ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

NATIONAL PROFILE OF THE INFORMATION SOCIETY IN KUWAIT

United Nations

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Introduction

In pursuit of its vision, Kuwait realized that the concept of Information Society is not restricted to a set of IT applications, but also includes a broader and more extensive vision that gives society the chance to make more progress and achieve an effective participation in the 21st century civilization. This vision is achieved through the development and modernization of ICT infrastructure, the increased reach of Internet as an access tool to information and knowledge, the building of trust and security in IT usage, and the capacity building of individuals to effectively participate in information society by increasing cultural and IT awareness, developing education, encouraging the use of IT in general, and electronic transactions in particular, enhancing the role of the government, the business sector, and civil society organizations in using ICT for the development of Kuwaiti citizens. This is also achieved by setting relevant legislations to electronic transaction fields and usages, within the cooperation and implementation framework of international agreements and conventions.

This report comes three years after the drafting of the National Document for Building an Information Society in Kuwait to offer a summary of the achievements and progress made towards building a comprehensive information society that transforms ICT into an effective tool for sustainable development.

I. THE ROLE OF THE GOVERNMENT AND ALL STAKEHOLDERS

A. NATIONAL INFORMATION SOCIETY POLICIES AND E-STRATEGIES

The State of Kuwait elaborated the National Strategy for Building an Information Society in 2004 to contribute to the growth of Kuwaitis and the use of IT as a development tool. This strategy follows the action plan of the World Summit on the Information Society (WSIS) and the regional action plan of West Asia countries. As an extension to this strategy, Kuwait set an e-government strategy and roadmap in cooperation with Singapore, one of the most developed countries in this field.

The Central Agency for Information Technology is currently running an awareness and training media campaign to establish e-culture at all social levels, and to encourage the use of IT in all aspects of life, and thus contribute to the development of a comprehensive information society.

B. PUBLIC/PRIVATE PARTNERSHIP (PPP) OR MULTI-SECTOR PARTNERSHIP (MSP)

Kuwait supported the private sector's active role in development by encouraging it to use e-media in its activities and services, involving it in IT and e-government plans, representing it in the Central Agency for Information Technology, taking its opinion regarding rules and regulations pertaining to electronic transactions, and meeting its related requirements.

To benefit from others' experiences and the exchange of knowledge and information, Kuwait collaborated with Singapore in the application and execution of the e-government project.

C. ROLE OF NON GOVERNMENTAL ORGANIZATION

Non-governmental organizations (NGOs) participated in the elaboration of the National Document for Building an Information Society in Kuwait, and their members were also among the parties who represented Kuwait in WSIS activities. In this context, civil society organizations work on the rehabilitation and training of citizens and residents in general, and women in particular, on the basis of IT use through public training centres. Moreover, the Central Agency for Information Technology is currently collaborating with civil society organizations to set a plan for the development and launch of new centres, which it plans to use as public access points for e-services.

NGOs took part in a number of committees and task forces established by governmental institutions in the ICT field in relation with the e-government project and e-services, in order to offer counsel and participate in their implementation and raise awareness of them.

D. PROGRESS TOWARDS FULFILLMENT OF NATIONAL POLICIES AND STRATEGIES

The State of Kuwait established the Central Agency for Information Technology in 2006 to draft national plans, build capacities in this field and supervise the e-government project. The Kuwaiti government supports the application of e-government as a first step towards the achievement of e-Kuwait, since the cooperation with Singapore led to an e-government roadmap, the first steps of which are currently being implemented.

Eight governmental bodies provide electronic information services on individuals or corporations, in addition to a number of electronic transactions. Moreover, the necessary draft laws pertaining to electronic services and transactions are currently underway.

The number of electronic services provided by private sector companies has increased, since all Kuwaiti banks offer e-services, and electronic trading has become one of the main activities of the Kuwaiti

Stock Exchange. In addition, there are electronic sale, purchasing, and payment transactions that have started to grow either via the Internet or SMS.

II. ICT INFRASTRUCTURE

A. INFRASTRUCTURE

The ICT infrastructure (both wired and wireless) covers the entire Kuwaiti territory through the Ministry of Telecommunications, mobile phone companies, and Internet service providers (ISPs).

The Ministry of Telecommunications manages and supervises the wired network in Kuwait, which has seen a growth in the number of switchboards, an increase in capacity, and a rise in the demand for all types of services. As of 2008, the Ministry will increase phone numbers from 7 to 8 digits in order to meet the demand on landlines and make numbers more in line with international standards.

Mobile phone companies and ISPs rely on the Ministry of Telecommunications infrastructure to operate their services, since they lease electronic circuits and sites that belong to the Ministry.

There are four main ISPs in Kuwait that offer equally competitive services. 1 Mbps broadband (DSL) subscriptions, which are available at competitive rates, outnumber dial-up subscriptions due to their high capacity, low cost, and coverage of urban areas.

Wi-Fi access points have increased in public places such as malls, service centers, and cafes, thus leading to the decrease in the number of Internet cafes. Moreover, Wi-Fi is widely used in households with DSL and is extremely popular with many families. This is mostly due to incentives and promotions ISPs offer to subscribers.

There are currently two mobile phone companies in Kuwait, and a license was recently issued for the establishment of a third company. These companies have been transferring data and using the Internet through their wireless networks that cover the entire Kuwaiti territory. They managed to acquire a certain share of the Internet market that was enough to compete with traditional ISPs. This was greatly due to the upgrade of mobile phone networks to the third generation (3G) technology, which offers greater capacity for data transfer and Internet connection (up to 256 and 512 kbs). Among the factors supporting this service are its coverage of the entire country and its availability on the road. However, when compared with DSL and public access points, this service has a higher cost, a smaller capacity, and is linked to only one user instead of a household.

