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**ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)**

**NATIONAL PROFILE OF THE INFORMATION SOCIETY  
IN THE SYRIAN ARAB REPUBLIC**

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## **Introduction**

The Syrian Arab Republic is one of the rising nations in using technologies of information and communications. In the last few years, the use of computer started to increase steadily. The government encouraged that through removing taxes on technology equipment and via facilitating computer purchasing from government institutions. The government also encourages its institutions, by providing the necessary resources, to build information systems and to present electronic services.

The Ministry of Communications and Technology is working on providing the empowering environment necessary to build the information society. Preparations are underway to issue several laws and electronic legislations such as the electronic signature which was issued on 26/2/2009. Shortly, it is expected to issue other laws such as electronic crimes law, electronic transactions law, and others.

Moreover, the Ministry of Communications and Technology is working with civil societies and international organizations to facilitate ICT services, like the Internet, to reach rural and remote areas through a number of initiatives. The local community gate is the most important one in the group.

## **I. THE ROLE OF THE GOVERNMENT AND ALL STAKEHOLDERS**

### **A. NATIONAL INFORMATION SOCIETY POLICIES AND E-STRATEGIES**

#### *1. National ICT strategy*

In January 2004, the ICT strategy for economical and social development in the Syrian Arab Republic was ready, it included two programs:

1. Restructuring the program for communications sector.
2. Building the program for information technology sector.

The first program included several routes: preparing the project for communications law, establishing and activating regulatory commission for the sector, restructuring the Public Telecommunications Establishment, approving a method to follow up the indicators of communications and information sector, starting national dialogue in the communications sector, implementing modernization and expansion programs that are necessary to develop the communications infrastructure to be performed by the Public Telecommunications Establishment and other stakeholders working in the sector.

We indicate here, that the Ministry has finished a draft law for communications regulation which included the formation of a regulatory commission for the communications sector. Yet the law is not issued. The second program aims at building IT sector in the Syrian Arab Republic. This program is based on several themes. The Ministry of Communications and Technology and institutions related to it are working on implementing them. These themes are: supporting Internet expansion in the Syrian Arab Republic; preparing a draft law for organizing the IT sector; laying down the basis for organizing the information profession, concentration on software industry and its requirements; and activating the people's computer project.

Although several projects were launched in this direction, the progress made, in the last four years, was not notable except the public data network (PDN) in the framework of supporting the Internet expansion. In 2008, the Ministry of Communications and Technology finished studying the project of qualifying companies for obtaining capability maturity model integration (CMMI) license. It is expected to start implementing this project in 2009 in the framework of supporting software industry. Moreover, the Ministry finished, in cooperation with the European Union, preparing standards for using IT and its applications.

#### *2. The tenth five-years plan*

The tenth five years plan was approved which included the plans of the state for the years 2006-2010. The plans concentrated on social and economic reform and promoting investment in all sectors. It also ensured that the communications and information sector should take part in economic development and improving standards of living and reducing poverty through achieving the goals of this sector.

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

In 2008, the law of companies was issued; the following was included in the sixth item:

"The multi sector companies are those companies in which the state or one of its public institutions has a share, at a certain ratio, in its capital. This law opened the door for partnership between the public and private sectors". However, this partnership is still weak in the field of the ICT sector, and among this type of companies we can mention:

### *1. The Syrian-Korean company for making and marketing communications equipment*

Established according to investment law number 10 (Issued in 1991) in partnership between the Public Telecommunications Establishment and the Korean company Samsung, the Public Telecommunications Establishment holds 51 per cent of its capital amounting to 5.4 million US dollars, and Samsung holds the rest.

The company started its activities in 1997 by making digital sub exchange systems and low capacity rural exchange systems. This company acts on providing the Public Telecommunications Establishment, according to contracts signed between the two, with low capacity rural exchange systems to be installed in rural areas. It also provides ministries and other government sectors with digital sub exchange systems as well as exporting part of these products outside the Syrian Arab Republic.

### *2. The Syrian German communications company*

Established according to investment law number 10 (issued in 1991) in partnership between the Public Telecommunications Establishment and the German company GTC. The Public Telecommunications Establishment holds 25 per cent of capital amounting to 20 million euro, GTC holds 51 per cent, and Syriatel holds 24 per cent.

The company started its activities in 2005. The company acts on making broadband wireless access equipment. Part of these equipments is bought by the Public Telecommunications Establishment in accordance with a contract signed between the two companies. The company is also seeking to export its products outside the Syrian Arab Republic.

### *3. Tasdid Company for electronic payment services*

Its goal is to provide electronic payment services for bills such as water, telephone, and government services. It started its business at the beginning of 2009.

The Public Telecommunications Establishment holds 25 per cent of capital amounting to one million dollars, and the global company from the Emirates (GET) holds 75 per cent of capital.

## C. ROLE OF NON GOVERNMENTAL ORGANIZATION

### *1. The Syrian Computer Society (SCS)*

It is the most important NGO in the field of supporting IT. Established in 1989, it provides Internet services and training. In 2005, a software incubator was also created in SCS to support software industry, and SCS led the national program for disseminating Informatics.

