ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

NATIONAL PROFILE OF THE INFORMATION SOCIETY
IN IRAQ

United Nations
New York, 2011

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Introduction

Iraq is still suffering from security and political instability, which augments the obstacles for development. However, the country achieved tangible progress in building the ICT sector.

Believing that the ICT sector is an enabler of continued economic growth, innovation and competitiveness and that the development of the infrastructure for the ICT sector is directly related to the advancement of various other sectors, the country attributed to it a special attention. For instance, the finance and the trade sectors depend on electronic networks that link banks and enable transfer of funds and electronic transactions, and that enables the education sector to harness these technologies for the implementation of its projects in e-learning and in linking the Iraqi Universities, and that helps the e-government project, the essential means to enhance the democratic, interactive, and transparent practices between the government and the citizens.

This national profile provides an overview of the current state of Iraq and highlights developments in the ICT sector and focuses on the country's Information Society challenges and developments. It is based on national, regional and international resources. It also sheds the light on the country's current situation and the most important developments in its strategies and policies.

I. THE ROLE OF THE GOVERNMENT AND ALL STAKEHOLDERS

The Iraqi Communications and Media Commission represent the regulatory environment of the telecom sector of the information society. The cooperation of this regulatory body with the private sector led to the expansion of mobile services (GSM). Lots of efforts are being exerted to restructure the sector and to plan its policies by approving new legislations and governmental regulations.

A. NATIONAL INFORMATION SOCIETY POLICIES AND E-STRATEGIES

In the last few years, various strategic projects were completed by the Ministry of Communications. These projects include installation of optical networks, microwave, and wireless communication services. More investments targeted the establishment of international space stations, Internet services, and infrastructure projects for electronic applications. In addition, different steps were taken to approve the five-year strategy for the development of the sector which has been laid down in collaboration with ESCWA.

The Iraqi Communications and Media Commission was established in 2004 to promote investment in ICT and enhance the role of the private sector. The commission is an independent body and is not affiliated with any governmental entity. The main activities of the Commission are intended to create competitive, solid and fair work standards. The independent procedures of its organization also push towards adopting the best services and the most useful investments, and enhance the regulatory authority in-order to prevent the abuse of freedom, which is in line with the orientations of telecommunications and broadcasting investors.

The Information Technology and Telecommunications Industry Association of (ITIA[1]) is envisioned to be a consortium of ICT providers, NGOs, Universities, Government, Professional Societies and Private Citizens. It is destined to be the single and strongest voice of the ICT industry in the promotion of policy reform, enhanced regulation including self-regulation, development of human capacity, innovation and creativity, and the protection of intellectual property rights.

The ministries of Higher Education and Scientific Research and Planning have been exerting lots of efforts to develop the information society despite the limited ICT skills and infrastructure. The former has been focusing on increasing the level of higher education, including IT, to compete with local and

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[1] http://ictiraq.org/about/?page=d476ccddecd712e2742878c24041199e

international counterparts and the latter formed a general directorate aiming at automating the workflow of the ministry. The first stage of the automation process started through building the directorate of Geographic Information in the Central Organization for Statistics and Information Technology (COSIT), which directories have also been linked to an internal information network. It is worth mentioning that COSIT carried out specialized surveys on the use of ICT by households and individuals, and it laid down a national strategy for census covering the period 2010 - 2014.

The Ministry of Interior is committed to the implementation of twelve projects to computerize its systems. These include developing and maintaining the ministry's website (http://www.iraqinationality.gov.iq/index_en.htm); building a database management system for the Iraqi police; deploying the Iraqi Justice Integration System; adopting the geographical information system; developing a system for passport issuance workflow in addition to the national card project. Work is underway on most of these projects and the level of completion varies from one to another.

The Ministry of Water Resources also established a center for geographical information systems, responsible for the management of water resources. The ministry also attributed a special attention to the automation of its workflows and developed several databases and systems including the hydrological stations database, the library database, the bidding system and the ministry's projects system.

To coordinate the efforts of the ministries, public agencies and non-government organization in building the Information society, a Technical Committee for Information and Communication Technology (TCICT) was set-up in July 2005. The TCICT includes representatives from various ministries, namely: Central Informatics Organization; Ministry of Transportation; and Ministry of Information.

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

Public–private partnerships (PPPs) are fast becoming the principal method of tackling large, complicated and expensive problems in post-conflict and unstable settings like the situation in Iraq. Experience proved that they provide a 'win-win' arrangements in which diverse actors – with often varied, sometimes conflicting, motivations – work together to contribute to development. This is true in different areas.

In principle, there is no reason why a PPP should not be effective, provided it is established on the premise of a 'partnership'. However, for a partnership to be successful in the delivery of humanitarian aid in countries under occupation, there are further specific conditions that need to be met: legitimacy, legality and an understanding of critical cross-cultural issues.

USAID, in May 2006, launched the Iraqi ICT Alliance, which is "a general partnership - devoted to promote the development of ICT in Iraq". This Alliance encourages the formation of new, and expansion of existing development projects in the ICT sector with a particular focus on training programs targeting Iraqi women and youth. Some of the activities proposed at the launch include: improved curriculum in universities for computer programmers; low-cost Internet access for schools and community centers; software and training for a government procurement system; and an online employment database in Arabic.

To support the private sector and give it a greater role in the process of economic development, the country, in collaboration with World Bank and UNDP, adopted policies aimed at building a free-market and multi-resource economy. It is important to mention that private companies' role increased with time. In fact, after the events of 2003, the number of private companies providing Internet and international communications via small VSAT stations remarkably increased. Moreover, the General Company for International Information Web Services (Internet) granted two (Dial-up) technology licenses to all of Iraq except the Kurdistan region.

Different licenses are awarded to ADSL operators. In fact, currently, four operators share the market but Zain of Kuwait's subsidiary Zain Iraq has much the largest market share, with well over 50% of the

market. Asiacell, which counts Qtel of Qatar as a major shareholder, has just over a third of the market. The market's unrealized growth potential continues to attract international investment, most notably in early 2011 when France Telecom acquired a stake in one of the two remaining minor players[2].

In May 2006, the Communications and Media Commission granted three national licenses for a period of 10 years, extendable to 15 years to provide fixed wireless phone (WLL) services. It has also granted local licenses for a period of five-years extendable to 7 years. On the other hand, the Ministry of Communications announced at the national level the bid for the two wireless networks license of the Telecommunications and Post Company. Three national long-term licenses were granted, in July 2007, for 15-years, extendable to 20 years, to provide mobile phone services. This led to larger coverage, more intense competition, and broader investment in the telecom market in Iraq.

As for the five-year strategic plan, it shall be implemented in collaboration between most government ministries, the private sector and the civil society.