There are currently 31 main switchboards in Kuwait with a capacity of 776,000 lines, 518,000 of which are in use (65% of the total lines). The Ministry of Telecommunications is currently implementing the fiber optics project to develop and upgrade the landline network by linking residential and commercial units directly with switchboards through fiber optics. The project's first phase was first carried out in the new residential areas at a cost of 45 million Kuwaiti dinars. Each unit will be able to use the phone service, Internet connection, and TV interactive broadcast on the same cable.

B. INVESTMENTS IN ICT INFRASTRUCTURE AND DEVELOPMENT OF NEW SERVICES

ISPs use the infrastructure of the Ministry of Telecommunications to connect their clients to the Internet and offer them the data transfer service. They built their networks (backbones and switches) and invested in building a higher data transfer capacity, leasing and linking high-capacity international lines to their networks, which enhanced their competitiveness and significantly contributed to the reduction of cost. ISPs are connected to the Internet either via the Gulf countries' common fiber optic link (FOG), which is an

Internet exchange point (IXP), or via satellite. All ISPs have alternative lines they can use in case of emergency.

Mobile phone companies have largely invested in the expansion of their network, including 3G technology and coverage of the whole territory to meet the rising usage rate. These investments contributed to the increase of the quantity and quality of the services offered to all categories of users, including Internet connectivity and data transfer, and reinforced their competitiveness both locally and regionally. Moreover, these investments contributed to the reduction of mobile phone operation and usage costs, thus allowing the companies to offer incentives and increase their customer base.

The Central Agency for Information Technology is currently working on the establishment and execution of a national network for data transfer and exchange (Kuwait Information Network – KIN). It consists of a national project for building and developing the necessary infrastructure for ICT systems and networks in Kuwait by linking the information networks of all ministries and governmental institutions to a single information network that would contribute to the high-quality integration of governmental applications and data as well as the exchange of confidential information. This project is divided into three parts: the network infrastructure, network management center, and network security system.

C. ICT CONNECTIVITY

ICT application needs, IT system requirements, services offered by ISPs and mobile phone companies, the relative increase in e-services offered by the private sector and governmental institutions, operation requirements, transactions, monitoring, and IT security, are all factors that led to the establishment of a clear ICT connectivity in Kuwait.

Kuwait is expected to see growing ICT convergence due to the increase in size and usage of e-services, the constant development of communications infrastructure, and the expansion of service and communications centers.

D. ICT EQUIPMENT AND SERVICES

The demand for computers and peripherals has risen constantly among consumers for the third consecutive year. According to the International Telecommunication Union's (ITU) statistics, the number of PCs in Kuwait in 2005 reached 600,000 (22.3 per 100 inhabitants), compared to 450,000 in 2004 (17.63 per 100 inhabitants), and 400,000 in 2003 (16.10 per 100 inhabitants). Software sales have increased during the past year with the decrease in the sale of pirated copies.

As for governmental institutions, they expanded their use of ICT applications. There was also an increase in the financial credits for providing IT hardware, applications, and services. The government signed agreements for mass licensing of software that is widely used in its institutions.

In private sector institutions, there is a high level of computerization and IT usage for many reasons, the most important of which is the improvement of services offered and the staff's productivity, as well as the enhancement of competitiveness. In general, most of the companies listed on the Kuwaiti Stock Exchange today have a high level of computerization, as is shown in the annual reports submitted in General Assemblies, which also shows a positive return on IT investment.

E. INTERNET GOVERNANCE

Kuwait follows closely any regional or international updates linked to Internet management, particularly those related to the decisions issued by the WSIS. Representatives from Kuwait participated in

the Internet Governance Forum that was held in Athens in October 2006. On the Arab level, Kuwait also takes part in the Council of Arab Ministers of ICT.

Kuwait focuses on many related issues including international management of Internet resources and Arab domain names, where it is important to have a unified Arab position at the service of Arab countries on the national and regional levels.

F. TRADITIONAL MEDIA

With the ratification of the Kuwaiti publications law, which provided for the licensing of newspapers and magazines, the Kuwaiti press saw a remarkable increase in new publications: for instance, the number of daily newspapers increased from 5 to 8 in one year. Needless to say, the use of technologies, the automation of journalism, and the expansion of ICT use contributed to the promotion, improvement of capacities, reduction of cost and fast liberalization of journalism. Moreover, all Kuwaiti newspapers have websites that offer readers access to both daily and old editions, in addition to providing search engines and electronic copies of the newspaper's original edition.

With respect to the audiovisual media, although its governing law was issued recently, no license requests for any radios or TV channels were made at the time this report was drafted. IT is widely used in audiovisual media, especially in production, but online broadcasts or content are restricted to the broadcast of Radio Kuwait via its website, in addition to the interactive websites of a few TV shows.

III. ACCESS TO INFORMATION AND KNOWLEDGE

A. PUBLIC DOMAIN INFORMATION

Government institutions started providing information on their websites on the personal and corporate services they offer. Some of them also allow citizens to track the documents filed in service centers. Public access to electronic information is not merely restricted to websites but is also linked to other electronic access methods such as SMS, the use of which is increasing as communication companies are positioning them as a cheap interactive information method.

The emergence and significant increase of blogs over almost a year ago, in addition to online forums and their diverse subjects reinforced the use of IT as an effective means for knowledge and information access.

Mind you governmental institutions and private companies ensure the visibility of their website address by including it in brochures, publications, advertisements, correspondences, and means of transportation in order to facilitate public access to information.

B. ACCESS TO INFORMATION AND PUBLIC INFORMATION

The Central Agency for Information Technology is currently working on the establishment of Kuwait's official portal, which will represent the Single Access Point for e-government services. This electronic portal will have the technical abilities that represent the beginning of an actual shift of government services from the publishing stage to the interactive stage, and then to the transaction stage.

The number of governmental institutions that have published reports, data, and statistics on their websites during the past year has significantly increased.

The websites of private sector companies are no longer restricted to offering promotional information, but they also include quarterly reports, profit-and-loss statements, and useful information dedicated to investors.

