in fora of policy making concerning information security**.**
  - Adopting international standards and promoting best practices for information security.
  - Encouraging the UN to embark on a law for cyberspace.

## 6) Enabling environment

The African states should foster a favorable environment for the development of ICT-related activities. This environment will not only include partnerships across all actors, but will also extend to the facilitation of imports, duties levied on technology, and other measures

- **ICT Funding**

  - Creating an ICT trust fund in the region.
  - Developing revolving funds to finance ICT illiteracy eradication in schools and universities.
  - Creating a digital Solidarity fund

- **Investment**

  - Setting the environment through laws and legislations to encourage public- private partnerships and local investment in infrastructure development.
  - Simplifying procedures for regional, multi-country investments, much like Unions in other regions have done (EU, ASEAN, and others). This may further encourage donors to consider economic and financial exchanges with the region.

- **ICT Policies & Legislations**

  - Formulating a cohesive global vision for information society taking in consideration the global nature of IT and catering for different regions.
  - Speeding up the process of drafting and adopting legislations, laws, and regulations that support the deregulation of the sector, and being well-prepared for commitments in World Trade Organization (WTO)
  - Establishing a regulatory body, with expanded powers, as well as administrative, legal and financial independence from policy makers from one hand, and from operators on the other hand. It should have a specific mission, and be a direct affiliate to the cabinet.
  - Creating a global knowledge management initiative to be used as a repository for knowledge concerning ICT for development, its job is to
    - Studying frequency uses.
    - Studying rational investment of band widths within the African region.
    - Developing ICT trust fund.
    - Developing awareness campaign.
    - Identifying regional projects.

- **Harmonizing national regulations for e-commerce from a regional African perspective**

  - Implementing a regional root Certificate of Authority (CoA).
  - Implementing a regional secure backbone.
  - Signing multilateral and/or bilateral agreements on electronic commerce and trade.
  - Facilitating regional transportation and shipping mechanisms to accelerate the movement of goods.
  - Adopting uniform legislations to protect the rights of the consumers and operators and establish policies and guidelines for electronic commerce.

- **ICT import / exports trade issues**

  - Demonstrating commitment to a favorable unified taxation regime.
  - Developing common entry points for regional markets & economics.
  - Developing Regional/national technology procurement facilities.
  - Developing a portal for ICT African products

- **Piracy & software copyrights enforcement.**

- Establishing Policy, regulatory and legal frameworks to address issues related to piracy, management of domain names, consumer protection.

- Promoting initiatives to ensure fair balance between IPRs and the interests of the users of information, while also taking into consideration the global consensus achieved on IPR issues in multilateral organizations.

- **ICT Standards & Indicators**

  - Revising ICT indicators according to the conditions of the developing countries.
    - Initiating and maintaining a comprehensive assessment of the ICT situation in the African States and establishing a benchmark, using relevant, realistic indicators.
    - Updating the findings periodically and presenting them to the regional and global community.
    - Ensuring that data pertaining to return on investment related to ICT is made available to donors, so that funds can be appropriately prioritized and earmarked to develop the sector

- **Internet Governance issues**

  - Managing Internet resources (full national control over them).
  - Defining an appropriate legal framework for the development of a public domain of information and knowledge.

## 7) Promotion of development – oriented ICT applications for all.

The uses of ICT are many and in different fields encompassing education, social services, banking and financial resources, government effectiveness, and others. The Information Society wastes less time finding needed information, and is generally more efficient and productive. The benefits of ICT also extend to small, daily tasks: finding a train schedule, a hospital that delivers certain services, or the address of a government department responsible for a specific practice. Internet and email, which are now commonplace in most countries, add

to the capacity to exchanging and publishing information quickly and inexpensively

- **Social e-services**

  - Establishing Information portals on housing-related issues, such as typical rental rates, Government services to tenants, and forms that facilitate requests for water and electricity activation.
  - Designing Web pages to promote higher agricultural production and food security for those in the agricultural sector, including current information on average national agricultural prices, weather alerts, and education and training resource.
  - Posting online family-related legal information and other legal assistance services that offer users access to legal counsel and knowledge of their rights.
  - Building online application system for permits and licenses, such as driver's licenses and building permits, along with the necessary information about the application.