C. ROLE OF NON GOVERNMENTAL ORGANIZATION

As a response to an appeal for humanitarian aid for Iraq, the Canadian International Development Agency[3] implemented a project entitled "Emergency NGO Network for Iraq"[4]. Its purpose is to develop an emergency non-governmental organization (NGO) network and to help the NGO Coordination Committee for Iraq (NCCI[5]) better respond to the needs of Iraqis through its 280 members representing national and international NGOs. Through the new emergency NGO network, information on humanitarian needs, on access to basic services, and on gaps and constraints is shared between NGOs and the UN. This information contributes to the development of an appropriate humanitarian assistance program that is more efficient and that better meets the changing emergency needs in Iraq. Moreover, The USAID and the World Bank support the Social Protection Network project and the system for subscription to the retirement and social security fund in the Ministry of Labor and Social Affairs. Besides, the Ministry and the Korean Agency for Cooperation also collaborated in the establishment of the Iraqi Korean training center for training the unemployed in several areas including computer skills in-order to reduce the impact of unemployment and to increase employability.

II. ICT INFRASTRUCTURE

A. INFRASTRUCTURE

The Ministry of Communications is giving an increasing attention to building the ICT infrastructure mainly through the implementation of numerous projects.

The directory of communications in Dewania has implemented a big campaign to reform the service to rehabilitate the cables and earth phones in many different neighbors in the governorate in order to develop the service to the subscribers. The majority of staff contributed in this campaign in coordination with governorate council to this campaign to include more than 90 lines and many cables with different capacities and many inner and outer networks. About 36 damages and 200 cables were fixed in AI-Dahgara complex and 25 damages were fixed in AL bideer complex and many different neighbors. The developing of post and network observation was one of the campaigns to fix up the damages quickly.

There is the seven rings optical network which connects all Iraqi governorates via an optical system (DWDM) with a capacity of STM-64. There are also other projects like the Baghdad eight rings optical

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[2] http://www.budde.com.au/Research/Iraq-Telecoms-Mobile-Broadband-and-Forecasts.html
3 www.cida.gc.ca
[4] http://www.acdi-cida.gc.ca/cidaweb/cpo.nsf/vWebSEn/68C936C843E15EDD85257566003CBECE
[5] http://www.ncciraq.org/

network (DWDM) with a capacity of STM-64, the optical links STM-1 project, and other projects that link the Iraqi governorates together and with neighboring countries and with the rest of the world; In addition, a national microwave system with seven tracks is implemented, with capacities of 7STM-1+ 1, and 5STM1+1. A new exchange system (NGN) with 720,000 numbers distributed over 26 exchanges of different capacities, work is also carried out to expand the IP Backbone, and update the aging ground network in-order to operate all modern exchanges, as well as establishing 3-management domains which are divided into three zones northern, central and southern, work is also carried out to complete the optical system DWDM access networks to overcome the fibre to cabinet problems.

As for space communications, there are three satellite stations operating in service with a total expandable capacity of 74E1S. Another space station in named Al-Kadhimiya station to the north of Baghdad is under construction with an expandable capacity of 24E1S. It is also important to mention that an IP project is currently being implemented. It aims at linking ministries and state institutions.

The Iraqi Commission for Computers and Informatics supervised the installation and preparations of 110 computer and Internet labs for universities and higher education and scientific research institutions including universities of the Kurdistan region in Iraq. This was all carried out within the framework of the Qatari grant project. Since it is not possible to advance with any modern institution without preparing and rehabilitating its employees, training centers and departments were established at Iraqi universities and institutions for training employees and other participants from the private sector. Training took place according to modern curricula in-order to raise the standard of the participants.

USAID[6] assisted the country in many initiatives aimed at strengthening its information society and the parties contributing to its building. In fact, USAID assisted in the implementation of a restructuring plan for the Ministry of Communication and strengthened the capacity of the MOC as well as the Iraqi Telecommunications Regulator (NCMC). It also installed an automated Financial Management System for the Government of Iraq including a data center at the Ministry of Finance, hardware and software for all sites, and Virtual Private Network for the initial 54 sites. Moreover, it upgraded the IT system to support the implementation of a Social Safety Net system to cover up to one million poor households. Another important contribution for USAID is that it produced an online Business Registration system in Baghdad, Erbil, and Sulamaniyah (www.br-iraq.com). It also assessed the IT needs of MOLSA, prepared the procurement acquisition for the Social Security IT unit in the Social Security office to cover Baghdad contributors, and will establish a data capture unit in Baghdad and implemented an automated administration system for the Reconstruction Levy on behalf of the General Commission for Customs including all necessary hardware and VSAT communication links between customs posts and Baghdad.

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

In August 2011, Iraq's Ministry of Planning announced that more than 1000 billion dinars were to be allocated for the Transportation and Communication sectors for 2011. With communication activities constituting 23.4%, this would be over 234 billion dinars. Priority areas for investment are to develop infrastructure, build microwave towers and extend satellite communication systems and light cable systems7.

Cisco Systems in collaboration with the United Nations ESCWA Iraq Task Force equipped four Regional and six local Networking Academies and planning to establish thirty-four additional academies across Iraq. Intel donated ninety laptop computers to the Iraqi ICT Association in Baghdad. Oracle provided technology and curriculum to Iraqi universities, training to more than 200 government officials on various software

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[6] http://www.iraqictalliance.org/current_activities.shtm
[7] http://www.alsumaria.tv/en/Economics-News-Iraq/3-67871-Iraq-Planning-Ministry%3A-More-than-1000-billion-Dinar-allocated-for-Transportation-and-Communication-sector.html

applications, as well as industry specific workshops for oil, aviation, and health care sectors. WiRED International (http://www.wiredinternational.org/) has installed 19 Medical Information Centers in Iraq and finalized arrangements for an additional 20 facilities in collaboration with the US department of state.

C. ICT CONNECTIVITY

Based on a survey carried out by "The Iraqi Mobile Bang", mobile phone users did not face difficulties and they were from both sexes and from all social classes. They were also able to call rural areas which suffer from limited fixed telecommunications networks, the public mobile telephone service covered nearly all of Iraq, and the rate of mobile phones reached 1.56 mobile phones per Iraqi family. The rate of the Internet use by Iraqis amounted to 3 per cent, where 39 per cent of whom use it at home, 34 per cent in internet cafés, and 26 per cent in educational institutions, work and other places.

D. INTERNET INFRASTRUCTURE

Currently, high-speed Internet access is expensive and difficult to obtain. A concerted effort is required to provide Internet access to high school and university students as well as other disadvantaged groups. The Ministry is planning to provide Internet service using fiber optic cables network. It is also planning to sign contracts for the supply of a band between (50-100) MB / s via satellite, as well as to carry out the management, maintenance and expansion of the broadband in Baghdad in-order to provide interconnection to all ministries and some institutions and universities via the micro technology (PTP) and (PMP). This would serve as the infrastructure for the e-government project. Added to that is the expansion of the project during 2008 to cover all the city of Baghdad, using the WiMAX technology, and targeting the year 2012 to cover with this technology all of Iraq in-order to serve all government institutions.

TABLE 1 – ICT USAGE AND PENETRATRION INDICATORS

Indicator	2007	2008	2009
Internet users	275,000	300,000	325,000
Fixed broadband Internet subscribers	98	54	121
Mobile cellular subscriptions	14,021,232	17,529,000	19,722,000
Telephone lines	1,364,512	1,082,300	1,108,396

Source: The World Bank

At the national level, CMC granted licenses to provide fixed service WiMAX (802.16d) under the fixed wireless phone licenses in the band of 3.5 GHz whereby it granted every national company a band of 4 * 3.5 MHz and every local company a band of 3 * 3.5MHz in-order to provide this service.   In accordance with the World Bank grant, the project linking Iraqi banks in the governorate of Baghdad with the Central Bank of Iraq using the WiMAX technology was implemented. The project includes the interconnection via VSAT technology of the major banks in other governorates with the Central Bank. The use of this technology is currently underway by the Ministry of Health to show surgical operations to medical students.

