

Distr.
LIMITED
E/ESCWA/ICTD/2009/12/Add.8
14 December 2009
ORIGINAL: ARABIC

ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

**NATIONAL PROFILE OF THE INFORMATION SOCIETY
IN PALESTINE**

United Nations
New York, 2009

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This work was originally published in Arabic. In case of discrepancy, the original language shall take precedence.

09-0549

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Introduction

This study aims to portray a clear and comprehensive view on the evolution of the Information and Communication Technology (ICT) sector for the period extending from the end of 2007 till the beginning of 2009. This period witnessed a number of positive and negative factors, which affected the ICT sector in Palestine both directly and indirectly.

The restrictions imposed by the occupation on Palestine had a negative impact on the economic sector in general and the ICT sector in particular. The internal political division also had a negative impact on the development of this sector.

The positive factors are represented by the positive results sought by government agencies, especially the Ministry of Telecom and Information Technology, in the liberation of the telecom market and Information Technology (IT) after the expiry of the period whereby it was monopolized by the Palestinian Telecom Company and the Mobile Phones Company. The excellence and the strength of the Palestinian private sector in this area had led to continued growth in this sector.

The most important features of the Palestinian national information society which characterized this period are:

- The liberation of the ICT market after being monopolized and the licensing of new operators and the initiation of new operators.
- Development and growth of investment.
- Effective government activity in this period led to the issuing of a number of resolutions and the endorsement of a number of laws and regulations governing the process of market liberation in order to increase competition, opportunities for investment, and development of the sector.
- The adoption of several important government projects especially in this sector within the Government's medium-term plan (2008-2010).
- The start of a second mobile phone operator "Wataniya Mobile" and the entry into the market of the strategic partner, "Zain".

I. THE ROLE OF THE GOVERNMENT AND ALL STAKEHOLDERS

A. NATIONAL INFORMATION SOCIETY POLICIES AND E-STRATEGIES

With the ICT national strategy and the e-government strategic action plan, the sector witnessed during this period a great development and an active mobility, especially on the part of the government. As a result, of the new situation of liberating the telecom market and the freezing of the legislative frameworks requested by the Legislative Council "Parliament" due to the internal political division, the government made several decisions to respond to the requirements of market liberation. This activity was carried out on the part of the government with real partnerships with all parties in what follows is a summary of the main findings:

- Updating the law regulating the telecom sector and approving it by the Council of Ministers. The law refers to the establishment of a Telecommunications Regulatory Commission. The president will issue a law to approve the commission;
- Approving and adopting the interconnection system by the Council of Ministers in 2007. The system regulates the linking process between ICT licensed companies;
- Applying and adopting the conditions for granting different licenses, such as Voice over Internet Protocol VoIP, broadband and others;
- Approving and adopting the internal laws, the strategy and action plan of the Palestinian Education Initiative;
- Approving tariffs for interconnection calls and services for Reference Interconnection Offer (RIO).
- The decisions, taken by the Council of Ministers on policies and strategies for the advancement of the sector;
- The preparation of the IT private sector policy draft project by the private sector;
- The preparation for discussion and approval of several draft laws, such as the Internet law, electronic signatures and ratifications law, and others laws in the legislative plan of the Government.
- After the establishment of the Ministerial Committee for the Palestinian e-government, and after the approval and adoption of the e-government strategic action plan, the Government took several decisions in this regard including the adoption of the administrative structure of the e-government within the administrative structure of the Ministry of Telecom and Information Technology. Added to that is the decision of the Council of Ministers to set up a committee to create Government Data Center, and other decisions for the development of the Government Computer Center and the development of the governmental network.
- Raising the budget allocated for the ICT sector, in the (2008-2010) government plan in which it included special projects for the development of the ICT sector and post.

