

## **Towards an Arab Information Society: A Framework for Collaborative Action**

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## **The Framework for Collaborative Action**

Thinkers, decision Makers, and businessmen see in The ICT sector a golden opportunity for developing countries if properly used and exploited for the achievement of development and creation of one of the most important economic sectors of the future. The effect of this sector goes beyond changing and radically altering the other economic sectors, to ensuring an economical leapfrog it is well planned and organized.

## **The Information Society**

There is great optimism over the potential for information and communication technologies (ICTs) to promote socio-economic development. In the new information age, information exchange has joined social and economic variables to form a triangle of indicators used to measure and monitor economies. The three sides of this 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 households, the workplace, schools, organizations and governments, driving the emergence of what is called an “**information society**.”

**The Information Society** designates a socioeconomic environment that makes the best possible use of the new information and communication technologies, including the Internet. In a society where information is made easily available and distributed equitably, people stand to benefit in all aspects of their personal and professional lives.

Examples of the effective use of information and communication technologies abound in many different fields, including education, social services, banking and financial resources, government effectiveness, and others. 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.

The whole world is very much interested in Digital Divide and how to bridge it. That's why the United Nations and the International Telecommunications Union “ITU” have called for the World Summit on the Information Society “WSIS” which will be held in two phases. The first phase of WSIS will take place in Geneva December 2003. The second phase will take place in Tunis in November 2005.

Arab States have recognized that this is proper time for the Arab Society to take its right place in the Information age, and hence Arab leaders' endorsement of the Arab Strategy in their summit, Amman 2001.

This document “**Towards an Arab Information Society; A Framework for**

**Collaborative Action**” is based on the strategies and objectives approved by the Arab Leaders in Amman 2001. They have been activated in the form guidelines and actions and implementation that could be amended with every new development.

The document presents the broad lines of policies aiming at building the knowledge society. It describes the important areas for the development of this sector in Arab states, while stressing on the importance of the sector at this stage characterized by instability and change. The main focus of this document is on how to create and activate the Arab Knowledge Economy. This cannot be achieved without having a good and powerful infrastructure which enables Arab states' fast and secure access to the Internet in addition to increasing the capabilities of the Arab States in ICT. The objective is for the connection to stimulate economic activities by providing services, encouraging applications to create new markets, 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 the availability of appropriate content, as well as provision of necessary funds to be used in developmental projects.

**The role of ICT in development** is summed up in two main axes. First, there is no doubt that ICT constitutes an industry of its own, representing a cause of progress and a major source of increase in national income in most advanced states. On the other hand, progress in ICT leads to enormous changes in all other sector.

Concerning the first axis, where ICT represents a separate economic sector, 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 Arab 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, to e-learning, and e-health solutions...etc. On the second axis, as a requirement cutting across all sectors, ICT provides 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 have made remote health care more comprehensive and affordable through telemedicine and education more effective through distance learning.

The existence of a reliable information system is imperative for the good administration and functioning of both the private and public sectors. This system should encompass internal government information, citizens services, commerce, banking and international relations.

The security of information, data and networks is of utmost importance for the success of the information society. It is worth noting that the existence of Arabic content for the benefit all necessitates the establishment of a content industry working on content and

Arabization of the different levels of ICT in addition to domain names.

Over the last few years, many nations have taken advantage of the opportunities afforded by ICT to consolidate their economies and achieve unprecedented rates of advancement in their developmental plans. In this framework, the necessary policies were promulgated, implementation guidelines laid down and proceeded with the formulation of regional and national ICT Action plans as a part of their overall development objectives. Indeed, incremental progress in organization and a concomitant coordinated and multilateral strategy are the basic requirements for the development of this sector

Education, investment opportunities and availability of infrastructure and technology transfer to developing countries play a crucial role in this field. It is necessary that developing countries have access to advanced technologies and software and take part in international research and development programs in ICT. The current intention of Arab states is to use ICT as the driving force of socio economic development. This document aims at building a region that can fully benefit from ICTs by the year 2008.