The use of computers in public and private sectors is steadily increasing. In the houses too, there is a gradual increase in wireless Internet services as indicated in Table1. In spite of this, computer users still use Internet cafes. However, businessmen are the most dependent on e-mails in the management of their businesses. The increased popularity of the private sector was due to the increased development in services like the Fax and the express mail. Work has been advancing in relation to automating the postal system.

III. ACCESS TO INFORMATION AND KNOWLEDGE

A. PUBLIC DOMAIN INFORMATION

Despite the instability in Iraq, the government has been focusing on an e-government strategy aimed at connecting all ministries through one shared network. In-line with this strategy, the country is posting available information on the various government and ministries websites. The Ministry contributed greatly to the e-government project. Besides its national project to link the Iraqi universities in an internal network (Intranet). Iraq has also exerted a distinguished effort in implementing the Iraqi networking academies project, which facilitates access to information and knowledge8.

The ISPs act on providing their services via satellite or DSL to a growing number of Iraqi homes. There is also an electronic library that provides its services through the General Company for International Information Web Services (Internet).

B. ACCESS TO INFORMATION AND PUBLIC INFORMATION

In the area of free access to scientific knowledge, the Ministry with the support of the American Foundation (CRDF) succeeded in establishing the Iraq Virtual Library, whose members are 25 universities and five ministries. The number of its subscribers reached (6,351) subscribers. It managed to provide thousands of new books, magazines and current scientific journals for students, researchers and academics.

The Ministry of Labor and Social Affairs provided access to official information through various communication means including the Internet. It covers all segments of society, particularly the marginalized, vulnerable and disadvantaged groups, in addition to providing access to information to the social protection network and the Department of Labor and Vocational Training. The Ministry of Industry also introduced the e-library service to provide its technicians with up-to-date information. The Ministry of Defense also provides virtual library services to its users in the National Defense University.

C. MULTI-PURPOSE COMMUNITY PUBLIC ACCESS POINTS

The Iraqi Virtual Science Library was launched in 2006 to provide free access to thousands of scientific journals from major publishers and a large collection of online educational materials for different science categories. In addition, ssome non-governmental organizations provide ICT community centers to the public. The two centers established by ESCWA are considered examples of such community access points. See Box1.

Box 1. Multipurpose Technology Community Centres (MTCC)

These centres aim at providing ICT services to rural communities and poor areas. These include training and access to the Internet and other facilities. Since June 2006, two centres have been established and operated. They provide the following services:

- Training in basic computer skills based on the ICDL;
- Training programs are provided in Arabic, English, Turkish and Persian;
- Using the Internet.

These centres encourage community members to attend training programs by offering these services at low cost. Special guarantees were given for women to participate in workshops that are strictly for women. It should be noted that trainers in these centers use innovative methods such as advertising and organizing competitions and social events to attract participants to join these training programs.

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[8] **http://www.synisys.com/egov-iraq/index.jsp?&lng=ar**

Through the UNDP Open Source Network, the Ministry of Science and Technology is developing a structure for the open source software. This activity will cover areas of training and eradicating computer illiteracy. The free Internet access has provided Iraqis with a lot of information from its global and regional sources. According to the development plan of the Directorate of Systems and Programs, the Central Bureau for Statistics and IT changed its writing program into new languages such as ORACLE database.

The Central Organization for Statistics and Information Technology were trained and are currently using the ESCWA Statistical Information Society for household surveys.

Since 2006, the Ministry of Industry and Minerals has collaborated with the German Agency for Technical Cooperation (GTZ) whereby many employees were training on the application systems of "Oracle". The Ministry is also seeking to make use of open source software for the automation of its work.

IV. ICT CAPACITY BUILDING

A. Basic literacy

In an effort to develop the youth computer literacy and provide an outlet for youth interaction in a positive social setting, Iraq established the youth-oriented IT clubs to provide access to the Internet in a structured environment and to teach basic or even intermediate computer skills. Moreover, different ministries exerted clear efforts to eradicate computer illiteracy among various employees, including the decision-making ones. The role of the education directorates, the department of Computer Engineering and Computer Science and the computer centers in the universities is apparent in the organization of training courses and programs. Likewise is the role of the Ministry of Labor and Social Affairs in training and rehabilitating the unemployed in the computer field.

The Iraqi Commission for Computers and Iraqi universities rely on qualifying courses equivalent to that of the ICDL and they offer them periodically throughout the year with minimal fees. It also offers courses in advanced programming, website design, project management, information networks security, e-governance and others. Besides these courses, Iraqi ministries send their employees abroad to attend specialized courses and to develop their skills, particularly in the area of ICT. Efforts to update the methods used by the education directorates in the governorates to eradicate illiteracy are being exerted. NGOs too play a key role in providing illiteracy eradication programs for selected areas of Iraq. There are also a number of private sector offices and training companies which offer computer awareness courses and introductory courses for beginners.

B. ICT in education and training

The Iraqi Commission for Computer and Informatics prepared a number of projects to improve the ICT status in Iraq. It also established in universities about 110 computer centers and 37 centers for the Internet. The Commission opened an academy for networks to train employees from both the public and private sectors, after which the participant is granted an international certificate recognized by the (Cisco) company. Iraqi universities have more than (50) departments in the disciplines of computer engineering, computer sciences, and IT. The universities benefited enormously from ESCWA project on Iraqi academic networks. The project mainly aimed at providing ICT education for youth in the Iraqi colleges and universities, especially the Cisco technology for networking. This project enables Iraqis to learn at any time from any place and to evaluate and interpret information better than in traditional classrooms. The project was implemented in collaboration with a coalition of national, regional, and international institutions, including the Iraqi Ministry of Higher Education and Scientific Research, five major Iraqi universities, Cisco, UNESCO and the Lebanese American University. The project, which won the Cisco award "against all the circumstances" in 2005, has succeeded so far in establishing of five academic networks in the

provinces, in addition to 21 local academic networks. As a result of this project more than 30 tutors gave guidance to more than 250 teachers in more than 75 classes containing more than 750 students. Iraq has also implemented the Educational Management Information System EMIS, which enables data collection, entry and analysis of the education system. Refer to box 2 for more details.

Box 2. Educational Management Information System EMIS

The EMIS project has been running since 2004/2005. The project was initially implemented in 15 Governorates related to the Ministry of Education (20 Directorates of Education) and the project is now jointly run in the Ministry of Education for the Kurdistan Regional Government. The system enables data collection, entry and analysis of the education system.

UNESCO and UNICEF Iraq offices have provided financial and technical support to both Ministries in data entry and report generation. Workshops were also held between all parties in order to identify appropriate indicators for measuring progress in the educational sector. Based on educational reform in both ministries and lessons learnt from using the EMIS system, the system was upgraded in 2009.