### *2. The Fund for Integrated Rural Development of Syria (FIRDOS)*

This NGO participates in several activities in relation to informatics diffusion in rural and remote areas. One of its pioneering projects is the mobile information training center. In addition to that, the fund was always supporting the rural knowledge network, which was developed in cooperation between UNDP and the Ministry of Communications and Technology.

### *3. The Syria Trust for Development*

It is a non-governmental organization founded in April 2007 and it seeks to make a contribution to create a future, in which each Syrian can realize the opportunities available to him/her to achieve his/her potentials, for the benefit of his/her family, and country. The trust takes part, in a distinguished style, in three

fields: education, rural development, and culture and heritage. It acts on launching and managing projects and programs in partnership with individuals to develop their abilities, attitudes, and chances, the thing which makes them realize their potentials and be satisfied for the benefit of their society. The trust builds partnerships with government, similar domestic organizations, private sector, and other partners on a steady national basis.

The trust fosters massar<sup>1</sup> which is a comprehensive national program for education directed to Syrian children and youth aged between 5 and 21 years. It is non-governmental and non-profit project relying on non-standard methods for presenting information and promoting innovation and allowing the youth to participate in the search for themselves and the world around them. It presents an interactive environment full of activities and challenges, and seeks to stimulate the Syrian children on innovation and creativity to help them broaden their understanding of the fast changing world around them. It also seeks to enhance their individual sense of responsibility and citizenship. The following projects are among the projects implemented by massar project:

- The new discovery center in Damascus, which will serve as a center for the activities of the project. It will create a unique interactive environment to induce learning via a set of interactive exhibitions of the environment, the human body, inventions, and space. The building of the center on the land of old exhibitions town is expected to be ready before the end of 2010.
- Complementary centers in all governorates. The first one was opened in Lattakia in September in 2007 and its name is "massar amwag center" and it focuses on music and phonology. Preparations are in progress to open two more centers in Homs and Aleppo during 2009.

#### 4. *The Network of Syrian Scientists, Technologists, Innovators Abroad (NOSSTIA)*

The network was founded in 2001 and aims at supporting the private and public sectors to employ modern knowledge in different scientific fields. It also organizes a bi-annual international conference for ICT from Theory to Application (ICTTA), and established a center of excellence for training in cooperation with Damascus University and Syriatel for Communications. The last conference was held in April 2008, where 341 working papers were presented and 520 participants took part in the conference.<sup>2</sup>

## II. ICT INFRASTRUCTURE

### A. INFRASTRUCTURE

In 2008, the number of fixed lines available in the Public Telecommunications Establishment reached 3,633,422 lines<sup>3</sup> which means that there are 18.28 fixed telephone lines for each 100 citizens, this number was 17.32 in 2007 which indicates a growing ratio of 5.5 per cent each year.

Also, at the end of 2008 the number of mobile telephone lines reached 6.852 million, 84 per cent are prepaid, which means 34.5 line for every 100 citizens, this number was 31.29 in 2007. However, the percentage of citizens who enjoyed coverage of mobile telephone signal reached 98 per cent in 2008.

In 2007,<sup>4</sup> the number of citizens using computers was 9.03 for each 100 citizen, this ratio was about 4.2 in 2005 which gives a growing ratio of about 47 per cent. This was attributed to the drop in computers prices. The price drop was mainly due to the government initiative to reduce tax on computer equipment. As a result of that, a big expansion in using computers has been observed in the last few years.

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<sup>1</sup> <http://www.massar.sy>

<sup>2</sup> <http://conferences.enst-bretagne.fr/ictta>

<sup>3</sup> The public telecommunication establishment "annual report 2008"

<sup>4</sup> ITU Country Profile 2008

## B. INITIATIVES AND PROJECTS FOR ICT INFRASTRUCTURE AND DEVELOPMENT OF NEW SERVICES

The Public Telecommunications Establishment carried out several projects during the tenth five years plan (2006-2010) to increase the number of fixed telephone lines. And in the field of Internet access there was a plan to install 33 thousand broadband lines (ADSL) during 2009. Out of which, only 10 thousand lines were actually installed.

The big initiative in the field of spreading the use of Internet is the introduction of a second public digital data network (PDN2) which is going to be a network for public use, whereas the present digital network (PDN) is going to be dedicated for government use.

It is also expected that a third mobile operator will enter the Syrian market in 2010.

## C. ICT CONNECTIVITY

The number of computers for every 100 citizens is 9, the number of fixed lines for every 100 citizens is 18.28, the number of mobile telephone lines for every 100 citizen is 35.5, and the number of hosting computers in Syria is 8,010 which gives a rate of 4.03 hosting computers for every 10,000 citizens.