Also, private sector companies are developing their customer service through their websites, which have been linked to the services they offer either electronically or directly to their clients through their service centers. Similar activities include service request, transaction follow-up, payment and purchasing services, status verification, and data update.

The Kuwaiti Chamber of Commerce and Industry developed the Al-Boom project to monitor Kuwaiti websites through the knowledge management system. The content of Kuwaiti sites (governmental, private, and non-governmental) is scanned, searched then presented to users. This system won the International Chamber of Commerce award for best technical project in 2005.

C. MULTI-PURPOSE COMMUNITY PUBLIC ACCESS POINTS

The government partnered with the private sector and NGOs to provide multi-purpose community public access points. NGOs also built Internet public access centers that allow people to use the Internet and access information electronically. Such centers are located either in the NGO offices or in suburban centers around the country.

In addition to higher education institutions, private and public schools have been considered public access points for quite some time. There are also several free or paid wireless access points in public places such as hotels, malls, cafes, and copy centers.

D. USING DIFFERENT SOFTWARE MODELS

There are different software models that foster access to information. In governmental institutions and private sector companies, the trend is to use copyrighted software that allows greater content management, deals with a larger quantity of information, and can be safely linked to these institutions and other establishments that are transactional in nature.

As for individual sites, sites of NGOs, or sites dedicated to awareness campaigns or SMEs, they rely on open source software, or low cost and average performance software.

Also, a new trend has emerged with web software provided through web hosting, blogs and forums, which allows the easy design and development of websites and offers the user many features that do not require much technical experience.

E. FREE AND OPEN ACCESS TO SCIENTIFIC KNOWLEDGE

National and regional research, academic, and educational institutions in Kuwait have started to support access to scientific knowledge through ICT use. Although the publication of research, scientific papers, and research projects results remains limited, interest in this aspect is on the rise, particularly regarding scientific publications such as books, magazines, journals, and conference proceedings. Publishing obstacles faced by scientists include restrictions set by donors in the publication of research results, as well as the exclusion of electronic publications when setting the research and studies budget. Mind you research abstracts are more widely available in electronic form than the research itself.

Scientific bodies interested in improving access to scientific knowledge include the Kuwait Institute for Scientific Research, Kuwait University through the Scientific Publishing Council, the Center for Research and Studies on Kuwait, the Kuwait Center of Scientific Progress, and the Gulf Studies Center. These institutions have highlighted, in their plans and reports, their interest in supporting access to scientific knowledge.

IV. ICT CAPACITY BUILDING

A. BASIC LITERACY

The government of Kuwait and the major stakeholders (private sector, and civil society organizations) are focusing on the eradication of basic illiteracy and bridging the digital gap in the IT sector. With respect to education, the partnership between the Ministry of Education and the Kuwait Center of Scientific Progress (NGO) led to the introduction of computer labs and curricula at all academic levels. Schools were connected to the Internet, turning these into public access points at the disposal of students.

Cooperatives located in Kuwaiti suburbs offer basic training sessions in computer applications. The Kuwait Economic Society is setting up public computer centers in various regions around the country that provide computer literacy training. Also, the Kuwait Information Technology Society and the Kuwait Center of Scientific Progress organize an annual summer camp to teach young children as well as primary and intermediate students how to use the computer.

Initiatives towards ICT literacy include "Sheikh Salem Al Ali Al Sabah Award" for websites, which is a website design contest for beginners from all age groups. A jury consisting of representatives from governmental and private institutions as well as NGOs selects the best three websites for each age group. The scope of this award has grown to include websites of governmental and private institutions, and NGOs.

As for training institutes, they have been offering lately programs related to the International Computer Driving License (ICDL) and the Cambridge IT Skills Certificate, both of which are considered standards for computer skills.

The Central Agency for Information Technology, in collaboration with the ICDL of the Gulf Cooperation Council, is currently working on an initiative aimed at the adoption of the e-citizen program for the training of IT illiterates. It is also working on the adoption of the ICDL for the training of IT literates (both employed and non-employed), in order to help them become information worker; and the adoption of advanced ICDL, which aims to transform advanced level trainees (employed and non-employed) into advanced information workers.

B. ICT IN EDUCATION AND TRAINING

The Ministry of Education has taken several practical steps in order to extend ICT's educational benefits to more than computer training. It has set incentives for teachers to encourage them to obtain the ICDL, which will allow them to use computers while teaching. It has also set up the e-learning project to introduce new educational activities and concepts that contribute to the development of education. The project, which includes academic books on the Internet, CD-ROMs, and special learning software, engages the teacher, the student, and the parent in the educational process.

Remote learning and e-learning in public schools in Kuwait is still limited; while they are used in Kuwait University and a number of private universities and schools.

With respect to the development of human resources, the Civil Service Board has created a site for e-training on knowledge sharing and capacity building in order to enable national human resources in all sectors to develop the government's administration. Access to the site is available and open 24/7 to everyone.

The use of smart classes has grown in higher and academic education thanks to their tools that help develop the educational process, such as the interactive board. Universities are connected to the Internet, as is the case with Kuwait University, most of the faculties of which have a Wi-Fi connection. Also, the education board is increasingly relying on IT in teaching. Mind you course guidance and registration are now

done for the most part electronically through student information systems.

C. Training programmes for capacity building in the use of ICT

Governmental institutions have launched annual training programs for the capacity building of their staff through the use of ICT. These programs are either built on specific software linked to the nature of the work, software and IT for presenting the training material, or are designed for training on a software that might enhance the employee's productivity.

As for the Central Agency for Information Technology, it puts its annual training programs at the disposal of all government employees. These programs include the e-government program, which is essential to all categories of the public. It aims at providing trainees with the necessary awareness and understanding of IT usage policies in the public sector and their application at work. The programs also include a rehabilitation program for job-seeking graduates to turn them into information workers, a training program for civil servants who are not specialized in IT in order to ensure they have the necessary knowledge and skills for the e-government project, a training program for IT savvy civil servants, and a training program for directors in the government.