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

Despite recent progress towards a more participatory, free, and transparent society, the situation in Iraq remains volatile. Many of the basic foundations of a functioning democracy, including a free and open media and the mechanisms for participatory governance, remain noticeably underdeveloped. A lack of both citizen-state dialogue and faith in the government hinders the development of an environment that encourages a more open, pluralistic democracy with freedom of information and a government responsive to needs of its citizenry.

Applied ICT trainings combine ICT training with complementary training on its application to effectively employ ICT software in the workplace or in programming (e.g.,Budget Management and Analysis using Microsoft Excel training). Applied ICT trainings have also been structured thematically to enhance opportunities to create synergies. Applied ICT trainings have been given lately a special attention in Iraq. For instance, the Building Bridges through Technology: Capacity Building for Collaborative Governance in Iraq (BBTT) program was an applied ICT training as it provided enhanced technical skills to improve the effectiveness of government personnel and civil society stakeholders (NGOs, journalists, and others). It was a program of the US Department of State's Bureau of Democracy, Human Rights and Labor and administered by IREX since its inception in 2008, BBTT also uses this technical training as a means to create a sustainable environment for collaborative governance among stakeholders that results in a more efficient and transparent government able to anticipate and respond to the needs of its citizens and a citizenry able to advocate for its priorities[9].

D. INNOVATION AND PATENTS

Due to the events of 2003 and the years that followed, most research and development facilities were disrupted, however some were recovered through voluntary contributions from the USAID and others.

The research and development sections in universities and Iraqi ministries played a major role in introducing IT to its divisions and related institutions. The Ministry of Higher Education and Scientific Research besides offering undergraduate studies and possessing computer labs, they also have more than

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[9] http://www.irex.org/project/building-bridges-through-technology-capacity-building-collaborative-governance-iraq-bbtt

(100) lecturers who hold a PhD. These lecturers contribute to the development of scientific research in Computing Engineering and Computer Science and they currently have 150 students that are distributed on all Iraqi universities.

V. BUILDING CONFIDENCE AND SECURITY IN THE USE OF ICTS

A. USE OF ELECTRONIC TRANSACTIONS AND DOCUMENTS

The Council of Ministers approved[10] the draft law of electronic signature and electronic transactions the auditor by the State Consultative Council and forwarded to the House of Representatives based on the provisions of Articles (61 / I and item 80 / item II) of the Constitution, taking into account the opinion of the Legal Committee at the General Secretariat of the Council of Ministers and the observations raised by the Ministers and the Council of State. This approval is in line with the evolution witnessed by the advancement of institutional country's adoption of modern technology in daily business and to raise the performance of the general departments and transactions between government departments and to facilitate some of the things that overcome the administrative difficulties and shorten the time in completing transactions efficiently and within a legal framework for electronic transactions by means of modern communications and encourage the use of the Internet and information technology, development and organization of services for electronic signature and electronic transactions and keep abreast of legal developments. The draft law aims to give legal argument for electronic transactions and signed mail and the organization of its provisions as well as to strengthen confidence in the validity and integrity of electronic transactions.

B. ONLINE AND NETWORK SECURITY

The use of security applications were restricted to the individual efforts of those responsible for networks management. Similarly, the use of the anti-virus and anti-spam programs were also restricted to individual PC users. Work is currently underway to issue the legislations necessary to protect the Iraqi cyberspace. One can also note some of the good practices of network security on the individual level of those responsible for networks or institutions. One such example, are the centers established by ESCWA which impose laws that prohibit the use of portables within these centers. Similarly, most Iraqi ministries took the necessary actions to protect their networks and electronic information systems, whereby the Ministry of Labor and Social Affairs for example, installed the ISA SERVER to ensure the protection of the internal network of the Ministry. the Ministry's networks were also protected by the domain controller.

The Ministry of Industry and Minerals implements a thorough plan to protect data and networks by linking the ministry's network and all those of the beneficiaries to a firewall device, in addition to the use of licensed copies of antivirus programs.

C. PRIVACY AND DATA PROTECTION

The responsible Iraqi authorities are currently finalizing the legislation for cyberspace security and protection, data privacy protection and misuse. There are different steps taken by Iraqi ministries to this end. One such example is the Ministry of Industry which is spreading awareness among users to educate them about privacy and data protection.

D. COUNTERING MISUSE OF ICTS

The Ministry of Communications held a conference, in February 2009, to discuss the mechanisms and measures to be taken to protect data security and privacy and to face cyber-crime and misuse of cyberspace. The measures taken by the Ministry of Industry include for example measures to counteract anti-spam. They

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[10] http://www.google.com/search?sourceid=navclient&aq=0h&oq=e-signature%2c+i&ie=UTF-8&rlz=1T4RNRN_enUS434US435&q=e-signature%2c+iraq

also have a plan to make disaster recovery.

VI. ENABLING ENVIRONMENT

A. LEGAL AND REGULATORY ENVIRONMENT

Currently, an advanced legislative system is being formulated and there is a package of legislations and laws that have been discussed in the House of Representatives for approval, such as the general law for communications, the law for the Ministry of Communications, the communications regulation law for the Communications and Media Commission, as well as the law for the Iraqi informatics.

Iraq has also signed the Arab Convention for regulating the policies of the electronic signature in electronic transactions which was issued by the Council of Arab Economic Unity. The Government is also taking the necessary steps for approving it.

Iraq was one of the first countries that enacted laws to protect copyrights and trademarks in the years 1957 and 1971, but their application was limited. In 1976, Iraq signed the Charter of Paris of the World Intellectual Property Organization (WIPO). The most recent Iraqi legislation regarding this issue is the order of the interim coalition authority No. 83 of 2004 on amending the copyright law.

The Iraqi legislation exclusively authorizes the Communications and Media Commission to grant licenses and regulate telecommunications, transmission and information services in Iraq. According to the Iraqi constitution this Commission is considered financially and administratively independent, and functions under the supervision of the Council of Representatives.

As for the funding of the Commission, the legislation specifies that it relies on the licensing fees that are paid by firms and it will transfer to the Iraqi public treasury all profits that exceed the approved budget of the Commission.

The Commission is committed to issuing regulations, instructions and working rules that are necessary to manage its operations and to manage the work of the industries under its authority. As a result of that, the Commission developed a comprehensive framework for its policy, and put regulations for the distribution of the frequency spectrum and for granting licenses and it set the ethical principles and rules of business. It also put rules for dispute settlement, protection of consumer rights, and for organizing media content.

Whilst the Ministry of Communications is the body directly responsible for the development and adoption of the communications strategic policy and issuing its legislations, the Communications and Media Commission is the independent body that implements this policy.

Since its foundation, the Commission also worked on implementing some strategic steps and achieved the desired objectives for the development and implementation of the project of the fixed local wireless licenses. Iraq was one of the first countries that enacted laws to protect copyrights and trademarks in the years 1957 and 1971, but its application was limited. In 1976, Iraq signed the Charter of Paris of (WIPO). The most recent Iraqi legislation regarding this issue is the order of the interim coalition authority No. 83 of 2004 on amending the law of copyright.

The Private Sector Development Support Program[11] was implemented in Iraq and it is conceived and designed with Iraqi stakeholders (public and private) and other international stakeholders in an effort to create and enable an effective, coherent, and comprehensive framework for private sector development in Iraq at both the national and governorate levels. At the upstream level, the program aims at improving the institutional environment at legal, regulatory, policy and administrative levels, to make way for sustainable

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[11] http://www.unido.org/index.php?id=7394

private sector development over the long run.