The index of ICT sector development IDI is 2.66 for the year 2007, as published by the International Telecommunications Union. Its value was 1.69 in 2002, Syria advanced from rank 102 to 89.<sup>5</sup>

## D. INTERNET INFRASTRUCTURE

The public digital data network forms the basic mean to access the Internet network. This network has made good development in the last few years. Now, there are 12 Internet service providers offering Internet connection service via this network, ten of these are from the private sector, plus one service provider from the Public Telecommunications Establishment and another from the Syrian Computer Society. The number of Internet subscribers at the end of 2008 was around 712,992 subscribers.

But, the ratio of broadband services as compared to other services offered is still small, where the number of broadband lines did not increase over the last years. However, it is expected that the number will increase rapidly in the coming years. At the end of 2008, the number of broadband Internet subscribers was 11,055.

In the field of investments of mobile telephone companies in Internet access, these companies invested heavily to install and operate a third generation service of mobile telephones. They spread stations to cover all Damascus Governorate and its rural area and partially the governorates of Aleppo, Homs, Lattakia and the city of Palmyra. The number of subscribers to this service was 24,000 subscribers divided equally between the two companies, and this number is expected to increase rapidly in the near future.

As an indicator, we give in the following the cost of international connection:

- Between 0.25 - 0.31 dollar for Arab countries.
- Between 0.31 – 0.36 dollar for European countries.

## III. ACCESS TO INFORMATION AND KNOWLEDGE

### A. PUBLIC DOMAIN INFORMATION

There are important steps in this field, perhaps the most important is what was accomplished by Alassad National Library which is getting ready for laying down databases for indexing its contents on its

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<sup>5</sup> (ITU) Society Information the Measuring ICT development Index 2009

electronic site, and also adding to that what is presented in different cultural newspaper sites.<sup>6</sup>

## B. ACCESS TO INFORMATION AND PUBLIC INFORMATION

### *Rural Knowledge Network*

The network acts as an access point for different local community residents to reach useful informative knowledge. Also, it contributes to activating economic and social interests. It is implemented in collaboration between the Ministry of Communications and Technology, UNDP, and the Syrian Network for Development.<sup>7</sup> The basic function of the local community gate is to use Internet technology for contributing to the development of rural areas economically and socially, where medical, legal, educational, and general information are presented. At present, it contains 37 gates for the Syrian rural areas from a total of 176 as mentioned in the project document of the rural knowledge network.

As an indicator, we give in the following the cost for accessing the Internet:

- Using usual telephone connection (Dialup): 0.12 dollar for every 20 minutes.
- Using digital network connection for integrated services (ISDL): the cost is 0.24 dollar for every 20 minutes.

It can be seen that the cost is relatively high.

## C. MULTI-PURPOSE COMMUNITY PUBLIC ACCESS POINTS

Access centers network implementation is in progress. These centers are located in cultural centers, where they cover small towns and other sites belonging to municipalities. The work is carried out in cooperation between the Ministry of Communications and Technology, the Ministry of Culture, and the Ministry of Local Administration and Environment. The total number of these centers was 26 centers at the end of 2008. They offer Internet services, training, and international communications.

## D. USING DIFFERENT SOFTWARE MODELS

Licensed software is still the most commonly used software mostly in favor of Microsoft products and Oracle databases. For a few years, interest started in open source software and a professional club was founded which aims at promoting a culture of open source software through seminars and workshops.

Open source software is widely used in content management systems. For example, the open source system "Joomla" is used in building the local community portal. Also, most web sites in Syria use free systems and in particular PHP and MySQL.

## IV. ICT CAPACITY BUILDING

### A. BASIC LITERACY

The Ministry of Education introduced a curriculum dedicated to informatics for the eighth grade in the primary education and in class one and two in the secondary education. The number of computers distributed to schools was 23,000 computers during the year 2007 and 20,000 computers during the year 2008 (the total number of computers distributed by the end of the year 2008 amounted to 75,000 computers) and the number

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<sup>6</sup> <http://www.alassad-library.gov.sy>

<sup>7</sup> <http://www.reefnet.gov.sy>

of schools connected to a network was 1564 schools out of 2,200 secondary schools at the end of 2008.<sup>8</sup>

Since 1997, The Syrian Computer Society and the Ministry of Education cooperated through the national program for informatics expansion. This project aims at holding free training courses on how to use computer in different areas in the Syrian Arab Republic. In this program,<sup>9</sup> about 60,000 trainees are trained each year.

In 2005, the Syrian Arab Republic started a pioneering project named "World Links Arab Region". Where about 2,500 trainers were trained in 300 schools in 14 governorates. In total, the project was able to train about 200,000 students on sharing information via the Internet.<sup>10</sup>

## B. ICT IN EDUCATION AND TRAINING

The first educational institute in the Syrian Arab Republic taking interest in the field of ICT is the High Institute of Applied Science and Technology, which opened in 1982 the department of informatics. This department graduated 6-12 well qualified ICT engineers each year. This institute played a major role in supporting the ICT sector in the Syrian Arab Republic.