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

The political instability in the region has negatively affected the growth of the communications and information sector, especially, that the Israeli occupation authorities have imposed restrictions on the economic situation in general, and have imposed a siege on the cities of the West Bank, Gaza Strip, and Jerusalem. They have also confiscated devices and equipment of ICT establishments and academic institutions. They also prevented government equipment for monitoring and regulating the telecom sector from being imported. Added to that is the assault of the Israeli companies on the Palestinian market and the illegal confiscation of the Palestinians right to use frequencies allocated to them to control the international gateway, the most recent of which is the destruction of the Gaza strip infrastructure during the latest Israeli aggression.

Nevertheless, all parties including government institutions, the private sector, NGOs, and academic institutions acted with assistance from the international community to establish several successful partnership projects, including:

- The 2008 Partnership with government support and encouragement between the Palestinian Telecom Company and Zain Company.
- The 2006 Palestine Mobile national company which represents a genuine partnership between the public and the private sector.
- The Electronic Parks Project which is based on a partnership between the public and the private sector and international organizations. However, the work on this project has not started until now.
- The inclusion of the private sector projects which support the growth, development and regulation of the private sector in the 2008-2010 Government Action Plan and approving them by the government.
- The government joint projects such as the common data exchange between the Ministry of Interior and the Ministry of Transport and Communications. The first phase which is related to data linking was implemented, as well as the project of having single service point for citizens using mail service between the Ministry of Transport and Communications and the Ministry of Telecom and Information Technology.
- The project of developing the State network which links all ministries and government branches via an advanced network using fiber optic and the technology of (IP VPN). This is a joint project between the Ministry of Telecom and Information Technology, the Ministry of Finance and the Palestinian Telecommunications Company, the first phase of which has been completed whereby all major centers of ministries and governmental institutions have been linked to the government Computer Center and the Ministry of Finance.
- Other projects reflecting the extent of multilateral partnerships, such as the project linking the municipalities between the Ministry of Local Government and the international organizations, the project supporting the Chambers of Commerce in this area, and special partnership projects related to academic institutions.

C. ROLE OF NON GOVERNMENTAL ORGANIZATION

Many non-governmental organizations are active in promoting the use of ICT and its applications amongst the Palestinian society. That is because they believe in the importance of developing its services for the Palestinian public. Such examples are: the Palestinian ICT Incubator (PICTI) which is a non-profit organization adopting and supporting the development of Palestinian innovations in ICT applications, the Palestinian universities' centers of excellence, which amount to (6) centers, and the municipalities development project and the use of ICT and its applications for developing the work of municipalities. Added to that is the project for the developing of the work of the Chambers of Commerce using ICT tools and its applications, and the project for ICT training of rural women to promote their products.

II. ICT INFRASTRUCTURE

A. INFRASTRUCTURE

With the liberation of the Palestinian telecommunications market, the Palestinian licensed companies started work on building its infrastructure. In spite of the delay in the launching of the operation of the second mobile telephone operator (National Company) due to the holding of its frequencies by the Israeli occupation. Work is expected to start in May 2009. The Government's approval in allowing Zain to enter as a strategic partner to the Palestinian Telecommunications Company will enhance the development of the infrastructure. Several companies in the areas of broadband and voice over Internet protocols started work

also on building their infrastructure; this will contribute tremendously to building the infrastructure, improving the quality of services and deploying ICT services and cutting down on the cost of the services, especially after the government's organization of the use of the WiMAX technology. The following table shows the number of licensed companies and the type of service excluding Gaza Strip due to lack of information.

TABLE 1 - NUMBER OF COMPANIES LICENSED FOR BASIC SERVICES, END OF 2008

Type of License	The number of companies
Wi-Fi	6
VoIP	17
Broadband	7
Re-sell Internet services	29
Internet cafes	19
Mobile telephone	2
Fixed telephone	1

Source: General Administration for Licenses - The Ministry of Telecom and Information Technology

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

Liberalizing the telecommunications market plays an important role in the total investment in this market. The total volume of investments in this sector by both current and new operators is expected to reach 500 million dollars in the period between 2008-2013. The total volume of investment in infrastructure projects of the new National Company mobile operator will reach 250 million dollars, not to mention the frequency fees paid to the government which amount to 350 million dollars. This will be spent by the government on health and improving road networks etc... On the other hand, the Palestinian Telecommunications Company is expected to invest about 200 million dollars for the expansion and development of its infrastructure for the new generation (NGN) and the mobile infrastructure, in order to provide its services to new licensed companies. It is also expected that the volume of investment made by licensed companies for the broadband and (VoIP) will reach about 50 million dollars. Finally, the entry of Zain as a strategic partner of the Palestinian Telecommunications Company will enhance and increase the volume of investment in this sector.