Private sector companies have taken a greater interest in merging IT with training programs, with the growing role of IT in their daily activities and the services they offer to the public either directly or electronically on the one hand, and their dedication to increasing their employees' productivity as well as their competitiveness on the other.

Kuwait University offers, through its Center for Continuous Education, yearly mostly ICT-based training programs in various fields, such as software training, acquiring new skills, language learning, and capacity building.

D. Research and development

Kuwaiti companies play a substantial role in IT research and development. The Technology World Company has a special research and development team for developing and translating software, and has released many educational and technical programs. Also, the National Company for IT Projects works on new ICT software in the incubator of its Innovation Center.

In collaboration with Microsoft, the Kuwait Institute for Scientific Research, and the National Company for IT Projects have established the Microsoft Innovation Center for incubating programmers and turning their ideas into software that promotes creativity and innovation.

Kuwait has also signed a strategic partnership agreement with Microsoft that focuses on building national capacities, developing the education sector, and supporting the technology sector. It also focuses on the translation of applications used in Kuwait and Arab countries, with special emphasis on content and related search techniques. This agreement also provides for the supply of additional training material on Microsoft software in Arabic.

Kuwait hosts the Arab Regional Center for Software, which is funded by the Arab Fund for Economic and Social Development. This center is specialized in the development of educational software related to academic learning or vocational training, in addition to content development.

V. BUILDING CONFIDENCE AND SECURITY IN THE USE OF ICTS

A. USE OF ELECTRONIC TRANSACTIONS AND DOCUMENTS

Electronic transactions in the public sector are still limited as all governmental institutions currently have websites, most of which are at the <u>publishing</u> stage. As for electronic transactions currently offered by a limited number of governmental institutions to individuals (G2C transactions), they are mostly data recovery services, follow-up services for a form that was submitted in the traditional method at the service centers of these institutions, electronic forms, or electronic files downloaded on PCs. Governmental sites offering such services, which can be classified in the interaction stage, have grown over the past years, due to governmental institutions' interest in e-services and their inclusion in work development plans.

As for electronic transactions on the government and business level (G2B transactions), they are not widely spread, with the exception of the payroll and payroll deduction system for government employees that was linked by the Civil Service Board to Kuwaiti bank systems for the direct execution of money transfers and payroll deductions.

On the administrative level, electronic transactions between administrations and employees are limited and do not currently have any official or legal status. Only a few documents are exchanged electronically. Successful experiences in document management systems on the governmental level include the 'Tasaheel' system that was developed by the Ministry of Defense for document archiving and recovery. The system includes published books archiving and recovery, follow-up on the documentation cycle, and a link to electronic systems related to e-documents, employee files, and financial files. The Ministry of Defense is currently collaborating with the Ministries of Social Affairs, Labor, and Interior to implement the same system.

The private sector is considered a pioneer in the field of electronic transactions in the State of Kuwait, and is more advanced than the government sector. The most widely used electronic transactions by the public (B2C transactions) are financial transactions, since all Kuwaiti banks offer their personal and corporate clients online banking services on their websites. Moreover, Online stock transactions have increased, be they through brokerage firms, investment companies, banks, or specialized websites.

Electronic purchasing and sales of goods remains limited and does not represent any notable proportion in the Kuwaiti business sector if compared to traditional purchasing and sales. Nonetheless, there are a few related successful ventures, such as online or SMS sales of movie tickets in collaboration with mobile phone operators, or the electronic transactions service offered by Jazeera Airways for selling, buying, and booking e-tickets, which dramatically improved the airline's business.

A large part of business-to-business transactions (B2B transactions) is made between international companies and their local representatives. There are many examples of such transactions on the Kuwaiti market including the KNET network for e-payment and withdrawal, which is shared by all Kuwaiti banks, the M-PAY portal for e-payment through SMS, and Agility's special applications for stock management.

B. ONLINE TRANSACTION SECURITY

Telecom companies and financial institutions such as banks and investment companies take advanced high-level measures to ensure electronic transactions meet international standards. They always strive to apply the latest security measures and IT security systems to protect electronic transactions.

With respect to the government sector, the limited availability of e-services offered (the majority of which involves data recovery) has restricted the security of electronic transactions to

ensuring a link between websites and information systems related to client data, be it personal or corporate.

C. COUNTERING MISUSE OF ICTS

NGOs are spearheading efforts to raise the public's awareness on ICT usage benefits, in addition to the common awareness campaigns between the private and public sectors and civil society organizations. Media outlets are considered to be the main channel of these efforts.

Kuwait is yet to have a law that penalizes the harmful usage of ICT. No legal measures were taken against the website hacking cases that were reported in the media, not because of the technical misuse but because they involved acts that were penalized by the law in other aspects, such as harming businesses and individuals, or defrauding others.

D. PRIVACY & DATA PROTECTION

Aware of the importance of electronic transactions in their dealings with their client base, private sector companies have taken the appropriate relevant measures, including raising the awareness of their clients thereon. This is evident in privacy policies and rights on the main page of companies offering e-services.

On the other hand, the public sector has not yet taken sufficient technical measures to protect data and privacy due to the limited number of electronic transactions (as previously explained). Nonetheless, the government's interest in this field is reflected in the inclusion of basic rules in the suggested draft law on electronic transactions and as one of the prerequisites for any governmental institution offering e-services.

E. INFORMATION SECURITY AND NETWORK SECURITY

Information and network security includes measures, software, and hardware that cover the operational aspect, from the supply of computers, to servers and network components, connection to the Internet and other governmental institutions, use of firewalls and intrusion software. Also, ISPs, information lines, and telecom companies use advanced technologies in network and information security at the infrastructure level. In terms of databases, secured socket layers and encryption technology are applied.