Later on, faculties of informatics were established in Damascus University in 1998 and in Aleppo, Tishreen, and Albaath Universities in 2000. Each year they graduate 400 informatics engineers to support the ICT sector in the Syrian Arab Republic. Several training courses were held through collaboration between the faculty of informatics at Damascus University, and the Japanese International Cooperation Agency (JICA) to improve the level of informatics managers in the government sector.

In 2002, the Syrian Virtual University was established. It represents the first endeavor in virtual learning in The Syrian Arab Republic. The numbers of enrolled students in this university is increasing steadily. It is considered by students as a good opportunity to continue their studies and to receive a university degree in informatics.

The Syrian Computer Society and other private institutes hold training courses in various fields of ICT. At the end of 2008, a Master program specializing in regulating communications was launched in cooperation between the Ministry of Communications and Technology, the Ministry of Higher Education, and the High Institute for Business Administration (HIBA). It is expected that this Master program will form a nucleus for graduating the human resources required to work in the regulating commission of the communications sector.

In 2006, the South Korean government presented a grant to the Ministry of Communications and Technology. This grant was used to establish a distinguished training center. It was called "IT Plaza", the plaza contains: an Internet café with 32 computers, cinema for 30 spectators, advanced training hall for 20 trainees, electronic library, virtual games hall, and multimedia exhibition.

To encourage the youth, the Syrian Computer Society organizes the "Syrian Olympics Informatics" which is a national competition in programming and algorithms for students under 20 years of age. It aims at encouraging the youth to come to useful fields in computer sciences, and allows them to meet and exchange views and experiences in a competitive and innovative atmosphere. The 5th Syrian Olympics Informatics was organized in July 2008.

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<sup>8</sup> <http://www.syrianeducation.org.sy>

<sup>9</sup> <http://www.scs-net.org>

<sup>10</sup> <http://www.wlar.org>

### C. TRAINING PROGRAMMES FOR CAPACITY BUILDING IN THE USE OF ICT

The Syrian Computer Society is working on a project to grant government employees the International Computer Driving License ICDL. The name of the certificate was given as a name to the project, where a law was issued by the presidency of the council of ministers putting a prerequisite of obtaining this license for everyone seeking employment in the government.

### D. INNOVATION AND PATENTS

The Information and Communications Technologies from Theory to Application (ICTTA) international conference contributes to the support of innovation in different countries via presenting a number of working papers and promoting them.

The Syrian Computer Society also takes part in encouraging innovation through technology incubators. It fosters new companies and present to them logistic and marketing support to help them make a strong launch to produce good work and be able to continue on their own, before it is time to leave the incubator and enter the marketplace. There are two incubators one in Damascus and another one in Homs, the incubator in Damascus contains 11 projects and the incubator of Homs contains 5 Projects.

## V. BUILDING CONFIDENCE AND SECURITY IN THE USE OF ICTS

### A. USE OF ELECTRONIC TRANSACTIONS AND DOCUMENTS

The law of electronic signature and network services was issued (item 6-a), this is the law necessary to launch electronic transactions. The Ministry of Economy in cooperation with the Ministry of Communications and Technology prepared a draft law for electronic transactions and commerce.

At present, some citizens are using their ATM cards to pay their bills such as fixed and mobile telephone bills.

### B. ONLINE AND NETWORK SECURITY

Information security standards (6-C) were made as part of the ICT standards project which was implemented in collaboration between the Ministry of Communications and Technology and the project for institutional and sectoral modernization. These standards include the program that protects the ministry's information and planning in emergency situations and the protection of databases and operating systems.

### C. PRIVACY AND DATA PROTECTION

The Ministry of Communications and Technology is close to finishing preparation of a draft law for electronic-crime fighting, confidentiality, and protection of personal data. It is expected that the law will be issued in the second half of the year 2009.

### D. COUNTERING MISUSE OF ICTS

The law of electronic signature and network services included the establishment of network services commission. One of the commission's duties is to provide specific standards for facing emergency cases on the Internet or other information and computer networks, and making supervision to make sure of good commitment to standards, and nominating workgroups to face such cases.<sup>11</sup>

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<sup>11</sup> Ministry of communications and technology, electronic signature and network services law.

## VI. ENABLING ENVIRONMENT

### A. LEGAL AND REGULATORY ENVIRONMENT

#### 1. *Electronic signature*

In 26/2/2009, the law of electronic signature and network services was issued, and the Syrian Arab Republic approved the Arab agreement for electronic approval in February 2009.

#### 2. *Law of fighting electronic crime, confidentiality, and protection of personal data*

The Ministry of Communications and Technology is working now in cooperation with concerned bodies on preparing a draft law for fighting electronic crime, confidentiality, and protection of personal data, and another draft law for electronic publishing and Internet rights.

#### 3. *Intellectual property*

There is an active law for protecting intellectual property in the Syrian Arab Republic, issued in 2001. This law protects computer software files including its design documents and data set, but the law did not treat the information file in general, therefore, a draft law was prepared in cooperation between the Ministry of Culture and the Ministry of Communications and Technology to take into consideration the development in information files. The law has not been issued, yet it is expected to be issued at the end of 2009.