B. DOMAIN NAME MANAGEMENT

The Iraqi government recalled the Iraq National Internet domain name (.iq) during official talks with ICANN. Since 2004, the Communications and Media Commission started intensive contacts until it was able to launch Iraqi national symbol "iq" on the Internet in 2006.

C. STANDARDIZATION IN ICT

Modern methods for archiving, processing and saving databases are employed in the Central Organization for Statistics and IT. The electronic signature and electronic transactions legislations, which was drafted on the basis of the relevant international legislations, have also been addressed. This is the responsibility of the Central Organization for Standardization and Quality Control at the Ministry of Planning and Development Cooperation.

D. SUPPORTING MEASURES

The Government encourages sustainable economic and social development through encouraging the private sector to invest in diverse sectors including ICT, as one of the sectors that has value added and high income and contributes to reducing unemployment. The Iraqi Commission for Investments and civil society organizations such as the Union of the Iraqi Industries, the Chambers of Industry and Trade, and the Communications and Media Commission support this move and that is apparent in its offering full or partial financing, banking and tax facilities, and by embracing emerging projects.

VII. ICT APPLICATIONS

Applications at different levels have been implemented in the country. All available means of communication and electronic applications are used across all Iraqi ministries to improve the performance of different employees and to raise the productivity and interaction with other mutual bodies within the Government. This is detailed in the below sections.

A. E-GOVERNMENT

Since 2003, the Iraqi government realized the significance of supporting a national initiative in e-governance. It took few years before a national strategy was developed and in 2007, with the help of USAID, and then the UNDP, a national strategy for e-governance (207-2010) was completed and approved by the government. Shortly, it was realized that there was a need to develop a core team of professionals who would take lead in any future action in e-governance and develop a national action plan. For the first concern, a mast training program as designed and supported by UNDP where training for government staff intensively about all aspects of e-governance was started. The Iraqi e-governance program received substantial support from UNDP. As a follow up of an international conference on e-Governance that took place in December 2009 in Baghdad, a set of expert meetings took place and resulted in developing the national e-governance plan.

In addition to capacity building, and series of training workshops in different technical aspect of e-governance, the national roll-out training on e-governance covered five modules: e-Governance Frameworks, e-Governance Strategy, e-Governance Planning, e-Governance Implementation, and management of change.The Strategy for e-governance is set for 5 years as follows: Iraq harnesses ICT tools to improve basic services to all and to promote all-round good governance, including increased public participation, better social equity and justice as well as a general enhancement of the transparency and

effectiveness of public institutions in order to build the necessary platform for a competitive, robust and knowledge-based economy. It focused on five strategic goals.

A national e-governance Action Plan was developed. It concentrates on nine critical components. They are closely interrelated, thus offering the opportunity of implementing priority areas in an integrated fashion. These included::awareness raising and communication, human capacity and resources, government interoperability, standards and applications, organizational and cultural change, regulatory framework, telecommunications infrastructure, financial resource management, monitoring, evaluation and assessments and connecting services and citizen.

On July 12, 2011 the Ministry of Science and technology launched the official Iraqi government portal, a major initial step in e-governance implementation. With the launching of this portal, five ministries started to provide initial services online. These are the Ministries of Interior, health communications, science and technology, and the secretariat of cabinet of the government.

In addition to this, the Ministry of Planning, in June 2011 announced the launch of management system development in Iraq by using the e-government to stimulate this sector in the country, indicating that the new system will enable the Iraqi government to manage development projects better. It consists of five basic components, including the investment program of the federal ministries, and program development of the regions, and the verification program of the objectives of the five-year plan from 2010 to 2014, procurement, and follow-up program of donor projects."

Implementation is progressing. In some fields it has been very successful, such as in summer 2011, the Ministry of municipalities and public works has announced that 85% of its plan to implement the e-government has been completed. That facilitated the e-services with other ministries and government agencies (G2G).

Currently plans to proceed in the implementation have been set and work is in progress to achieve the set strategy for the next five years.

B. E-BUSINESS

International, regional and local bodies from the private sector launched e-procurement initiatives in order to achieve effectiveness, impact and more transparency, the most significant of which was that which was approved by the International Fund for the reconstruction of Iraq and which provides e-procurement facilities for multiple projects covering a wide range of sectors. Currently, e-shopping is used at the Ministry of Commerce, but with limited use of e-payment cards.

C. E-LEARNING

According to a report by the Ministry of Education, the achievements for the year 2007 include: implementing the educational administration system (EMIS2004) for entering students' statistical data for the purpose of issuing the annual educational statistics report; in cooperation with UNESCO and ESCWA initiating the establishment of the electronic library and the curricula computerization project using a grant of (4) million dollars; the establishment of the educational television channel "Iraqi Education". Additional achievement have been summarised in table 3.

TABLE 3 – ACHIEVEMENTS ACCORDING TO THE MINISTRY OF EDUCATION (2007)

Description	Quantity
The number of schools that teach about computers	1,475
The number of computers in the General Directorates of Education	7,955
The number of students studying about computers	355,798
The number of computers given to the Ministry by some organizations and governorate councils	1,107

D. E-HEALTH

A number of health programs and projects are developed and implemented through the Ministry of Health in collaboration with the WHO, UNICEF, USAID and other organizations.

As part of the bilateral programs with the WHO, a project linking the Ministry with health departments in all governorates was completed in order to work on the health information system HIS. Cooperation with the USAID has also been going on to implement within the electronic infrastructure of the Ministry's headquarters the project of the internal network.

The Center for IT in the Ministry prepared some programs, such as the program for the treatment records of in-patients; and the program for statistical health indicators.

E. E-EMPLOYMENT

The database of ESCWA specialists for the reconstruction of Iraq is an example of e-recruitment efforts in Iraq. The facilities and the websites allow and accept the CV of individuals who are interested in working for the United Nations and international and regional organizations in Iraq.

Another example of e-recruitment is "the Iraqis for the reconstruction of Iraq", which provides a platform for job seekers and those searching for employees. The Ministry of Planning, the UNDP and the International Organization for Migration are working on implementing this project.

As mentioned before, there is the website of the social protection network, through which one can get information about the ministry's systems for granting loans and finding jobs for the unemployed in addition to providing information on jobless training courses of the Vocational Training Center in the areas of computers, the Internet and networks.

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

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

Iraq is a multi-cultural State and the Iraqi population consists of Arabs, Kurds, Turkmen, Assyrians and other minorities, the digital content which reflects the diversity of the cultures is available on the Internet in Arabic, Kurdish and Turkish as well as other minority languages. There is a project carried out by the National Commission for Education, Culture and Science and its objective is to save the Iraqi memory.

Since the founding of the Internet Corporation in the year 2000, the implementation of the hosting service and deployment of websites has been activated on the Internet through the website (www.uruklink.net). The websites design service has also become popular through the help of specialized civil offices.

Each year the Central Organization for Statistics and IT publishes 2,350 web pages in Arabic and 2,350 pages in English which includes the most important digital indicators of the Organization.