In order to effectively apply ICT to socio-economic development, leaders and policy makers throughout the world need to be honest in perceiving other countries and providing fair opportunities to them. Therefore, the sharing of information and expertise is needed. A collective determined stance must be adopted concerning the balance of interests of different parties worldwide and a common vision is to be adopted for the building of an information society while respecting cultural diversity and offering equitable development opportunities for all. This should encompass the developed countries' commitment in the Millennium Declaration to offer 0.7% of their GNP for development of developing countries. Thus, 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”**.

### **Roles of different parties in building the information society**

In an information society, each segment has a specific role to play and responsibilities to bear in serving the citizens. The following describes the major roles of government, the private sector and civil society, donor agencies and international community, as well as the role of each in planting the seeds of the information society.

#### **Role of Government**

The governments of Arab states, through their policy-making functions, have the primary responsibility in the development of the regional information society and in filling the gaps that have been at the base of the digital divide. These gaps range, among others, from education to income, and from gender to urban-rural imbalances. The governments of Arab States are committed to forward-looking policies and legislation related to information, communication, and technologies, recognizing that ICT has the capacity to

spur growth, to create vast employment opportunities, and to attract investment, both local and foreign. On the other hand, investment and improved economic activities require improved infrastructure and human capacity. The governments of Arab States are geared to comprehend these relationships and are working towards driving 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 Private Sector**

The private sector plays an effective in the transformation of the information society on the long run. Private companies are able to scale up activities and achieve a larger impact than governments 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 investment, and competent and competitive management. To foster increased private-sector engagement, the governments of Arab States –each according to its own vision- 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.

### **Role of Civil Society and the Non-Governmental organizations**

Non-government 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.

### **Role of the International Community and donor agencies**

Development of information society in the framework of the bipolar international system, used to take the form of financial and technical assistance often tailored to specific projects. This development should take a different shape under a multilateral system. In this framework, the international community, especially UN agencies and the World Bank, are to contribute substantially to the implementation of new technologies. Most donor agencies, however, are shifting today to the implementation of comprehensive development strategies, rather than stand-alone projects. The principal shifts, are, in the area of sustainability and the involvement of society. The governments of Arab States have long advocated that a higher percentage of development assistance 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 towards a more business-oriented approach designed to ensure financial sustainability that goes beyond donors' input. Another important role of donors is to ensure that Millennium Development Goals (MDG) are implemented in a timely manner. As ICT is a critical factor in the implementation of these goals within an information society, it is important that the impact of donor-assisted initiatives be closely monitored and best practices widely circulated.

## Themes and Axes of Collaborative Action

There is no doubt that the creation of an Arab information society is a major challenge for all Arab states. Arab states should work in unison and speedily to establish and develop this society into order to attain progress and contribute effectively to the creation of the global information society.

### 1- Recognizing the role of ICT in development

The Arab Middle East is a very dynamic area, with countries in various stages of development. While the average overall tele-density is 7.6% and penetration levels of the personal computer and the Internet are very low, yet, the region is one of the few remaining regions in the world with high growth potential.

In spite of the region's multiple political and economic problems, governments are committed to the development of their countries and providing all possible support to efforts to harness the ICT revolution and leap-frog into the information age. The region faces pressures of deregulation, of technological development and globalization, coupled with the current shortage of foreign investment due to world recession and economic instability in the region, in addition to the crises that sweep the information industry. Thus, this industry requires an aggressive model of partnership and cooperation in the region between the public and private sectors, to balance the needs of different stakeholders: governments, industry and society. The goal is to have an integrated approach towards societal 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 financial and human capital but requires effective cross utilization of these resources 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 connections and bandwidth, lack of Arabic content on the Web, perceived threats to national security and regional culture, 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 administration.** In Arab states, this is today likely to assume greater proportions than in other regions, as greater information and communication have the capacity to increase the drive toward peace and stability and bring the region closer to the international community. Hence, by endorsing this paper, the governments of Arab states will seek to adopt the policies, technologies, and other



necessary measures to make the information society a reality. The first step is to consider the development of the information society a regional priority and taking the necessary steps for the actualization of this society in terms of technologies and other tools.