To protect author rights, the Syrian Arab Republic joined the Bern agreement in January 2004 and the Arab agreement in July 2001.

#### 4. *Electronic transactions law*

At present, there is no law for regulating commerce and electronic transactions, but the Ministry of Economy is currently preparing this law.

#### 5. *Regulating communications sector law*

A draft law was prepared, yet it has not been issued. It is expected to be issued later in 2010.

### B. DOMAIN NAME MANAGEMENT

At present, the Public Telecommunications Establishment is handling the Syrian upper domain (.sy) via the directorate of data exchange, and the following assignments will be given to the network services commission as soon as it is created:

1. Managing the Syrian upper domain and its specific records on the Internet network, and defining the policies and the regulating rules for registering names under this domain;
2. Granting, renewing, suspending, and cancelling licenses for those recorders authorized to register names under the upper Syrian domain;
3. In coordination with regional and international authorities, managing the operation of assigning Internet addresses in the Syrian Arab Republic.

## C. STANDARDIZATION IN ICT

In the framework of the institutional and sectoral modernization project, the Ministry of Communications and Technology in cooperation with the European Union finalized in 2008 the setting up of the standards for using IT and its applications, including: planning, analyzing, implementing, and securing informatics projects to achieve a certain level of excellence in performance according to the following lines:

1. The methods and standards for preparing technical conditions and specification books specifically to informatics projects bids;
2. International standards for the policies of information systems security;
3. International standards for planning, analyzing, and designing informatics projects;
4. Reliance on these standards in all government ministries will secure: guarantee for work competence, quality of software products and their ability to integrate in the future with other software, reduction in error possibilities, and it has a special role in supporting local software industry, and building trust between software companies in the private sector and the public sector.

## VII. ICT APPLICATIONS

### A. E-GOVERNMENT

The Ministry of Communications and Technology in cooperation with UNDP is working, within the framework of modernization of government services project, to lay down a national strategy for e-government. For this purpose, a site was built on the Internet.<sup>12</sup> At the first stage of the e-government program, the site allows government institutions to define their services. In the next stage of this project, the Ministry will start building the Syrian e-government gate. The strategy's long range goal is to provide all basic services in an electronic form by the end of 2013.

The Syrian Computer Society also has built, through 'esyria' project, a site for electronic inquiry about government services.<sup>13</sup>

Moreover, most government institutions have automated their internal works and their process of presenting services. Although, most of the resulting informatics systems are not fit to be presented in an electronic portal, they may be considered as a step in the right direction.

Some examples about the resulting systems can be summarized in the following:

#### 1. *The Ministry of Finance*

It is considered among the first ministries to enter automation in its works. It has now fully automated systems for real estate revenue tax, income tax, implementing the country's public budget, economical public institutions budgets, public debt, and internal and external loans. Also, it has now two projects in progress in the public commission for taxes: financial management (spending), and taxation management.

#### 2. *The Ministry of Interior*

Automation works have been made for control of cross-border movement of persons, judicial register, and civil register. As a result of that, large volume of important data was generated (30 million record in the civil register) which may be used later for building advanced electronic systems to present its services through the Internet.

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<sup>12</sup> <http://www.egov.sy>

<sup>13</sup> <http://www.e.sy>

#### 4. *The Ministry of Expatriates*

An electronic portal has been implemented to provide several services to emigrants abroad such as facilitating their visits to their native country, facilitating their departure, in addition to the possibility of putting forward their problems via the portal.

#### 4. *The Ministry of Industry*

Has developed an information system for registering private industrial companies in the Syrian Arab Republic. They started to use the project in the governorates of Damascus and Rural Damascus. It is expected to disseminate the application of this work to other governorates. All data will be stored in the central administration. In 2009, the number of electronic records in Damascus was around 13,900 records.

#### B. E-BUSINESS

Recently, the installation and use of Automatic Teller Machines (ATMs) were spread at a fast rate. Many government institutions started to settle the salaries of their employees in banks. Accordingly, the number of ATMs increased, and banks started to offer a number of services such as bills payment service via these machines.

The Arab Academy for E-business is expected to be launched in March 2009. It is an academy supported by the Arab League and the Ministry of Communications and Technology in the Syrian Arab Republic and aims at Arab and local capacity building in the field of e-business.

Currently, e-shopping is used at the Ministry of Commerce, but with limited use of e-payment cards.

#### C. E-LEARNING

The Syrian Virtual University represents a distinguished endeavor in e-learning. It has worked on its own to develop its system by itself for improving the e-learning process. It includes a system for giving lessons on the network, a system for scientific digital content, a system for carrying out exams, and another for regulating the teaching process.<sup>14</sup>

#### D. E-HEALTH

Regarding access to medical information, which is related to public health, there is a lot of information, paper and electronic publications. Some are available on the Internet network via the Ministry's site.