- **e-health**

  - Building health information portals targeting citizens to provide them with information on disease prevention, locations of available medical facilities, healthy lifestyle habits, and other topics. Portals targeting health care professionals will offer information on diagnostics, health statistics, disease trends, training for clinic assistants in rural areas on basic disease prevention strategies, and other information that facilitates improved treatment and promotes public health**.**
  - Establishing a region-wide portal that brings together the results of applied research and development institutions in the African States and elsewhere with potential beneficiaries in the public and private sectors, such as information on new genetic research results that have health implications**.**
  - Providing continuous training of doctors.

- **e-learning**

  - Conducting a region-wide ICT-based literacy training, in cooperation with other regional literacy eradication efforts through multimedia literacy skill-building CD-Rom programs comprising simple tutorials that require only basic input from students which has already been successfully used in the region.
  - Launching educational portals.
  - Supporting the setup of Online Volunteer initiatives to support the creation and adaptation of electronic course material (languages, math, sciences, history, geography, etc)

- Using web based education to improve continuous learning and reduce its cost.
- Expand schools on line project

- **e-business**

- Effectuating e-business mode by propagating; as specified programs can be set in this respect in agreement with chambers of industry and trade in any country to name some areas where e-business may achieve a quick success.

- **e-government**

- Applying ICT in e-government systems to improve service quality and quality control, make services more accessible and relevant to citizens, improve feedback, and foster transparency and openness in government.
- Conducting regional training of decision makers to reach a better understanding of the dynamics of e-government.
- Exchanging successful experiences and e-government applications from within and outside the region.
- Preparing a step-by-step action plan for the rollout of citizen service.
- Fostering the participation of the private sector in the transition between paper-based and digital processes and applications.
- Engaging donors and the international community to actively support investments in e-government.
- Achieving the transformation of government service delivery through the appropriate use of new technologies.
- Ensuring convenient access to government services and information**.**
- Delivering services that are responsive to client needs.
- Integrating related services.
- Addressing illiteracy through the use of ICT applications**.**
- Fostering regional e-procurement and sharing of e-government application technologies, and best practices

- **e-employment**

- Creating web-based job banks and databases that list vacancies, allow job seekers to apply on line for jobs and register for employment services, offer job search tips, and provide information on labor regulations**.**
- Integrating the telework component which provides a great opportunity for creativity, thinking outside the box, and developing approaches customized to meet the needs and circumstances of particular communities and regions

- **e-environment**

  - Supporting to programs related to environmental protection and awareness through Environmental information network

## 8) Cultural identity and linguistic diversity, local content and media development.

The media industry and information and communication technologies (ICTs) are transforming the perceptions and lifestyles of millions of people around the world. In this context, African states are positioned to lead an active role in promoting the creation and dissemination of local content reflecting the values and experience of the local cultures.

- **Language, Regional and Local content development**

  - Producing and exchanging Local content:
    - Encouraging the production, safeguarding and dissemination of diversified contents in the media and global information networks
    - Developing training modules, guidelines and reference material for communication and information professionals
    - Providing seed funding for innovative content production and co-production and supporting their dissemination and exchange at the regional and international levels.
    - Mobilizing partnerships with international associations, NGOs, institutions from both the public and private sector, to co-implement or co-finance the activities envisaged.
    - Supporting linguistic diversity in cyberspace
    - Strengthening ICT support for multilingualism through a freely accessible online inventory of linguistic resources and statistics, and pilot projects designed to facilitate the development and application of technologies and to make linguistically diverse information contents more widely available
    - Increasing the "volume" of Local content; such as one-shop-stop applications and e-learning.
  - Making the Use of Local Easier on the Web
    - Improving the performance of Local browsers
    - Writing headlines of Local websites in Local language
    - Providing e-mail tools so that local languages would be accepted in writing text and subject
    - Searching for solutions that allow local users to write the Uniform Resource Identifier (URI), and which is also known as

Uniform Resource Locator (URL), in local languages, as well as e-mail addresses .

- Hosting African websites on local hosts in the African region; in order to reduce the hosting cost, protect website content, and maintain the website itself.:.