## **2- Creating a Favorable and Responsive Multi-Segment Environment**

During the past few years, experience has proven that the creation and successful growth of an information society requires all segments of society to work in unison. Governments, the private sector, civil society organizations and associations, and nongovernmental organizations each have a distinct and pivotal role. The partnerships forged across these four segments and the recognition of each other's critical function and responsibilities are also an important step towards the creation of the knowledge society. It is also important to activate the work of the **"Arab Business Forum for Information and Communication Technology"** active in the framework of the League of Arab States to develop the ICT sector.

In addition, and view the substantial discrepancies in the stages of development of the information society across the region, it is imperative that a concerted effort is made to provide support to stakeholders working for the advancement of this sector -in the private and public sectors alike- by drafting and implementing appropriate and forward-looking policies and by allowing permanent or temporary concessions designed to boost the ICT sector, including 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 an information society. A draft of these measures should be ready by the year 2005.

Experience shows that a more favorable environment will attract increased foreign investment in ICT and related sectors. This has already happened on a small scale in specific areas throughout the region; this success, however, has not been the by-product of a concerted regional effort.

### **Actions**

Therefore, the governments of Arab states will consider simplifying procedures for regional and multilateral investments, similarly to the approach of other entities in other regions (EU, ASEAN, and others). This streamlining and simplification may further encourage donors to consider economic and financial exchanges with Arab states.

## **3- Policies and Legislation**

If all sectors have a role to play in development, the success of a vibrant information society depends primarily on the policy dimension and general orientations of governments regarding information. These orientations affect the development of the private sector, human resources, the capacity to attract investment, and much more. It is, accordingly, important to have a platform for action encouraging decision-makers to develop and implement viable strategies and achieve a consensus on the importance and

impact of the policies they will be adopting on behalf of the citizens of their region.

The vision of this action plan is to call for a collective regional effort to establish an information society and therefore enable Arab states to:

- 1- Use information to accelerate development, improve social services, and foster stability.
- 2- Increase employment opportunities, create a vibrant private sector, reduce poverty, and support underprivileged groups, giving a special importance to women;
- 3- Enhance the natural assets and human capacities of the region and minimize internal inequalities; and,
- 4- Further benefit from information by becoming fully part of the global information society.

### **Actions**

To achieve this vision and create an information society, governments seek to develop and implement the following policies:

- Create 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;
- Create the information society, by making the information and communication, and their underlying technologies known, available to and accessible to the public, regardless of gender, age, religion, financial status, location, and race;
- Consolidate pillars of the information and communication sector and foster 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. This includes fostering regional e-commerce and sharing of e-government applications, technologies, and best practices;
- Ensure ICT education in schools and universities and ICT skills training in the workplace and foster exchanges of experience between Arab states.
- Initiate and maintain a comprehensive assessment of the ICT situation in Arab states and establish a benchmark, using relevant, realistic indicators. This requires updating the findings periodically and presenting them to the regional and global community. Governments also need to ensure 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 Arab states and with the international ICT community;

- Ensure that computers and internet are made available to all levels of society by providing low cost alternatives (such as the free Internet model and payment in installments for low cost personal computers).
- **Recognizing** that the development of an information society is critical to the future of the region and its socio-economic progress and that ICT is the fundamental precondition for it, the governments of Arab states act in such a way as to render the ICT sector a priority sector effective immediately.
- **Keeping in view** the important role that the private sector will play in the development of an information society and in creating an environment conducive to investment and partnerships between the private and public sector for the cumulative benefit of the region and its civil society, the governments of Arab states will foster a favorable environment for the development of ICT-related activities. This environment will not only include partnerships across all sectors but it may extend to facilitation of imports, duties levied on technology, and other measures. While the timeframe of these measures will be 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 2005.
- **Understanding** the importance of fostering the creation of an environment that will allow, by the year 2006, the capacity to trade goods and services by electronic means (e-commerce), the governments of Arab 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 and remote areas within national territories, the governments of Arab states will provide, through a competitive market environment, universal access to information and communication facilities, including adequate access to the Internet in the framework of a competitive market economy. In such a way as to enable 60% of the population of Arab states to have access to communication facilities by the year 2008, and 80% of the population by the year 2010.
- Moreover, **in anticipation** of the convergence among telephony, data transmission, and broadcast through Internet broadband, the governments of Arab 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.
- **Acknowledging** the importance for a vibrant information society of building a skilled workforce capable of understanding and benefiting from the digital age, the governments of Arab states, through the appropriate official bodies and associated educational institutions, will support efforts to eliminate illiteracy, foster the use of Arabic language, and establish effective ICT training courses at all levels through official concerned authorities, education institutes and higher institutes affiliated to them. Moreover, the governments of Arab states will build partnerships with the private sector to implement corporate training facilities as needed.
- **Realizing** the importance of government efficiency, the governments of Arab states will strive to achieve computerization of processes and digitization of public records by the year 2008. The governments of Arab states will support