There are no applications for remote medication. As far as implementing information system related to healthcare is concerned, work has been carried out in 2009 to install hospital information management system in three hospitals nationwide. That includes keeping patients medical records in digital formats. And concerning pharmacy management, there are several applications related to regulating pharmaceutical industry and all procedures related to this industry, its licensing and its control. As far as the citizens are concerned, a program for pharmacies shifts was operated for a period of time, and now an interactive application is under development for this purpose.

There are several national databases for healthcare at the level of illnesses, deaths, health institutions and its distribution, and human resources working in the health field.

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<sup>14</sup> <http://www.svuonline.org>

Finally, there are no applications for IT in the field of monitoring and controlling epidemics, and IT applications are only used in "the express ambulance system" found in the Syrian Arab Republic.<sup>15</sup>

#### E. E-EMPLOYMENT

The Ministry of Labor and Social Affairs has built a central information system for employment, whereby the Ministry offices receive employment applications from different governorates and the applications are registered in a central database to be studied centrally.

A number of Syrian sites<sup>16</sup> also offer the possibility of announcing jobs and ensuring contact between job seekers and job offers.

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

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

Varied cultural sites have spread on the Internet network in the Syrian Arab Republic covering different cultural interests. These sites are interested in covering the activities which coincide with their interests. Several sites also appeared to deal with specific cultural or geographical environments at the level of towns and villages in all governorates of the country.<sup>17</sup>

Cultural libraries and publishing houses started to rely on the Internet websites in-order to present their products to the visitors of those sites.<sup>18</sup>

#### B. LOCAL AND NATIONAL DIGITAL CONTENT DEVELOPMENT

The Ministry of Information, the Ministry of Communications and Technology, and the Syrian Computer Society are working in collaboration with the UNESCO's representatives in Syria on the preparation of the first national conference on the digital Arabic content industry in Damascus 2009. The conference aims at searching for a digital Arabic content national strategy and for setting up an incubator and a shared structure for the industry.<sup>19</sup>

"The homeland blog",<sup>20</sup> which was launched by the Syrian Computer Society in 2008, is considered one of the most important projects approved in the field of local digital content development. That was because it relied on recording the Syrian reality with all its contents: cultural, social, economic, scientific, heritage, and geographical in a number of sites that were classified either according to governorates names or relying on its functional attribute.

Moreover, the Internet sites of the official press,<sup>21</sup> the official Syrian Arab News Agency<sup>22</sup> and Syrian Arab Television<sup>23</sup> represent the largest journalistic information bank which dates back in its archive to the early years of this century, and consists of millions of electronic pages.

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<sup>15</sup> Ministry of Health

<sup>16</sup> Such as: <http://www.ejob.sy>

<sup>17</sup> <http://www.esyria.sy/dir>

<sup>18</sup> Some houses sites: <http://www.redapress.com>, <http://www.darlanawader.com>, <http://www.alkalam-sy.com>

<sup>19</sup> <http://www.acnc.sy>

<sup>20</sup> <http://www.esyria.sy>

<sup>21</sup> <http://thawra.alwehda.gov.sy> and <http://www.tishreen.info>

<sup>22</sup> <http://www.sans.sy>

<sup>23</sup> <http://www.rtv.gov.sy>

On the other hand, the Arab Writers Union<sup>24</sup> published hundreds of books which were issued as texts on its electronic site and they are available to all visitors of the site.

In addition to that, the Arabic Encyclopedia Commission<sup>25</sup> on its electronic site published its volumes, which are updated continuously according to the editions made by the commission.

According to statistic made at the beginning of 2009, the number of Syrian electronic sites on the Internet network was 2,500 sites in different approved classifications.<sup>26</sup>

### C. ICT TOOLS AND R&D PROGRAMS

The Arabic Language Assembly and the Syrian Computer Society have built the "Sarf" analysis system and specific databases<sup>27</sup> which aims at deriving verbs, names, and roots, and inflecting or conjugating them, starting from its tri or recta roots, and depending on the grammar (Alnahu Walsarf) of the language. This system has important specifications such as being an open source and being independent of the operating system, besides the possibility of using it inside other processing systems and the independence of its databases from its programs and the possibility of updating its databases. The High Institute of Applied Sciences and Technology is carrying out some research in the field of ICT, and as an example on that, we can mention their work on building a research system for Arabic voice recognition.

The High Institute also participates in the European research area project in the Mediterranean (ERA-MED) in its seventh stage which extends from 2007 to 2013. This project aims at strengthening cooperation in research and development between scientific commissions in European Union countries and Mediterranean countries. The European Union, through this project, finance research projects in participating countries. The High Institute organizes workshops for project definition. It also helps those who want in taking part in their project presentation.

## IX. MEDIA

### A. MEDIA INDEPENDENCE AND PLURALISM

Many ministries and government institutions issue periodic informational publications. A number of civil societies also issue special publications such as the "Info Magazine" which is issued by the Syrian Computer Society. Besides, the Ministry of Information issues two daily newspapers (Althawra and Tishreen) and local newspapers in five governorates (Aljamaheer in Aleppo, Aloruba in Homs, Alwahda in Lattakia, alfidaa in Hama, and Alfurat in Dierzour). The Syrian Parties also issue their special publications such as: Albaath daily, Albenaa weekly, etc... the number of periodic publications (newspapers and magazines) issued by the private sector in the Syrian Arab Republic was 146 by the end of 2008. They vary in content and frequency, whereby some newspapers are issued on a daily basis (Alwatan) others are issued on a weekly basis (Alkhaber), etc.