Information and network security measures, software, and hardware are periodically verified and constantly updated. However, there is still a pressing need for training and building the capacities of national human resources in this field.

VI. ENABLING ENVIRONMENT

A. LEGAL AND REGULATORY ENVIRONMENT

Kuwait needs laws that govern electronic transactions on the national level and encourage their use on a larger level. A draft law on electronic transactions is currently being prepared in order to define and determine electronic files, identity, and signature, as well as to protect electronic data and privacy.

In 1999, Kuwait passed an intellectual property protection law that included electronic material such as software, information systems, and electronic content. According to the 2006 Business Software Alliance report, since the law was passed, software piracy dropped from more than 95% to 64% in 2006[1]. This drop came as a result of the government's efforts to fight piracy, and awareness activities launched by NGOs and

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[1] http://w3.bsa.org/

the private and public sectors. The Ministry of Trade and Industry is in charge of implementing the intellectual property protection law.

B. Secure storage and archival

In terms of online storage and archiving, all governmental institutions now have electronic document management systems, which are widely used on all administrative levels. Electronic protection of these systems always starts with the protection of the operational environment and application of technical backup procedures. Moreover, regulatory lists or legal frameworks are being considered in relation with the circulation and confidentiality of documents.

C. Domain name management

The Ministry of Telecommunications in Kuwait is in charge of domain name management (.kw), as part of its responsibilities to organize and license the activity of ISPs and provide the necessary telecommunications infrastructure. The Ministry has tasked the Kuwait Institute for Scientific Research with this mission, and Kuwaiti domain names are registered through ISPs.

D. Standardization in ICT

Given the serious tendency to offer e-services, standardization is currently addressing the readiness of governmental institutions to offer such services and apply the principles of quality assurance, performance measurement, technical auditing, integration, as well as issuance of the necessary relevant guides. There is also a tendency to hire specialized bodies to perform periodic tests based on certified international standards of performance, usability, and security in government websites.

The Kuwaiti private sector is considered to have advanced standardization related to operation, information and communication systems, computer resource management, and technical auditing.

E. the ICT Sector

In 2006, Kuwait founded the Central Agency for Information Technology, which is affiliated to the Cabinet. The Agency is in charge of setting nationwide IT policies, implementing the e-government project, managing the government's official portal, training national technical human resources, running general awareness campaigns on IT, coordinating IT development actions and plans with other governmental institutions, and setting the necessary methodology, standards, and patterns.

With respect to the companies that work in the field of communications, there are currently two mobile phone companies in Kuwait that offer individuals and corporations services that are no longer restricted to communications, but also include electronic multimedia content, Internet connectivity, and data transfer. These companies have broadened their scope to include regional and international activities, as their mobile phone operating licenses go beyond the geographical limits of Kuwait. Moreover, a third mobile phone company has recently acquired an operating license, and its establishment procedures are underway.

The number of primary ISPs in Kuwait has increased to 4 providers, the activity of which includes Internet connectivity and data transfer service. Competition between them has increased the subscription capacity offered to individuals and corporations, and reduced the subscription cost, including the installation cost. DSL subscriptions and Wi-Fi access points have become widely spread in Kuwait.

IT companies, which amounted to 182 in 2006, are increasingly providing their staff with professional certification or technical classification from service/solution providers (gold–silver). In general, companies

have started to focus their activities on e-services representing the local market needs in the short and long term, on both the infrastructure and technical solutions levels.

As for the market of computers, peripherals and software, it has become more integrated and is now more akin to the consumer electronics market. Specialized shops related to local computer agents have decreased, as the latter have become suppliers for major electronics companies. The role of agents is limited to maintenance, warranty, and after-sales service, which contributed to the increase in computer sales.

F. SUPPORTING MEASURES

All governmental institutions have special backup measures, such as information system protection and safety. The size and level of these applications varies depending on the size and level of each party's IT applications. Some governmental institutions use central backup solutions while others use decentralized solutions. The government's interest in this aspect's standardization has grown, since it is one of the readiness factors for future e-services.

Private sector companies take strict measures when it comes to the use and storage of their IT resources and information systems. Such measures are more common in the private sector than in the public sector.

VII. ICT APPLICATIONS

A. E-GOVERNMENT

The government of Kuwait signed two memoranda of agreement with Singapore in 2004 and 2005 in order to benefit from its advanced experience in this field. The readiness of the public sector for implementing the e-government project was assessed, and a roadmap (currently under execution) was defined based on the results.

The government has initiated implementation measures related to its main online portal, Kuwait Government Online, which offers visitors round-the-clock service through many communication channels, be it via the Internet or mobile phones, while preserving the security and confidentiality of information. Also, the implementation of the aforementioned Kuwait Information Network is underway.

B. E-BUSINESS

In general, e-business activities are limited on the level of the State when compared to the general economic activity. They involve specific economic activities such as online banking, e-trading, and e-booking with airline companies, in addition to e-payment services such as M-Pay[2]. As for e-sales and e-purchases, they are still restricted to the national level, although they are widespread on foreign websites.

E-business activities in Kuwait are limited due to the absence of the necessary legal and regulatory framework, since no law related to the enabling environment has been passed yet, with the exception of the intellectual property protection law. A draft law on electronic transactions was prepared, and there is a general trend towards elaborating a law governing the misuse of IT.

As for the Public Authority for Industry, its website allows investors to perform many electronic transactions related to industrial licenses.

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[2] www.mpay.com.kw

C. E-LEARNING

The Ministry of Education supported public and professional learning through electronic media, and used many of its tools to develop teaching methods. The Ministry began to implement the e-learning project by assigning an e-mail account to each student, and publishing the academic curricula online and on CD-ROMs. As a first step, the eleventh grade books were released on the ministry's website and on CD-ROMs that were then distributed to educational regions. The second step will consist of preparing special educational software. To date, such software, known as e-bags, was completed for grade one, and will be distributed during the coming academic year. The last stage of the project will involve teachers, parents, and guardians. The e-learning project is implemented in the collaboration with Microsoft and the Regional Software Center. Schools are encouraged to create their websites through the site of the Ministry of Education.