efforts to enhance their effectiveness by using e-government technology. Moreover, the governments of Arab states will actively develop information systems to enhance health services and to foster employment, economic growth in remote areas by the year 2008. The governments of Arab states will give particular attention to services targeted to underprivileged groups, women, and the poor.

#### **4- Determining Indicators**

The rationale behind the use of indicators is to place the focus on output, i.e. the final objective of the policy and not the policy itself (for example, 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 Arab states. Statistics become outdated very quickly. To retain policy relevance, indicator measurements must be made available.

##### **Actions**

- The Arab states will set a task force to develop relevant indicators.
- Conducting an annual survey to measure actual progress towards the creation of an information society.

#### **5- Regional Integration**

Looking at the region as one entity points out to the potentials to cooperate legislatively, economically, and technologically to achieve regional integration. Such a long sought integration is achievable in many forms ranging from the collaborative work of experts and organizations in the region to formulation of studies and setting of priorities, to 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, by purchasing broad band to link the area as a whole to the international world wide web, procuring hardware and equipment from local markets, and by exchanging the expertise available in the region instead of importing it from outside.

Regional integration is an initial step to counter the often negative impact of globalization and the associated opening of Arab markets to foreign competition by creating sustainable entities that can compete on economies of scale. Such entities and projects would be attractive to Arab and foreign investment and provide opportunities to encourage the repatriation of Arab expertise as a prelude to the consolidation of the common Arab market.

## **Actions**

Examples of integrated regional projects include the establishment and development of a regional backbone as a principal and essential project 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 Internet service provision, such as the cost of bandwidth, which is currently ten times higher than the international cost. This project, 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 pivotal centers to communicate and exchange data through internet in the region or “regional internet exchange points”.
- Societal call centers and call centers require fast connecting lines of fiber optics to link them to each other.
- This regional network is to be connected, on one hand, with corresponding ones in other regions such as Europe, Asia, Africa... etc and with regional networks in the region.
- Providing alternative connections to the internet to be used in emergencies and natural disasters.

Arab States can leverage 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 necessary to launch the regional backbone in the future. Subsequently, the cost of internet service and bilateral operation will decrease, and interoperability among countries in the region will increase. Countries will be encouraged to expand establishment of data centers and internet exchange points and thus accelerate the provision of modern services and high-speed applications.

## **6- Planning for Integration and Building a Regional Information Infrastructure**

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

## **Actions**

In recognition of the importance of anticipating the global convergence of various technologies underlying the information society, governments of Arab states recommend that:

- Arab governments work on starting their own data centers or set peering agreements with existing data centers in the region in recognition of the importance of infrastructure. This shall ensure circulation of data throughout the Arab region without the need to circulate outside the region similarly to what is

being implemented between the other regional entities. This increases speed, security and decreases cost.

- Conducting adequate studies to assess the current national situations in terms of communication infrastructure and to ensure identification of transition steps to broadband by 2004;
- Creating a working group to follow up on these studies; as well as determining planning and financing of the regional backbone and the earliest possible date for beginning of work. The regional infrastructure should be completed by 2008.

## **7- Universal Access to Information and knowledge**

One of the objectives behind ensuring that information is provided to all segments of the population and seeking the 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 limited capabilities of the poor and marginalized in the region hinder access to information. The need for innovative solutions is essential to decrease cost, improve equality in information access, content delivery to all segments of the population, to enable them to acquire new skills having the utmost relevance in the information society. As mentioned in other sections, in a region suffering from widespread 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 and illiteracy eradication hubs.