Through workshops such as 'social media and strategic planning skills', administered by organisations such as IREX, young people are taking to social media and new technologies, particularly young women12. The Iraqi Streets 4 Change blog13 is just one example of activism amongst citizens through blogging sites. Such websites display the proactive nature of young enthusiastic citizens, who feel they should have more of a say in how they are governed, real-time technologies such as twitter are adding an extra dimension to how such groups organise, mobilise and disseminate information.

C. ICT tools and R&D programs

The Central Organization for Statistics and IT introduced the optical reading technology of texts. This will be used to scan and read the data of the 2009 general census; it is also used at present by the Ministry of Higher Education in the central admissions application for Iraqi universities.

IX. MEDIA

A. Media independence and pluralism

After the events of 2003, information and communication services were opened broadly, and a large number of television and radio stations were launched. It seemed to many as if this was without any restrictions. That is why the role of the Communications and Media Commission came into being. It is a body that undertakes the responsibility of regulating and developing the telecom and media sectors in accordance with modern foundations that agree with the norms of the Iraqi society.

The "International Compact with Iraq," expresses the need "to educate the general public, to liaise with the media and political groups and the civil society, to update the website of the Compact, issue periodic reports, to issue a newspaper and to produce information materials which include press releases, excerpts from speeches and articles and the opinions of the participants".

Through the Department of the Media Monitoring the Communications and Media Commission, carries out continuous monitoring of the audio-visual and written means of information that are transmitted. The importance of this action lies in its dealing with cautioning and evaluating the different media.

The ownership of the media is diverse and non-monopolized by a specific body. It is divided into three types of ownerships: governmental, party, and private.

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[12] http://www.irex.org/news/iraq-mediating-gender-digital-age
[13] http://iq4c.wordpress.com/aboutus/

The Communications and Media Commission acts on the management and licensing of radio and television and satellite channels. It organizes the media policies, ensures the work of the licensed stations and takes responsibility for its performance, and it also ensures that its programs do not contradict with the standards accepted by Iraqi society, according to the parameters set by the Commission. In light of these responsibilities, the Commission via the Department of Licensing laid down the foundations and procedures required for obtaining a license. The Iraqi Communications and Media Commission, currently does not list the exact number of TV and radio channels operating in Iraq nor does it list the number of applications received for such channels.

The Ministry of Defense is responsible for publishing e- journals, and the website for the Information Systems Directorate offers news and information services. The Directorate also publishes the monthly informatics magazine, and other magazines for awareness purposes.

Media and journalism in Iraq has been considered particularly dangerous in the last several years. The growing number of systematically calculated and apparently accidental attacks on journalists has created a climate of fear according to the International Federation of Journalists (IFJ)[14]. Death and injury of journalists have been caused by both US and insurgent groups but the IFJ is concerned with the systematic targeting of journalists, which was its main concern at the IFJ's annual conference in 2004[15]. Despite this, Iraqi women play a prominent role in the media, and occupy leadership positions in it. They are journalists, correspondents, news presenters, analysts and critics.

Various initiatives have been taken in order to break the vicious cycle associated with, and stigma attached to, media and violence in Iraq, both from a security perspective and from a reporting perspective. The Iraq Media Junction project[16], started in January 2010 by Internews Europe with funding from the European Commission, is one such example dealing with this issue. Iraq Media Junction is working alongside other established mediums to utilise reach and build capacity. The aim of the project is to engage with civil society, report on social issues and train journalists with the tools and techniques required for professional editing and reporting. The project is regarded as moving the attention away from traditional reporting about violence to issues which affect all Iraqi citizens and about Iraq as a whole. Another example is the Support for Independent Media in Iraq (SIMI) project run by IREX[17]. In addition to providing professional training and development to media professionals, SIMI also aims: to support media laws which protect journalists and media outlets; support media businesses in order to become more financially sustainable and administratively sound; and strengthen institutions advocating for media rights.

In May 2010, the CEO of the Communications and Media Commission announced that the commission together with the Supreme Judicial Council will hold a conference in Iraq, calling to cancel laws which contradict free press and freedom within the media, and reinvesting the commission's profits in order to purchase a satellite for Iraq[18]. The CEO also outlined the commission's revenue, which amounted to $ 50 million USD monthly, making it the second highest grossing institution after the Ministry for Oil and he emphasized the importance of proper legislation for press and media. The commission usually earmarks 10 percent of its revenue for itself while the remaining 90 percent goes to the state fund. He stressed that the money can potentially support many media projects and contribute to improving the national economy. The earmarked 10 percent will be used to develop media projects and help establish telecommunications

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[14] http://www.ifj.org/en/articles/ifj-demands-probe-into-iraq-media-deaths-after-us-army-film-exposes-killing-of-unarmed-civilians-and-journalists-2
[15] http://news.bbc.co.uk/2/hi/3783433.stm
[16] http://www.internews.eu/projects/iraq-media-junction
[17] http://www.irex.org/project/support-independent-media-iraq-simi
[18] http://www.cmc.iq/en/morenews/index97.html

institutions related to media. He also outlined that legislation should follow a conventional twin track approach covering both civil law and criminal law. Civil law to allow for access to information, protecting civil liberties and enabling the press to go about its activities but Criminal law to ensure the press and media don't exceed beyond civil freedoms or insult nationalities and religions.

B. THE MEDIA AND ITS ROLE IN THE INFORMATION SOCIETY

Iraqi media is characterized by its diverse content and languages, which contributes to increasing knowledge and cultural awareness amongst citizens. The citizen's understanding of concepts is particularly expanded through interactive programs and live talk shows. Programmes aim to inform citizens, especially those living in rural areas and remote provinces about their rights, and help make their voices heard. In addition, many of these programs receive suggestions and complaints made by citizens via email. Such communication is replied to interactively by the appropriate people in charge.

With its different languages and backgrounds, the Iraqi media contributed effectively to the governorate council elections which took place in early 2009. It helped raise awareness regarding the process of election and freedom of expression in choosing the most appropriate candidate.

BBC World Service Trust has implemented several projects contributing to the information society in Iraq. One of its biggest media reconstruction projects is Al Mirbad[19], funded by the UK's Department for International Development. Al Mirbad is a local radio station in southern Iraqi which was officially launched in 2005. The station employs approximately 100 staff, who were initially trained by the BBC World Service Trust, reporters are based across three provinces and the station has a strong following of citizen journalists. Local staff have been employed since the set-up phase and local income is generated from advertising. The station broadcasts for twelve hours per day, across the provinces of Basra, Dhi Qar and Missan, through live and pre-recorded shows. It prides itself on being an unbiased source of information, with a proportionately large following in southern Iraq. In addition the BBC World Service Trust has been working alongside Albany Associates, IREX Europe, government officials, civil society organisations and Iraqi journalists in improving the media environment and journalists' outputs[20]. Projects have included: improving governance and access to information; developing a 'Code of Professional Conduct'; assisting the Communications and Media Commission in reviewing draft media laws; and measuring progress across the media sector through the Media Sustainability Index for Iraq.