Thirteen private radio stations obtained a license for various radio transmissions. Aldunia Space Station also obtained a license for space transmission and it has been working for two years. There are three government radio stations in the Syrian Arab Republic: the General Program, the People's Voice, and the Youth Voice. Moreover, there are two government space stations: the Syrian Space Station and the Syrian Drama Station, and two government land stations: the first and second channels.

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<sup>24</sup> <http://www.awu-dam.net>

<sup>25</sup> <http://www.arab-ency.com>

<sup>26</sup> <http://www.esyria.sy/dir>

<sup>27</sup> <http://sourceforge.net/projects/sarf>

However, according to statistic made at the beginning of 2009, the number of Syrian electronic sites on the Internet network is approximately 2,500 sites in different approved classifications. Among these sites, there are about 500 advertising sites and 140 information ones.<sup>28</sup>

#### B. THE MEDIA AND ITS ROLE IN THE INFORMATION SOCIETY

Newspapers and magazines publish various materials about different ICTs in the framework of specialized pages (the page for communications and information in Tishreen and the page on communication in Alwatan).

Local radio stations prepare special programs about the different information society cases. For example, there are two radio programs: the Internet club in the People's Voice Radio and the informatics club on the Damascus Radio.

The Syrian Arab Television presents in its channels various programs which tackle information society subjects such as (.sy) program.

A committee named "the electronic information and the information society committee" was formed in the Ministry of Information. It was assigned the task of following up this file from its different perspectives. At the beginning of the year 2008, the committee laid down standard specifications for the official electronic sites and the information contents of the law of regulating electronic information.

### X. INTERNATIONAL AND REGIONAL COOPERATION

#### A. FINANCING OF ICT NETWORKS AND SERVICES

The third rural project was launched (33,400 telephone lines) to serve 4,300 village. The project is financed by the European Investment Bank. There is a memorandum of understanding between the United Nations Development Program and the Ministry of Communications and Technology for the benefit of the Public Telecommunications Establishment aiming at improving and developing telephone services.

#### B. INFRASTRUCTURE DEVELOPMENT PROJECTS

A memorandum of understanding was signed between the United Nations Development Program and the Ministry of Transport, aiming at developing government services and simplifying the services offered to citizens.

Serving the Citizen Project was implemented in cooperation with the European Union as a pioneering application in e-government, where it is possible for citizens to ask for electronic services via these centers. The center started to provide commercial and industrial licensing services.

#### C. WSIS FOLLOW-UP

The Syrian Arab Republic called for a combined meeting between the council of Arab information ministers and the council of Arab communications ministers to discuss the subject of integration between information and communications. The meeting was held on 17/11/2008 and reached a number of decisions including the "Damascus declaration" entitled "towards integration between information and communications for Arab human development" which confirms the approval of a ten years Arab development partnership for information and communications 2009 – 2018.<sup>29</sup>

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<sup>28</sup> <http://www.esyria.sy/dir>

<sup>29</sup> <http://arabsummitsyria.com/summit/news.php?id=656>

The two councils laid down a number of work tracks to achieve the goals of the ten years Arab development partnership for information and communications:

- The first track includes coordination and integration between communications and information.
- The second track concentrates on encouraging the expansion of applications for merging information and communications.
- The third track defined a number of standards to protect intellectual property rights and respecting them.
- The fourth track concentrates on encouraging investment in the field of producing common platforms for information and communications in Arab markets.
- The fifth track called for increasing investment in Arabic digital content industry.

## **XI. MILLENNIUM DEVELOPMENT GOALS**

### **A. PROGRESS TOWARD ACHIEVING THE MDGs**

The Syrian Arab Republic made in the last few years good progress of the level of achieving a large number of its planned goals since the dissemination of elementary education has reached almost full coverage, not only at the local level, but also at the level of the fourteen governorates. The rates of elementary school drop-outs have decreased significantly and health services, especially first-aid services, and vaccination campaigns have been extended to reach even small and remote communities, which led to a decrease in infant and child mortality to levels below the target, and to a raise in life expectancy at birth to about 72 years. The death rate for women at childbirth was noticeably reduced, as were many infectious diseases, such as AIDS, leishmania, malaria and tuberculosis. Poverty ratios in society decreased; good progress has been achieved in gender equality and in providing opportunities for the participation of women in the economic and social development process.

As far as the workforce is concerned the rate of raw economic activity is still low. In 2004, it reached 27.6 per cent. The reason behind this low rate is the minimal contribution of women to the workforce. While males rate of raw activity is 45.2 per cent, the females rate is no more than 9.2 per cent. More than 72 per cent of laborers work in the private sector in its two parts the regulated and the non-regulated one, whereas the ratio in the public sector is no more than 27.2 per cent, and still a high ratio of workers work in agriculture (more than 26 per cent). However, the ratio of those working in industry is no more than 13.6 per cent. In 2004, unemployment rate reached 12.3 per cent.