### **Actions**

In order to reach these objectives, we recommend that the governments of Arab states strive to improve universal access to information and implement 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 of the majority of Arab citizenry, especially in Arab LDCs;
- Create a regional and national network of community-based telecentres, using sustainable financial mechanisms, such as franchises and facilitating access to the telecommunication infrastructure; and,
- Create a regional portal for community-based best practices and exchange of community-based content in the Arabic language.
- The governments of Arab states commit to having a total of 60% of the population in the region with interactive access to information, via phone or the Internet by the year 2008 and 80% by the year 2010.

## **8- Capacity Building: Human Resources Development, Education, and Training**

Human resources development is not only critical with respect to the technical capacity to create, distribute, and use, but also as a key tool to leverage information for socio-economic development. Human capital is a major cornerstone for building the Arab Information Society. Information and communication technologies (ICTs) offer the promise of new businesses and employment opportunities along with higher productivity gains, but also make new demands on skills. Arab 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 populations are equipped to master the basic IT skills which the ICT revolution requires. In the region, several countries have, in past years, readjusted their education curricula to include learning programs tailored directly to ICT knowledge at the post-secondary level geared to the ICT market segment. In addition, the governments of Arab states recognize the need for a vision to facilitate an education model responsive to the requirements of the Information Society. Moreover, plans and predictions about the future needs of the information technology-related workforce often are based more on past or present requirements than on a regional and forward-looking strategy. It is equally important that a cadre of ICT-savvy middle-managers should be developed to tackle activities and projects successfully in both the private and public sector.

Training programs, whether specialized or skilled are one of the most important sources for human development in the Arab region especially view the inability of educational programs to bridge the gap between the existing curricula in ICT and the required curricula to keep up with the fast changes in this field.

It is, therefore, essential to design training programs that meet international standards to raise the level of professionals in the field of ICT, in addition to providing other programs for the users of this technology to enhance their efficiency in performing their works and ensure best usage of available tools and programs to facilitate performance in all other sectors using ICT.

### **Actions**

- 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, as suggested by 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. Another important element in the strategy is 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 means to dissemination of information and knowledge. In this context, **“The Arab 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 elements of the strategy.

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

### **Illiteracy Eradication**

There is heightened awareness today that illiteracy should be tackled through a concerted effort by all governments and nongovernmental bodies involved to benefit from the services of the information society, especially the internet. ICT can play a crucial role in efforts exerted to eradicate illiteracy. The inclusion of ICT in illiteracy eradication is a critical factor that requires a multi-pronged inter-ministerial approach, not merely to bring technological innovation, but also to create and modernize content and courseware accordingly.

### **Actions**

In full awareness that education is at the core of the region’s progress and stability, we recommend that governments of Arab states adoption the following measures:

- Ensuring 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 the investment made in community tele-centers;
- Recognizing the importance of the Arabic language to the region’s development and preservation of cultural identity, ensure that Arabic will reach a critical mass of content and is widely used in all educational activities;
- Ensuring 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;
- Ensuring that by the year 2008, all professional institutes will be offering ICT related curricula and that additional extracurricular courses will be available to



- equip individuals with additional marketable skills as needed;
- Through partnerships with the private sector, make training widely available for both proprietary information systems and for open source systems;
- Tackling the intellectual framework of the information society on the regional level by encouraging citizens to learn about new technologies and the Internet, as well as by ensuring that appropriate, usable content is made available through these technologies; and
- Conducting a survey of supply and demand for e-skills and provide the information to the public through the planned information portal.
- Establishing a depository for brain ware.

## **9- Networks and information Security**

The more networks and computers become an essential part of business and daily life, the more e-security becomes a necessity. The wide and pervasive integration of computers into modern society creates a vulnerability to cyber-attacks. 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 invasion of privacy, cyber theft, cyber threats, cyber-crime, and of course cyber-terrorism and cyber-war to which we could all be subject to at any time whether individuals or organizations.

### **Actions**

The governments of the Arab States should consider this issue as a high priority and strive to strengthen regional security through the following actions:

- Create a cyber-security task force under the aegis of the League of Arab States.
- Base the regional network 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.
- Regardless of the ownership of the critical infrastructures, governments will implement national information security programs and ensure that regular information security audits are conducted for critical infrastructures and key functions of government agencies.
- Arab states will adopt and promote international standards and best practices for information security.
- Arab states will encourage the United Nations to establish an international law for cyberspace issues.