– Activating initiatives from governments, private, and non-governmental organizations to establish knowledge websites with educational, cultural, and media purposes and can act as specialized references for those searching for information in a certain field. Those organizations definitely bear the cost of creating, administrating, and hosting such websites. These organizations may also give users permissions to post appropriate stuff on these websites.
– Urging all each new civil organizations and companies when registered to have a website.
– Digitizing the content through:
  - Depositing a digital copy of each book deposited in the bibliotheca.
  - Digitizing existing writings through community centers and production units in schools.
  - Licensing the selling of digital books at 25% of the cost through a web page of the bibliotheca.

## • Creating local content to benefit citizens.

- Developing local and national language information portals that provide financial information, such as about obtaining small-business loans and current interest rates; free e-mail access and local user groups; productivity applications on line, calculators. Newspapers, train and bus schedule, weather forecasts, agricultural information as well as e-government portal offering services in the areas of health, housing and social services.

## • Preserving information and audiovisual heritage

- Developing guidelines and methodologies for preserving, promoting and archiving digital content
- Strengthening national news agencies by equipping them with modern information preservation means.
- Promoting and disseminating the International Charter for the Preservation of Digital Heritage
- Developing specially designed training materials and programmes on digital heritage for information and communication professionals making use of distance learning techniques.
- Demonstrating innovative methods for preservation and access with special attention given to libraries and archives collections affected by natural and man-made disasters
- Strengthening Digital preservation of media heritage

- Capacity-building of communication professionals for digital preservation of media heritage
- Developing policies and guidelines for media heritage
- Improving access to audiovisual heritage
- Developing and disseminating Online catalogues.

## .9) Identifying and overcoming barriers to the achievement of the Information Society with a human perspective.

- **Identifying barriers to the achievement of the Information Society**

  - Identifying barriers related to the weakness of cultural and economic activities that are affected by the absence of a comprehensive vision that aspires for practical development of economies and communities of African states in a way that turns them into effective partners with other world countries, subsequently leading to the absence of the strategies and policies to achieve such a vision.
  - Identifying legislative barriers such as the application the laws of intellectual property rights and those regulating e-commerce, e-banking, and the like.
  - Deregulating telecommunications sector in African states is still lagging behind, and reform and regulation of telecom sector in any country should be the responsibility of a regulatory body which is administratively, legally, and financially independent.
  - Addressing the shortage of infrastructure of fixed lines, and low speed to connect abroad, in addition to language, local content, and few number of PCs, all of these factors remain as reasons behind the region being delayed in internet spread.
  - Addressing the narrow scale spread of the Digital Subscriber Line (DSL).
  - Spreading of local language and that its applications and websites.
  - Lowering the prices of PC and providing the necessary training to facilitate using them.
  - Creating funding initiatives to support identifying and addressing the barriers.

- **Overcoming Barriers**

  - Enhance the integrated regional ICT strategy and national plans and strategies for ICT
  - Setting a strategy for partnership between public and private sectors, local and foreign investors, with its diverse frameworks of "build, operate, and transfer", "revenue sharing", or practical partnership in stock holding.

- Funding projects to develop local content so that local digital content could reach a considerable amount that corresponds to the size of the critical mass.
- Funding initiatives to develop PC and internet using skills.
- Funding research and development.
- Developing a regional R&D center of excellence
- Enhancing e-awareness through programs tailored to different stakeholders and through different media

## II. Objectives

1. Promoting a common vision for the development of an information society both at the national and regional levels.

2. Formulating innovative policies and ICT strategies that benefit socio-economic development favor the reduction of poverty and promote growth and employment.

3. Attaining the UN Millennium Development Goals through transforming the region into an information and knowledge society,

4. Providing citizens of each African country with the means of using ICT services as a public service nothing that a specific attention should be paid to categories of population that suffer from disadvantages such as: women , youth , older persons , inhabitants of remote or rural or desert areas, disabled and to categories with low revenues and incomes per capita ( Universal and Equitable Access)

5. Guaranteeing citizens of each African country a protected access to information in the worldwide public domain.

6. Developing alphabetization programs as well as long term programs aiming to create local content using L language nothing that these programs should be accorded high priority in terms of regional cooperation and public financing.

7. Promote a framework for national, regional and international partnerships with a view to coordinate efforts towards building the information society.

8. Adopting modalities for policy/strategy implementation with emphasis on achieving tangible objectives.