Learning management systems designed to manage the e-learning process were used in Kuwait University and a number of private schools and universities, in addition to professional training institutes.

As for professional training institutes, they offer their students e-learning in more than one field, through special servers. The Civil Service Board is studying the feasibility of using e-learning in the professional training aimed at building the capacities of government employees.

Through the Kuwait Institute for Scientific Research, Kuwait joined the World Bank Global Development Learning Network (GDLN), which uses e-learning in remote learning.

D. E-HEALTH

The Ministry of Public Health developed a plan for the automation of the workflow in hospitals and health centers, involving three main systems: the healthcare system in medical centers and dispensaries, the hospital management system in the six health areas and their affiliated hospitals, and the dental system. These systems are part of an information network at the Ministry of Public Health that includes all the hospitals and health centers in Kuwait. The ministry is currently studying the establishment of an online portal for its health services and medical activities within the e-government system.

IT was also used to follow the troubling outbreak of bird flu globally through geographic information systems that were linked to international health networks.

E. E-EMPLOYMENT

Information technology and the Internet were broadly used to announce and receive job applications. The Civil Service Board, which is Kuwait's largest employment body, also receives job applications for public sector positions online. Also, a number of independent parties in the public sector announce and receive job applications on their websites. Many governmental institutions have now adopted this online method for accepting job applications.

On the private sector level, e-employment takes many forms: many specialized recruitment companies announce job vacancies and receive applications online, such as the Gulf Company for Recruitment and Bayt.com. Also, an increasing number of private Kuwaiti companies feature links for job vacancies and applications on their websites.

VIII. CULTURAL DIVERSITY AND IDENTITY, LINGUISTIC DIVERSITY AND LOCAL CONTENT

A. USE OF ICT IN SUPPORT OF CULTURAL AND LINGUISTIC DIVERSITY

Cultural and scientific institutions from the private and public sectors as well as civil society have started to publish their publications online and to digitize old ones, not only for dissemination purposes and preservation of identity, but also to protect and preserve this heritage for future generations. One can get a sense of the increase in Kuwait-related web content when using online search engines.

Cultural diversity also played a great part in online publishing: While websites and online publications used to be only published in the source language, they have become today bilingual and multilingual even.

B. LOCAL AND NATIONAL DIGITAL CONTENT DEVELOPMENT

Kuwait has hosted many cultural projects, some of which are around 50 years old, such as the Al Arabi magazine. There are also organizations such as the Kuwait Center of Scientific Progress, which translates Scientific American into Arabic; the Center for Research and Studies on Kuwait, which studies Kuwaiti history; the Islamic Heritage Society (Dar Al Athar Al Islamiyya), which takes care of Islamic heritage and history; the National Council for Education, Arts, and Literature which studies the literary and cultural movement in Kuwait and the Arab World (its most renowned publications include the World of Knowledge series – A'lam Al Ma'arifa); the Souad Al Sabah Publishing House for literary publications; the Abdul Aziz Al Babtain library, which is specialized in Arabic poetry.

A large number of these institutions' recent publications include disks with electronic versions and translations. Also, their websites are bilingual, use advanced technologies, and feature a list of publications and abstracts.

On the governmental level, while websites used to be simple ones created by the staff, they now enjoy a clear information structure and are better suited to meet the requirements of concerned individuals.

As for the private sector, a large number of corporate websites in Kuwait were transformed into online portals that offer various e-services and that act as a marketing tool and a communication channel with clients. The role of these websites has grown to include investors' relations, reports and data on corporate performance, and the means to meet work requirements such as vacancies and procurement requests.

Mobile phone companies have greatly contributed to the enrichment of local and national content, developing a varied content that helps to create and offer new services that attract more clients, increase income, and enhance competitiveness. The most commonly used content is ringtones and pictures, news service, multimedia services, and awareness, health, and social services.

Mind you the number of online forums and blogs with varied themes and multimedia content has increased, thus contributing to the enrichment of the national content and the development of information society.

C. ARABIC DOMAIN NAME SYSTEM – ADNS

The State of Kuwait supports efforts to set norms and standards for Arabic Domain Names. It is important to set open standards in compliance with unified international standards. The open standard should be unanimously adopted by Arab countries, which requires the elaboration of policies and measures that must be followed regarding Arabic domain names. It is worth mentioning the efforts of the Council of Arab

ICT Ministers and its affiliated Permanent Arab ICT Committee in cooperation with the Economic and Social Commission for Western Asia (ESCWA), as the Council of Arab ICT Ministers is considered the regular Arab umbrella for this issue.

D. ICT TOOLS, AND R&D PROGRAMMES

In addition to the interest in developing advanced websites that attract more visitors, there is an increased interest in content management tools, software, and multimedia production and development tools.

With respect to research and development, the international company Sakhr's efforts in developing different IT tools contributed to the enrichment and development of Arab content. Sakhr was able to develop the Idrissi search engine, which is used today as a search engine for Arab websites on the Internet. It also developed a number of techniques for Arabic language processing, such as morphological processing, syntactic processing, machine translation, and Arabic optical character recognition. Moreover, it developed a software framework to be used in developing its Arabic software. Sakhr also launched the Ajeeb[3] portal, which uses the techniques it developed after transforming PC-based software into web-based, such as dictionaries and electronic translators.

During its implementation of the Al-Boom system for monitoring Kuwaiti websites through the knowledge management system and online search, the Kuwaiti Chamber of Commerce and Industry used data warehousing and adapted it to Arabic while developing Kuwaiti websites content search and scan.

Equally important are the efforts of the Regional Center for Development of Educational Software (ReDSOFT[4]). ReDSOFT is hosted by the Kuwaiti State pursuant to the agreement with the Arab Fund for Economic and Social Development, which focuses on developing Arabic educational and training software and content aimed at various age groups (children and adults) in Arab countries.