## **10- 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, governments and on the Internet. Software piracy amounts to loss of revenues and profit, loss of taxes, loss of jobs, and a substantial decrease in the amount of spending on research and development.

Therefore, intellectual property protection is crucial for the future of development of an information society. Governments need to demonstrate a serious commitment to enforcing international laws on intellectual property and protection of the software industry by taking the following steps:

### **Actions**

- Adopt political, organizational and legal frameworks to deal with piracy issues, domain names management, consumer protection and extend such protection to the digital environment;
- Organize public awareness campaigns aimed at improving the public's knowledge and understanding of the importance of intellectual property rights and software protection;
- While IPR plays a crucial role in supporting innovation in the field of software, e-commerce, related trade and investment, there is a need 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.

## **11- Serving Citizens**

The governments of Arab 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). The Arab states' approach to providing their citizens with access to information emphasizes 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 an information society.

The region's vision for the information society is based on the broad and genuine participation of citizens, including marginalized segments of the population. The governments of Arab 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. By better serving these and other citizens through the tools of the new information society, such as tele-centers 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 Arab states will foster the creation of the information society focusing on provision of better services to citizens and solutions for delivering such services. In particular, the following items, are endorsed for their regional significance:

- Establishing information outlets that ensure that the majority of citizens have access to the benefits of the information society;
- Ensuring that non-governmental organizations (NGOs) and civil society organizations (CSOs) have tools and incentives for acting as agents of change for the information society; encouraging citizens to grasp ICTs and their usages.
- Creating information portals that offer national- and local-level information in Arabic that is useful to citizens; and
- Committing to using ICT to offer citizens a full range of e-government services needed for development of society.

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 been proven effective in smaller-scale ICT projects in the region.

## **Connecting Citizens to Information**

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

Tele-centers have the potential to help break down some of the largest barriers to development confronting low income brackets in rural areas in particular. Tele-centers 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 obtain crucial market intelligence through informal networks that enhance bargaining power; to find information on projects, financing institutions and options for support; to access expanded sets of job opportunities and tele-work. Tele-centers provide access to persons with similar interests willing to work for a common cause. The telework component of tele-centers is in many ways the most challenging component.

There is less experience to draw on than 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.

Tele-centers will offer the majority of the citizens of Arab states access to ICT tools that would be too expensive for them to afford individually. Offering citizens affordable ICT access until per-capita incomes increase is a critical step in the transition to an information-based economy. Tele-centers 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.

Tele-centers afford immediate benefits to remote areas populations in Arab states, to rural areas, to women and the poor. Through tele-centers, 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. Tele-centers, therefore, offer a long-term point of information access and skills building for these groups and other underprivileged groups.

### **Actions**

- The governments of Arab states will implement a series of strategies designed to establish and ensure the ongoing operation of a regional network of information outlets (tele-centers). The region's governments will strive to set up tele-centers with a sufficient density to ensure that all citizens have access to a centre within a reasonable distance from their homes.
- Though tele-centers take many forms around the world, regional experience has indicated that a "franchise" model offers the most promise for ensuring tele-center sustainability. Through this model, funds will be lent to local entrepreneurs to operate a tele-center 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 tele-center startup, expected to begin in 2004, there will be region-wide activity to disseminate information about the availability and locations of tele-centers 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 tele-centers that will be coordinated through a regional body. These campaigns, expected to be launched by 2004, will include messages about the importance and benefits of all citizens being connected as part of the region's transition to an information society.
- In addition, as in all franchise arrangements, tele-center 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 tele-centers 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 tele-centers meet the needs of citizens, are sustainable, and generate reasonable profits for franchisees.

### **Creating Content Beneficial to Citizens**

The experience of the governments of Arab states shows that offering citizens useful ICT content is as equally 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 Arabic. A minority of the population speaks English, and they are already the group most likely to have access to ICT tools. Offering Arabic content, therefore, will make Internet content accessible to the majority.

### **Actions**

Public investment in content should not imply public administrations only. The combination of state investment with private sector development of public information and virtual services has the additional advantage of stimulating 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 labor and self-employment opportunities.