However, the progress made in improving the living conditions for the society was limited in some parts of the country where the per capita income is still low, and the percentage of poverty in society is still high (in spite of its decrease) so is the number of unemployed people. New employment opportunities are still limited, especially for university and intermediate institute graduates. Furthermore, a number of regions still lack basic services, especially potable water and sanitation facilities. Unsafe housing is still to be found in certain locations of several regions. It can be said that, the main reason for these conditions is the contraction of investment projects and dwindling economic growth rates in the last few years.<sup>30</sup>

### **B. USE OF ICT FOR ACHIEVING THE MDGs**

Work has been going on developing international cooperation for development, and providing new technological expertise especially in the field of informatics and communications in cooperation with the private sector, and there is a national initiative for capacity building of graduates in the field of technology and communications. Accordingly, a high level committee was formed for this initiative and specialized

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<sup>30</sup> The state planning commission, the Millennium report 2005

institute in communications and informatics was established, and programs for developing communications and informatics capabilities were established to improve productivity in agriculture, industry, and services. Besides, integrating informatics teaching in schools has led to spreading it at a wide scale between individuals. The private education law was issued and as a result of that the private sector started to take part effectively in realizing the required educational goals.

## **XII. BUILDING THE ICT SECTOR**

### **A. ICT FIRMS**

The number of companies working in the field of infrastructure including networks and computer equipment is increasing, for instance 135 exhibitors participated in "Sham Exhibition for Informatics 2008" in the field of communications, and 265 exhibitors participated in the field of computer equipment.

In 2003, the Syrian Computer Society founded a software industry forum, as a non-profit organization. The forum aim is to help and support software industry in the Syrian Arab Republic for representing, introducing, and developing the companies of Syrian software industry in international markets. The forum consists of 24 companies. A number of services are presented to these companies such as participation in exhibitions and holding workshops.<sup>31</sup> The companies' committee was also formed in the society, it consists now of about 130 companies.

In addition to that, software industry committee was founded in Aleppo Chamber of Industry in 2006, the committee defined its vision as follows: "transforming the process of producing software to a real industry with regulated clear identity the thing which will help in highlighting the role of this industry in supporting other industries as well as supporting the national economy. The committee also sees the importance of supporting member companies to enable them to develop their products and to compete at national and international levels".<sup>32</sup>

### **B. R&D AND INVESTMENTS IN THE ICT SECTOR**

In cooperation between the Ministry of Higher Education, the United Nations Development Program UNDP, and the United Nations Educational, Scientific, and Cultural Organization UNESCO the project of 'SHERN' network was implemented. The project aims at building qualified national cadre in the field of informatics networks, by establishing in the Ministry of Higher Education a nucleus for specialized electronic network to connect Syrian universities with the High Institute for Applied Science and Technology.

The idea of the project started with the aim of supporting the Syrian Arab Republic in achieving its goals in sustainable development of human resources via the development of the system of higher education and scientific research and creating scientific environment suitable for both researchers and students to enable them to access different information resources through building informatics infrastructure. This will allow the Syrian Arab Republic to adopt new technologies to modernize the programs of the Ministry of Higher Education, research centers, and administration.

### **C. CONTRIBUTION OF ICT SECTOR IN THE NATIONAL ECONOMY**

The communications sector forms one of the most important financial resources to the treasury. In 2007 the sum of its income was 1,170 million dollars, and in 2008 1,330 million dollars. It represented 4.9 per cent of the total local product in 2007 and 5 per cent in 2008. The sum of investment spending was about 170 million dollars. In 2008, the treasury revenues from fixed telephone were about 153.5 million dollar (less

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<sup>31</sup> Software industry forum site, <http://www.sif-syr.org>

<sup>32</sup> Software industry committee site, <http://www.sic-syria.com>

than the strategy and the plan), also investments retreated from the original plan, and the need was estimated at 204 million dollar for a span of ten years. In the five years plan it was about 179 million dollars each year, whereas in actual budgets it was 147 million dollars each year and actual spending was 126 million dollars each year.

#### D. GOVERNMENT FACILITATION

Within the project of institutional and sectoral modernization facility ISMF, the Ministry of Communications and Technology, supported by the European Union, acted on laying down a number of ICT standards. This project has been mentioned earlier in item 6-C.<sup>33</sup>

At the end of 2008, the Ministry of Communications and Technology launched the national dialogue for developing informatics industry, which aims at creating a dialogue between the public sector, the private sector, and civil institutions to study the position of the Syrian software industry and its improvement.

The Ministry of Communication and Technology is working with the Syrian Computer Society on a project to help software companies to receive CMMI certificate (see item 1-A).

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<sup>33</sup> ISMF project site, <http://www.ismf-eusy.org/ismf/en>

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