IX. MEDIA

A. MEDIA INDEPENDENCE AND PLURALISM

The Constitution of Kuwait guarantees freedom of opinion, thought, expression, and belief, which is reflected in media freedoms. Owned by the private sector, the Kuwaiti press is independent, operates in a democratic environment and one of the largest forum for freedom of expression in the Arab region. This is underlined by the new publications law, which helped set stable work mechanisms and open conditions for anyone wishing to issue a media publication in Kuwait. After three new newspapers received publishing permits, daily newspapers increased from 5 to 8, whereas the number of weekly magazines and newspapers is much greater.

With respect to radio and TV, a new law was passed allowing the establishment of private radio broadcasting stations and TV channels. There is currently in Kuwait one private radio station and one private TV channel.

As for official media outlets, they are governed by the Ministry of Information. They include Radio Kuwait and Kuwait TV. The Ministry is also in charge of issuing permits for audiovisual and printed media.

Mind you Kuwaiti stations (some are entertainment-driven, others raise awareness) broadcast across the Arab World via Arabsat and Nilesat.

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[3] Ajeeb.sakhr.com

[4] www.redsoft.org

Owned by the Kuwait Projects Company, Showtime is a pay-TV network that offers a variety of channels (be they entertainment, social, cultural, scientific or sports) that cater to different age groups in the Arab World.

B. The media and its role in the Information Society

Media is one of the most important awareness-raising means in the information society, some issues of which are covered by a large number of TV and radio programs in Kuwait, that deal with either technological or family and cultural matters.

In this context, a weekly segment in a renowned family program on Kuwait TV raises the public's awareness on ICT. Moreover, a special program is being prepared in collaboration with the private Al Rai TV to address IT matters for beginners and intermediates.

On the other hand, Kuwaiti media companies broadcast the content of their stations digitally over the Internet, and thus contribute to the enrichment of local and national digital content. Radio Kuwait, Marina FM, and Al Rai TV broadcast their content digitally on the Internet, which allows them to transcend the geographic limits set by satellites.

Mobile phone companies also contribute to the promotion of media content, since TV broadcasts can be received on mobile phones that use Edge and 3G technologies. There is also the Smile service, which broadcasts multimedia digital content for mobile phone companies and has a satellite channel which broadcasts the same digital content, as well as receives SMS and the chatting service.

Seven out of eight daily Kuwaiti newspapers (save for Al Wasat newspaper) have websites which include the integral electronic version of their daily edition, in addition to a searchable archived content. A number of newspapers have weekly pages dedicated to ICT news, and magazines such as the Internet Guide and Dot are specialized in ICT.

The Kuwait News Agency's website is available in English and Arabic. Its daily broadcast includes news and pictures, in addition to providing users with access to past newscasts and a search engine.

C. Gender portrayal in the media

Media outlets strive to offer a diversified content in order to increase their audience base, particularly in light of the growing number of channels. This diversity is governed by the preservation of values and beliefs, the presentation of a clear message, social taboos, the practice of responsible freedom and the speed in addressing hot topics. The same rules apply in both official and private media, which has become more dynamic and free in content production and broadcasting, and boasts extensive abilities and capacities.

X. INTERNATIONAL AND REGIONAL COOPERATION

A. Financing of ICT networks and services

The memorandum of agreement between Kuwait and Singapore provides for technical advice offered by a consultation team from the Singaporean ICT Board to the Kuwait information network project, which includes the establishment of an IT infrastructure and a national information network for linking websites of governmental institutions.

The memorandum of agreement between Kuwait and the Republic of Korea provides for cooperation between the two countries in such varied fields as information security, privacy technology, and the building

of trust and integrity in e-commerce and online government procedures, technical standards and certificates, and capacity building.

B. INFRASTRUCTURE DEVELOPMENT PROJECTS

Kuwait approved the regional plan of action for building an information society, which was established by ESCWA in 2004 in preparation for the second stage of the World Summit on the Information Society (WSIS). Kuwait also took part in the activities of the team working on the Arab Strategy Document for ICT – Building an Information society 2007 – 2012, which was ratified during the meeting of the Council of Arab ICT Ministers in July 2007 in Damascus. The team was assigned to set the strategy's work plan, in which Kuwait continues to take part.

XI. MILLENNIUM DEVELOPMENT GOALS – MDG

A. PROGRESS TOWARD ACHIEVING THE MDG

With respect to the second MDG, "Achieving Universal Primary Education" in Kuwait, the 2006 UN Human Development Report stated that 86%[5] of school age children in Kuwait are enrolled in primary school.

As for the third MDG, "Promoting Gender Equality and Empowering Women", and its objective to eliminate gender disparity in primary and secondary education by 2005 (preferred date) and in all education levels by 2015, the 2006 UN Human Development Report stated that 87% of females are enrolled in primary school, with a 1.03 ratio for males. Moreover, 78% of males are enrolled in secondary education, compared to 80% of females, at a 1.05 ratio. These high rates have given Kuwait the 33rd position worldwide in human development (the highest rank for an Arab country[6]), according to the 2006 UN Human Development Report.

With respect to that same MDG, law No. 17/2005 related to granting Kuwaiti women their political rights was passed on 4/6/2005 upon the approval of the Kuwait National Council. There are currently two Kuwaiti women who hold ministerial positions, the Minister of Education and the Minister of Health (decree No. 66/2007, 25/3/2007).

As for the eighth MDG, "Developing a Global Partnership for Development", there were many national and international partnerships with ICT parties. A strategic partnership agreement was signed with Microsoft providing for a creativity incubator in Kuwait to encourage creative ICT-related endeavors. Another example of international partnership is the Singaporean-Kuwaiti cooperation in e-government applications. Also, in terms of e-learning, the Kuwait Institute for Scientific Research participated in the World Bank Global Development Learning Network (GDLN)[7], which adopts e-learning and ICT methods in its training sessions.