As for the government sector and based on the medium-range plan 2008-2010, the government agreed to allocate 35 million dollars in the plan for the development of ICT in government institutions. The plan includes several projects including the government network project, the government data center project, the project linking data between the Ministry of Interior, the Ministry of Health and Islamic courts, and the project of the central financial system for government institutions.

C. ICT CONNECTIVITY

The Palestinian Telecom Company offers a number of services including, free Internet subscription, digital telephone lines (ADSL), visual video services and (GPRS) system which is provided by Jawal company for mobile phones. In addition to that, there are other digital services such as leased lines that connect businesses, academic institutions, Internet service providers, and government institutions.

In line with the Ministry of Telecom and Information Technology's policy for the Liberation of the telecommunications market, the ministry has granted several companies licenses to provide broadband, (VoIP) services and the organization of WiMAX services, the objective of which was to develop and upgrade the quality of services and to meet the demands for its use; and to implement the first phase of the government network (IP VPN) and the government data center which aims at linking, networking, and exchanging information amongst government institutions.

TABLE 2 - INDICATORS OF GROWTH OF INTERNET SUBSCRIPTIONS, 2008

Type of service	Indicator	Notes
Capacity for linking with global Internet networks	2,325 GB / s	
Non-subscribed users of Internet services	62.851	
Non-subscribed providers of Internet services	52 provider	140 line
ADSL number of service subscribers	72,187	16,503 subscribers more than 2007

Source: Annual Report of 2008, the Palestinian Telecommunications Group

D. INTERNET INFRASTRUCTURE

In the coming two years (2009-2010), the Internet infrastructure shall witness a qualitative change and a big development. This is due to the expected entry of new operators and the licensing of companies which will play an important role in the development of the broadband Internet infrastructure, (VoIP), the applications of the mobile phone companies and the development of the infrastructure for Palestinian telecommunication firms to serve the licensed companies. Added to that are the projects undertaken by the government such as the updating of the government network to the new generation (NGN), the establishment of government data center and the e-government project, as well as the other projects and government initiatives such as the Palestinian Education Initiative (PEI), and the Ministry of Finance projects, like the central financial system, which connects the ministry departments to a single database.

TABLE 3 - INTERNET INFRASTRUCTURE

Index	Percentage
Percentage of households owning a home computer	32.8
Percentage of households that have access to home Internet	15.9
Percentage of households that have a fixed home telephone line	50.8
Percentage of households that have mobile telephone (one at least)	81
Percentages of people (10 years and more) who have used a computer	50.9
Percentage of people (10 years and more) who have used a computer and are proficient in using the Internet	49.9
Percentage of Internet users (10 years and more)	18.1
Percentage of people (10 years and more) who have e-mail accounts	58.3

Source: the Palestinian Central Bureau of Statistics.

III. ACCESS TO INFORMATION AND KNOWLEDGE

A. PUBLIC DOMAIN INFORMATION

The last three years have witnessed a remarkable progress in developing and increasing the digital content and information made available to the public by both the government and the private sector. All ministries have websites, and most government institutions updated their digital content in order to provide its services to citizens, whose needs for it have increased, especially because of the blockade on the West Bank and the Israeli closure of Gaza Strip and the inability of citizens to commute. This led citizens to a higher dependence on government websites in order to obtain information and services that are provided online by these institutions.