By 2004, the governments of Arab states shall seek to coordinate the development of Internet-based information portals in tandem with the startup of the regional telecentre network. While the e-commerce legislation and policies stimulate the private sector to create useful information portals in the long run, 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 Arab states will develop local and national Arabic-language information portals that provide, but are not limited to, links to the following:

- Financial information, such as instructions on obtaining small-business loans and current interest rates;
- Free internet access and local user groups;
- Productivity applications on line.
- 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.

The governments of Arab 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 Arabic-language content similar to the foregoing. Over the long term, therefore, the region anticipates that current government-sponsored portals can be gradually phased out.

## **12- Bringing Governments into the Digital Age, serving citizens and poverty reduction**

Government services 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 Arab states recognize that to rapidly move to an information society, much effort should be devoted to re-engineering business processes, re-habilitating 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 remote areas. Other efficiency-boosting applications include e-commerce, monitoring and evaluation systems to, for instance, follow up the effectiveness of poverty alleviation schemes and identify service delivery problems. Internal operations, such as intra-government correspondence and information exchange, can be more effectively conducted using ICT.

### **Actions**

Recognizing the above, the governments of Arab states will seek to do the following:

- Conduct regional training for decision makers to enable a better understanding to 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 them by the year 2008;
- Foster the participation of the private sector in cooperating in the transition between paper-based and digital processes and applications;
- Engage donors and the international community to actively support investments in e-government.

### **Establishing e-Government Systems and Providing E-Government Services**

Governments have an important leading role in enhancing the extent to which businesses and the community take full advantage of the opportunities provided by the information and knowledge economy. It does this by maximizing the opportunities provided by ICT to help transform government activities from traditional to e-government services. This transformation has a significant ‘demonstrator’ and ‘pull-through’ effect on the region’s wider information economy.

E- government encompasses delivery of government services through appropriate usage of modern technologies. This process provides greater access to citizens, greater availability of info, better commercial transactions, higher efficiency. E- government can improve the life of individuals by providing better government services to citizens, and businesses for lesser cost and effort.

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 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 businesses and the broader community.

Online services are a part of a comprehensive re-design of government service delivery. For government agencies, service delivery 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 and improving access, therefore, is critical to ensuring that citizens choose the easier, faster ICT-based approach, once it is widely available.

## **Actions**

Serving citizens through e-government paves the way towards the critical transfer to cooperation between governments and their affiliates by the year 2005. 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:

- 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, educational, training and technical 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 Arab States and elsewhere with potential beneficiaries in the public and private sectors, such as information on new genetic research results that have health implications.

### **13- 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, Arab 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 the information society, it is easy to access culture registration, preservation and dissemination tools that could be easily published on the internet in return for moderate cost in comparison to traditional media.

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 content in the media and global information networks;
- Developing training modules, guidelines and reference materials for communication and information professionals, particularly in developing countries;
- 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 widely available.

### **Actions**

The governments of the Arab States, recognizing the obstacles facing their nations in building an information society by the absence of adequate Arabic content, will work on developing the content industry to ensure 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 seek the establishment of strong partnership with this converging industry to ensure maximum benefit to the Arab states and to enable it 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 content industry; with respect to financial and technical issues.
- Establishing a fund to support the communications and content industry;
- Suggestion to require of a copy of digital content to be deposited with the paper copies according to the reposition law;
- Raise awareness on intellectual property issues;
- Clarify the importance of the content industry in schools, universities and trade unions to promote career opportunities in content related industries;
- Establish research and development mechanisms for the development of Arabic software and communication tools;
- Activate the organization of Arabic Academies to normalize the language situation between the Arab states and approve a unified Arabic dictionary.
- Promote production and dissemination of local content and build the capacity of content providers;
- Support linguistic diversity in cyberspace;
- 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;
- Ensure a network of research institutes working on Arab content in the Arab world as well as abroad.
- Establish an Arabic information bank with an archive of Arabic content.

### **14- Preserving the Region's 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.

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 Arab 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 means of information preservation. 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**

- Develop guidelines and methodologies for preserving, promoting and archiving digital content;
- Build capacity of communication professionals on digital preservation of audiovisual and other cultural heritage materials.
- Preserving the audiovisual heritage for the Arab region.