B. USE OF ICT FOR ACHIEVING THE MDGs[8]

Regarding the fourth MDG, "Ensuring Environmental Sustainability", ICT was used to set up an environmental information network for Kuwait, which is the result of the cooperation and partnership

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[5] http://hdr.undp.org/hdr2006/report.cfm

[6] http://hdr.undp.org/hdr2006/report.cfm - p. 283

[7] www.gdln.org

[8] Source: Oman Digital Society report 2007, p31

between the Environment Public Authority, the Kuwait Institute for Scientific Research, and the UNDP. The objective of this network is to collect Kuwaiti environment information to protect and evaluate the status of the environment through the use of geographic information systems (GIS).

C. ICT FIELD PROJECTS AIMING AT ACHIEVING MDGS

ICT Field Projects aiming at achieving MDGs include:

- Cooperation between the Ministry of Interior and mobile phone companies to provide information on traffic violations; Cooperation with mall owners to set up e-service kiosks;

- Creativity incubator center of the Kuwaiti Company for Technology projects;

- Strategic partnership agreement with Microsoft, and the establishment of a creativity incubator;

- Singaporean-Kuwaiti cooperation in e-government applications;

- Cooperation between the Kuwait Institute for Scientific Research and the Global Development Learning Network (GDLN);

- Cooperation between the Environment Public Authority, the Kuwait Institute for Scientific Research, and the UNDP to create an environmental information network for Kuwait;

- Research and development made by Sakhr Software Co. in translation, and Arabic educational and cultural software;

- Agreement between Kuwait and the Arab Fund for Economic and Social Development to host the Arab Regional Center for Software.

XII. WORLD SUMMIT ON THE INFORMATION SOCIETY - WSIS

A. FOLLOW-UP AND EVALUATION

The Central Agency for Information Technology is currently following up on the implementation of the National Document for Building an Information Society in Kuwait with the competent governmental institutions and main stakeholders from the private sector and civil society organizations.

Indicators in the regional work plan of West Asia are used to measure the performance and progress in the National Document. The Central Agency for Information Technology strives to base its work plan on the WSIS guidelines.

B. INITIATIVES AND PROJECTS

The following two pages of the report include two tables, one on initiatives and another on projects.

C. SUCCESS STORIES

All ongoing or completed initiatives and projects are success stories that can positively benefit individuals, companies, and all members of society in their day-to-day lives.

Table 1. Initiatives

	Initiatives	Status
1	E-government project and roadmap in Kuwait	Underway
2	E-procedures draft law	Under preparation
3	Cooperation and partnership between the Ministry of Telecommunications, mobile phone companies, and ISPs to use the Ministry's infrastructure and allow investment in the expansion of each company's communication networks	Ongoing
4	Establishment of a National Committee for Internet management	Under consideration
5	Publications law in Kuwait	Passed
6	Audiovisual media law in Kuwait	Passed
7	Licensing of four ISPs	Ongoing
8	Licensing of three mobile phone companies	Ongoing
9	Establishment of the Economic Association for computer centers in different regions in Kuwait	Ongoing
10	Summer camp organized by the Kuwait Information Technology Society for children and primary and secondary school students	Ongoing
11	The Sheikh Salem Al Ali Al Sabah Award for websites	Ongoing
12	Annual training program of the Central Agency for Information Technology aimed at IT professionals from the public sector	Ongoing
13	Strategic partnership agreement between Kuwait and Microsoft	Completed
14	Draft law on the misuse of computers	Under consideration
15	Intellectual property protection law	Completed
16	Establishment of the Central Agency for Information Technology	Completed
17	IT information, awareness, and training campaign by the Central Agency for Information Technology	Continuous
18	E-citizen program for training individuals on IT literacy, and adoption of ICDL in training the public	Under consideration
19	Cooperation between agents of computer and peripherals companies and electronics companies in marketing and sales, in addition to payment facilities	Completed
20	Cooperation between the Kuwait Institute for Scientific Research and the World Bank Global Development Learning Network (GDLN)	Completed

Table 2. Projects

	Projects	Status
1	Optic fiber installation for developing the telephone network	Underway
2	Kuwait Information Network project	Underway
3	Establishment of Kuwait's official portal	Underway
4	Cooperation between the Ministry of Education and the Kuwait Center of Scientific Progress for the establishment of computer labs at all educational levels	Completed
5	The Center for Continuing Education in Kuwait University	Completed
7	Development by Sakhr Software Co. of Arabic technical software such as the Idrissi search engine and Arabic OCR	Completed
8	Creative incubator of the Kuwaiti Company for Technology projects	Completed
9	Microsoft creative incubator	Completed
10	The Arab Regional Center for Software (partnership between Kuwait and the Arab Fund for Economic and Social Development)	Completed
11	Online banking (all Kuwaiti banks)	Completed
12	Electronic trading	Completed
13	E-services offered by cellular phone companies (mobile phone companies and the national communications company)	Completed
14	KNET network for e-payment and withdrawal	Completed
15	M-PAY portal for e-payment through SMS	Completed
16	E-booking service offered by Kuwaiti airline companies (Kuwait Airways, Jazeera Airways)	Completed
17	Online applications to fill public sector vacancies (Civil Service Board)	Completed
18	Bayt.com for e-recruitment	Completed
19	Cooperation between the Ministry of Interior and mobile phone companies to provide information on traffic violations	Completed
20	Cooperation between the Ministry of Interior and mobile phone companies to provide information on traffic violations; with Kuwaiti hotels to issue visas, and with car agencies to issue vehicle registrations	Completed
21	Cooperation between the Environment Public Authority, the Kuwait Institute for Scientific Research, and the UNDP for setting up an environmental information network for Kuwait	Underway
22	Kuwait international airport portal (civil aviation website)	Completed

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