In 2007, the launching of Pal Blue Pages Company website allowed users to access more than 30,000 commercial companies in its guide besides the site's applications, which allow users to access the site through mobile telephones.

B. ACCESS TO INFORMATION AND PUBLIC INFORMATION

The development of most of the governmental institutions websites and the data entry of information concerning ministerial electronic services yielded a significant increase and dependence on the Internet for accessing and obtaining information. Besides, the development of systems and their automation in various ministries contributed to easier access to information within government institutions, such as: the central financial system and the design of the e-government portal. The completion of two computer labs for the blind at Al-Quds Open University is considered a practical and an advanced step towards helping students with special needs. Each lab contains 3 computers with software, tools, and printers specially equipped to ease the interaction of the blind with the computer. This project, which is part of a plan to open similar centers in all governorates, can be considered as pioneering in this field.

As for the private sector, it has been leading in the provision of information to citizens especially the private banks, the telecommunications Informatics companies, and the insurance companies.

C. MULTI-PURPOSE COMMUNITY PUBLIC ACCESS POINTS

Lately, there has been no significant development in this area, but according to the government's plan in developing postal services and making them multi-service access centers for government services, within the framework of the e-government project, the application of this pilot experiment was initiated in one of the post centers. There are promises to spread this pilot experiment according to the projected plan. It can be said that the development of the digital content of governmental sites has contributed to the increase in the number of these sites.

In addition to the foregoing, the Government Computer Center has played an important role in the design and hosting of the new government sites and the development of current existing state of government institutions.

D. USING DIFFERENT SOFTWARE MODELS

To be consistent with the national ICT strategy in its general tendency to use open source software, this period has seen a remarkable development in the use of this software by both the private and the government sector. Examples on this are the Government Computer Center tendency in this field, as well as Birzeit University and government institutions. Reliance on open source software has increased because it is free of charge, and there is a lack of financial resources, besides the increased confidence and the increased specialists in its use. Moreover, there are different applications of this software.

As for the other kinds of software, the private sector plays the biggest role here whereby world class local programs are available to meet the market needs, such as the Bisan financial software and the special banking software that handles matters specific to local banks.

The private sector is witnessing an intense development and competition in the design of local software versions. As for, the international commercial software versions, they constitute a significant proportion of up to 60 per cent of all existing versions currently available in the market, that including large corporations, particularly those found in the banking sector and the insurance companies sector.

IV. ICT CAPACITY BUILDING

A. BASIC LITERACY

Official statistics show that the percentage of learners under 15 in primary education has reached up to 99.8 per cent, while the illiteracy rate among individuals over 15 amounted to 6.1 per cent. In 2008 and according to the annual report by the United Nations on human development mentioned that the literacy

percentage is 92.4 per cent when compared with the population. According to the report, Palestine ranked second in the Arab world after Kuwait.

In collaboration with the Ministry of Education and Higher Education, this period witnessed the implementation of a number of illiteracy eradication programs. In 2003/2004 the subject of information technology has been incorporated to schools program and the subject of computers was added as a university mandatory course in all disciplines, besides the strong family support, all of which contributed to significantly enhancing and disseminating the use of ICT applications. There has also been a serious tendency in business enterprises to use ICT tools and to encourage and train its staff to do so.

B. ICT IN EDUCATION AND TRAINING

In June 2007, the launching of the e-learning initiative represented a new phase in the use of ICT tools in education and training. Government policies and strategies also encourage the use of these technologies in education and training. This initiative aims at introducing e-learning in the Palestinian educational system as one of the most important pillars of the ministry's development plan.

Perhaps the development of the digital content through adding lectures and course materials to universities and higher education institutions websites, has been a qualitative step in the development of educational content of course materials. After the development of the specialized educational programs compelling the lecturers and the students to rely on this content has also enhanced the use of these applications. Al-Quds Open University and Birzeit University are examples of universities that have applied this. The seriousness of the educational institutions and its insistence on the development of programs in this promising field may enhance the use of ICT tools in education and training. As an example is what An-Najah National University is doing in e-learning and the production of electronic learning materials using the global system (SCORM) with the support of the World Bank.