## **15- Trade and Commerce in the Information Society**

While Arab states have, since ancient times, thrived on trade. However, today's modern, global environment requires new methods and the adoption of new technologies for any region and the countries within it to remain economically viable. From this viewpoint, financial operators, industrialists, traders, 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 the marketing of 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 Arab states will review relevant legislations 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 and create user-friendly rules for delivery of goods and services online

### **Actions**

The governments of Arab states recognize that an e-commerce infrastructure must be in place 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 e-transactions;
- Facilitation of regional transport and shipping mechanisms to accelerate the movement of goods;
- Most importantly, the adoption of uniform legislations to protect the rights of the consumers and operators and establish policies and guidelines for electronic commerce.
- The establishment of an Arab top level domain name.

In this context, and in the light of other regions' current concerns in this respect, the governments of Arab states study the establishment -by the year 2005- of a separate body<sup>1</sup> under the auspices of the League of Arab States to advise on matters related to e-commerce and to monitor progress in this domain. This entity will ensure harmonization of practices, will provide technical and procedural solutions and may directly or indirectly manage the root CoA for the region, if necessary. Additionally, the entity will drive the adoption of uniform agreements, policies and legislations to foster e-commerce in Arab states.

## **16- Research and Development**

Research and development in ICT are closely linked to sustainable development. In recognition that research and development are crucial issues for the sustainability of the information society, Arab states shall:

### **Actions**

- Connect research and education institutes of Arab countries by a high speed network.
- Establish a center of excellence for research and development in ICT in the region and promote new partnerships for research and development.
- New partnerships for research and development
- Dedicate a percentage of the official development assistance to the research and

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<sup>1</sup> A consultative body for e-commerce affiliated to the League of Arab States

- development. This will add a good amount (percentage) to the budget of the research institutes in the region.
- Arab countries could introduce tax incentive to encourage their business community to set up foundations for research and development.
  - Define priorities suitable for the Arab region, encourage research and development in the fields that serve these priorities.

## **17- ICT Funding and Cooperation**

The action plan sets ambitious objectives and proposes activities that will need significant resources. These needs will be met by using and/or refocusing 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 best practices or by creating joint ventures with leading partners. The policy of Arab investors, businessmen, and investment banks should be to develop financial resources to fund joint investments within the region.

In the light of current world development to create regional economic blocks, the Arab region is no exception; there are more synergies and bonds between countries, than between many of the currently existing block members. Regional integration is no longer an option; it is imperative to create sufficient economies of scale to overcome the fragmentation of the market. Regional mergers and acquisitions are 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 Arab fund for ICT development and integration is essential to help foster the merger and acquisition process and to provide funding for regional initiatives and the purchase of ownership in international companies.

### **Actions**

- Arab countries will strive to create an ICT trust fund for infrastructure and project development;
- Encourage business partnerships to increase technology transfer and build intellectual capital in the Arab states;
- Foster alliances with multinationals and with technology providers.
- Encourage exchange of experience between the Arab states in the field of communication and information technology and its applications and calling upon the Arab states to enhance cooperation between them.
- Promote the cooperation between Arab states through ICT especially the internet.

## **18- Ensuring that NGOs and CSOs act as Agents of Change**

Experience in Arab states has shown that in order to move towards an information society, key stakeholders must 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 in 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 an 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 have 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 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 organizations to reduce their administrative costs, freeing up resources to serve constituents.

## **Actions**

In light of these considerations, by 2005 the governments of Arab 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 initiatives to broaden citizens' access to ICT and the ways that ICT might benefit their operations and their constituents.

The governments of Arab 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 aim at the following:

- Allow participants to identify areas in which NGO and CSO activities might be strengthened through ICT applications;
- Provide NGOs and CSOs with 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 organizations 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.

To move towards an information society, Arab 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 exemplified in inadequate bandwidth, illiteracy, and lack of Arabic 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 proceeded with the formulation of regional and national ICT action plans as a part of their overall development aims. The endorsement of this document is considered the starting point for the establishment of the information society.

The most important challenge confronting the Arab states is to keep pace with developments in information technologies to achieve the necessary social and economic changes. This is imperative for Arab states to progress and achieve its developmental goals.

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