Set up in 2004, Aswat al-Iraq (Voices of Iraq) was the country's first independent news agency (http://en.aswataliraq.info/). The project was supported by UNDP, with training provided by the Reuters Foundation[21]. The news agency is unaffiliated to political parties, maintaining high professional standards of journalistic coverage. The news content covered ranges from business, civil society, culture, politics and sport. In addition the news agency was nominated for the prestigious One World Broadcasting Trust's Special Award.

Another project by IREX is the Media and Technology for Community Development (MTCD) project[22], which aims to develop the independent media sector and strengthen local participatory governance using ICT. The project goals include: developing the training capacity for

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[19] http://www.bbc.co.uk/worldservice/trust/iraq/2008/03/080222_iraq_al_mirbad_project_overview.shtml
[20] http://www.bbc.co.uk/worldservice/trust/iraq/2008/03/080222_iraq_media_law_project_overview.shtml
[21] http://www.uniraq.org/documents/PR_UNDP-Iraq_News_Agency_June_21_EN.pdf
[22] http://www.irex.org/project/media-and-technology-community-development-iraq-mtcd

journalism and strengthening media outlets by providing small grants, specialised training, internships, promoting new media and supporting business development; support legislative efforts on media reform, freedom and advocacy and support organisations working on these issues; facilitate dialogue between civil society and government; provide training on ICT and e-Governance promote cooperation.

X. INTERNATIONAL AND REGIONAL COOPERATION

A. FINANCING OF ICT NETWORKS AND SERVICES

After 2003, the government eased its control over the mobile, fixed and Internet networks which witnessed an unexpected growth in the past few years. It also implemented the infrastructure projects using the investment budget of the State, and in other projects, it relied on partnerships with non-governmental organizations or UN or WB projects (with a funding of 55 million dollar) or international companies, whether in the form of grants or loans to countries or investments.

During the ICT and education summit in Iraq, which was held in Sharjah in February 2007, a new collaboration between the Ministry of Higher Education and Scientific Research and the Ministry of Communications was launched. It aimed at the full exploitation of the 35 data centers founded by the Ministry of Higher Education and Scientific Research.

In 2007, ESCWA in Iraq in cooperation with the UNESCO began implementing an education project. The Ministry of Higher Education and Scientific Research succeeded with the support from the American foundation CRDF in establishing the Iraqi Virtual Library.

Some non-governmental organizations provide ICT community centers to the public. The two centers established by ESCWA are considered examples of multi-use community access centers. See Box 1.

The Ministry of Labor and Social Affairs collaborated with the Korean Agency KOICA for establishing a youth training center on computer applications as well as in many other areas. In addition to that, the WB and the USAID contributed to the construction of the social protection network.

In May 2006, the USAID launched the Iraqi ICT coalition which is a partnership – specially for the promotion of the development of ICT in Iraq. The Alliance aims at building capacity and developing training programs.

Some R&D facilities which were among the many which were affected during 2003 were restored with the help of contributions from the USAID and others.

A number of health programs and projects are being developed and implemented through the Ministry of Health in collaboration with the WHO, UNICEF and USAID and other organizations. Through the bilateral programs with the WHO a project to link the Ministry with the health departments in all governorates was completed in order to work on the health information system HIS. Cooperation also took place with the USAID in-order to implement the Intranet project within the electronic infrastructure of the Ministry's headquarters.

Using a grant of 4 million dollars, curricula computerization and the establishment of the electronic library in the Ministry of Education are carried out in collaboration with the UNESCO and ESCWA. Besides, the launching of the technical center for pre-publishing work is also one of the UNESCO's projects, which has been implemented in order to convert curricula books into CD-ROMs.

B. INFRASTRUCTURE DEVELOPMENT PROJECTS

Great efforts were made by the Iraqi government to develop the ICT infrastructure and the government through its investment budget has encouraged investment projects, and through various means and facilities encouraged the private sector also to invest in such projects.

The previous sections of this report contain detailed information on projects related to this issue, such as the project concerning the microwave network which is being spread in Iraq using the WB grant and the Japanese loan.

Moreover, with the help of the WB grant, the project of linking the Iraqi banks in the governorate of Baghdad with the Central Bank using the WiMAX technology was implemented, besides the project of linking the major banks in other governorates with the Central Bank using the VSAT technology.

C. WSIS FOLLOW-UP

In the regional action plan for the building of the information society ESCWA pointed out the principle of partnership and investment to which priority goes to countries that suffered from internal strife in its first phase in Geneva in 2003. The declaration of Principles for the summit referred to the same concept in paragraph 16. At the World Telecommunication Development Conference in Doha in 2006 resolution no.51 which supports Iraq's rebuilding of its communications infrastructure was issued.

Besides, the inclusion of Iraq by the laws of resolution no.34 and its appendixes in support of countries with special needs for the building of their communications systems. However, the implementation of these laws was rather limited. Iraq was also one of the nations that at an international level attended the Tunisia Summit, and the preparation meetings that preceded it as well as at the level of the Arab League countries, Iraq is also cooperating at the regional level with ESCWA as in laying down its ICT strategy in accordance with the frameworks of the regional plan of ESCWA and the outputs of the information society summit. The projects set up by ESCWA in Iraq also come in accordance with the objectives and general declarations of the information society summit. All the above apply to all WSIS outputs and action plans which Iraq has progressed in the implementation on what has been reviewed earlier in this document.

XI. MILLENNIUM DEVELOPMENT GOALS

A. PROGRESS TOWARD ACHIEVING THE MDGs

The MDGs are monitored by the UN Development Group and the WB through projects for the reconstruction of Iraq. A group of units were formed to meet the needs of these projects. These include:
The education and culture unit; the governance and human development unit; and The rehabilitation of basic infrastructure unit; the element of ICT is important and common to all programs and activities in all of these units.

The Central Organization for Statistics and IT (COSIT) is working to derive national indicators for measuring the progress made in achieving the MDGs, from current global indicators. It is also identifying a national upper limit for each indicator, which is in line with the national developmental and social condition, so that progress can be followed up and monitored at a later stage.

The Iraqi Ministry of Environment is issuing legislations and taking strict measures to protect the Iraqi environment and the health and safety of Iraqi citizens. In December 2008 and at a conference hosted by the Ministry, the parameters and standards of control for the deployment of the mobile phone towers were discussed in-order to avoid the potential side effects of high frequencies on the health of citizens.

The project of the social protection network of the Ministry of Labor and Social Affairs whereby IT is being used in its major sections has been reviewed. In addition to that, IT is also used in the subscriptions'

system of the department of retirement and social security in-order to facilitate employees' subscriptions and cashing of pensions.

TABLE 1 – DATA ON GROSS DOMESTIC PRODUCT, ECONOMIC GROWTH AND THE AVERAGE PER CAPITA (US $)

Year	Gross Domestic Product (GDP) growth (annual %)	GDP per capita (constant 2000 US$)
2005	-0.70	688.97
2006	6.2	710.21
2007	1.5	699.71
2008	9.5	743.69
2009	4.2	752.18
	0.84	736.27

N.B Figures have been rounded to two decimal places. GDP has been used instead of GNI as the majority of GNI data has missing values. The difference in GDP and GNI is consistently minimal each year, providing a realistic approximation in the use of GDP.

Source: The World Bank

According to the United Nations country team in Iraq, the country has made some progress towards achieving the MDGs namely in reducing child mortality, promoting gender equality and reducing hunger[23]. Significant work is still required in areas such as ensuring access to safe and reliable water and sanitation, increasing participation in primary education and reducing unemployment. There is still, however, a large gap in access to essential services between rural and urban areas, a challenge which is often met very effectively through the use of ICT. Given the exceptional circumstances which Iraq is recovering from, the United Nations Country Team in Iraq will prioritise vulnerable groups in its efforts, including refugees, returnees, the elderly, the physically challenged and those living on or below the poverty line children, youth and women.

B. USE OF ICT FOR ACHIEVING THE MDGs

ICT facilitates the achievement of the MDGs through:

- Providing means of communication through different technologies at reasonable costs;
- Creating jobs and reducing the impact of unemployment;
- Providing media for the exchange and dissemination of knowledge;
- Reaching out to rural areas and marginalized communities;
- Improving access to information in the education and health sectors;
- Moving towards higher productivity and better standards.

The importance of ICT use in local Internet cafes is closely linked to promoting development and effects economic opportunities available within the Iraqi community. YouGov[24], a UK based research company on public opinion and consumer behavior conducted a survey in December 2009. The survey was based on consumer profiles, attitudes, habits and media consumption in Iraq[25]. The 2007 National Profile for Iraq highlighted the rapid growth of internet cafes together with statistics showing a year on year

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[23] http://iq.one.un.org/FAQs-MDGs

[24] http://today.yougov.co.uk/

[25] See http://www.yougov.co.uk/services/services-consult-newsMain.asp?newsid=38&submenuheader=3

comparison, subsequently displaying Iraq's expansion of internet use and desire for new technologies. YouGov's research was conducted across all 18 Iraqi Governorates and based on 1561 interviews. It used a demographic cross-section which was considered broadly representative of the overall population according to official statistics. Results of the survey have been summarized in the table below.

TABLE 2 - CONSUMER SURVEY ON MEDIA CONSUMPTION, 2009

Description of attitude and behaviour	% of Iraqi respondents
Have at some point used the Internet	22%
Wished they could access the Internet more often	54%
Found the Internet 'exciting'	62%
Of those who had ever used the Internet had done so using a mobile phone	17%

Source: YouGov

Further to the above trends in attitude and behavior amongst Internet users, the most common use of the Internet was for email (62%), whilst half said they had downloaded both music and applications. Over half (55%) used the Internet to access religious websites. In addition, Social network sites were only used by 39%.

With respect to the 8th MDG (A global partnership for development), the Ministry of Communications, the Ministry of Higher Education and the Ministry of Science and Technology participated in international conferences on ICT.

In October 2010, UNDP and the Iraqi government launched a national e-Governance training programme, aiming to provide training for approximately 500 government officials[26]. The goal of the programme is to improve public service efficiency, transparency and basic services. The training programme forms a part of the National E-Governance Action Plan for Iraq, which was prepared by the Iraqi Government with the support of UNDP[27] and is aimed at achieving MDG eight (A global partnership for development). The Action Plan itself identifies national capacity building as a top priority for government staff at all levels. The training programme's curriculum will hopefully provide a better understanding of ICT capabilities, particularly how e-Governance can contribute to improving public sector performance.

Iraq is not currently listed on various reports and publications and there is a lack of information for those reports in which it is listed. This presents a key obstacle for performing global comparative analysis, highlighting a major challenge, for monitoring and evaluating the country's progress towards achieving the MDGs.

XII. BUILDING THE ICT SECTOR

A. ICT FIRMS

In the past two years, the ICT sector in Iraq witnessed an increased operation of telecom service operators, manufacturing of computer equipments, software development, website design, besides an increase in the size of local digital content and e-solutions.

To Following three wars and over a decade of economic sanctions, Iraq's infrastructure and human capacity related to information and communication technology is extremely limited. The Iraq ICT Alliance seeks to bring together multinational companies, multilateral and bilateral donors, as well as Iraqi

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[26]

http://www.iq.undp.org/newsDetails.aspx?data=FpWRQMpyj_2frpqbXmYYkeq9JtoZpEgRrD_2byfKHhZ2RLQSmPC7DYQE1qSvK6fhgdttqrwInk_2bg_2fS5aRiBJzSyyIoh8FJZZ2aIGpO15PnJ7rqP54gCkBUx0UqV6qvkVz5nj
[27] http://www.egov.gov.iq/egov-iraq/index.jsp?sid=1&id=362&pid=332

government, business, and educational organizations promote greater collaboration and cooperation within the ICT sector in Iraq. This Alliance encourages the formation of new and expansion of existing development partnerships with a focus on training programs for Iraqi women and youth. The overall goal of the Alliance is for the ICT sector to serve as a catalyst for economic growth in Iraq

1. *Public sector firms*

These include the two firms which are linked to the Ministry of Communications. Their activities have been addressed earlier in several sections of this document. Other types of these firms include:

- The general Company for Electronic Industries (mixed sector) which specializes in the manufacturing of a wide range of ICT products, such as various digital and symmetrical exchanges (PABX) etc...

- The systems company and the General Company for Information Systems, both of which are linked to the Ministry of Industry.

- The Salam Public Company which is a manufacturer of ICTs and is linked to the Ministry of Housing and Building.

2. Private sector firms

Ijmaa, the Arabic word for "gather," was established almost a year ago; it brings together ICT associations from seven different countries: Lebanon, Jordan, Syria, Egypt, Palestine, Morocco and, recently, Iraq. Its aimed is to create an Arab Information society, with a federation of all Arab information and telecommunications associations.

"To achieve this aim, member countries agreed on a number of steps, such as organizing and participating in seminars and workshops, exchanging scientific and technical experience, and information on the private sectors in member state28.

B. R&D AND INVESTMENTS IN THE ICT SECTOR

The ICT sector is characterized by local and foreign investment, which comes either from the investment budget, or from the investments in telecoms networks which reached high levels. This amounts to about 80 million dollar of fixed wireless phone licenses and a participation rate in revenues that ranges between (10- 33 per cent) of the gross revenue.

C. CONTRIBUTION OF ICT SECTOR IN THE NATIONAL ECONOMY

The salaries spent on employees working in this sector amounted to about 69 billion dinars in 2006 and 78 billion dinars in 2007, with an increase of 13 per cent.

In 2007, the percentage of family expenditure on communication services amounted to 2.5 per cent of the total family expenditure. It is worth mentioning that most Iraqis use pre-paid mobile phones lines.

TABLE 3. PERCENTAGE OF ICT SECTOR CONTRIBUTION TO THE GDP, 2006-2007

Output	2006	2007
GDP (million dinars)	95,587,954.8	107,828,462.5
GDP of the communication sector (million dinars)	1,517,585.1	1,981,600.6
Percentage	1.58	1.83

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[28] http://www.1stpaca.com/paca-news/news.php?idactu=306&debut=481

D. GOVERNMENT FACILITATION

The Ministry of Communications and the Communications and Media Commission encourage partnerships and investment. It also encourages the establishing of more IT private sector companies. Despite the Ministry and its sub-division's ability to run efficiently this type of networks as it did in the governorates of Baghdad and Najaf, still the Ministry transferred its licenses of local wireless phone network to operators from the private sector.

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