As for school education, there are several initiatives and projects carried out by the Ministry of Education and Higher Education for the effective use of ICT in the educational process. That was after the introduction of 'technology' as a subject in the Palestinian curricula. An example of that is, the Intel project which aims at improving the quality and standard of education and the strategy of teachers rehabilitation, whereby in the preparatory phase of this program about 10,000 teachers will be trained over a period of 3 years starting in 2009.

Launching the project "One computer for each student", which began its first phase by the distribution of 900 portable computers to schools, is in line with the scientific developments and the Ministry's second five-year plan. This plan highlights the importance of technology in enhancing the quality and standard of education and the importance of not separating between technology and education. The computer for educational programs competition comes under the initiatives launched in this field annually by the Ministry.

TABLE 4 - PERCENTAGE OF SCHOOLS WITH COMPUTER
(According to the academic year and the supervisory body)

The supervisory body	Academic year		
	2005/2006	2006/2007	2007/2008
Government	56.7	92.9	95.6
UNRWA	27.2	92.0	90.9
Private	67.3	91.7	90.3
Total	54.3	92.6	94.4

Source: the Palestinian Central Bureau of Statistics.

Educational e-learning sites play an important role in teaching. This is why the Ministry of Education and Higher Education developed its educational site "Zajel" which contains all school curricula and the

contribution of teachers, students and experts. There are also many educational sites run by a group of teachers and professionals in the field of education. Contribution to these sites is voluntary and its access free of charge. It is widely popular among teachers and students alike for the preparation of model lessons or exam questions or remedial plans. In addition to that, there are non-governmental institutions that contribute to this field and support this trend, such as Kattan Institutions and others.

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

In addition to Government policies in this area, the centers of excellence which amount to 6 centers, with their continued education play a major role in the dissemination of the computer culture in the Palestinian society. This is carried out through the establishment of basic courses in computer use in addition to the specialized courses that raise the graduate efficiency in the field of computer. The Palestinian electronic incubator (PCTI) has a similar role in this field. Al-Quds Open University has launched its first computer lab for the Blind which is the first of its kind in Palestine.

At the government level, the Government Computer Center plays a leading role in the training of public sector employees and graduates in the programs that focus on advanced ICT training. In 2008, 160 internationally accredited specialists in the field of networks were graduated. Through vocational training centers deployed in the governorates, the Palestinian Ministry of Labor also offers training programs in the use of computers. On the other hand, the public sector employees are qualified through the International Computer Driving License (ICDL) program whereby 280 public sector users were graduated, and this program continues.

At the school level and during this period, the percentage of computer labs significantly increased in order to enable school students to learn about the computer and the Internet.

TABLE 5 – NUMBER OF SCHOOL STAFF SPECIALIZED IN FIELDS RELATED TO ICT
(Listed according to the academic year and the supervisory body)

The supervisory body	Academic year		
	2005/2006	2006/2007	2007/2008
Government	976	1194	1238
UNRWA	42	188	192
Private	151	164	164
Total	1169	1546	1594

Source: the Palestinian Central Bureau of Statistics.

D. INNOVATION AND PATENTS

Despite the lack of resources in this area, as funding priorities are given to support relief efforts and emergencies, there are small budgets to support innovation and patents from donor countries. Besides, the lack of funds and scholarships for researchers continue to hinder research and innovation.

However, there are many examples that reflect the insistence of Palestinian on carrying out research and innovation. Examples of this include the prizes obtained by Palestinian university students for building Arabic search engines, the granting of the 2008 Google Company award to Engineer Ahmad al-Hassani, and the Institute of Electrical and Electronics Engineers (IEEE) award received by a group of engineers. In addition to that, the University of Al-Quds obtained patents in the field of computer applications in organic chemistry.

V. BUILDING CONFIDENCE AND SECURITY IN THE USE OF ICTS

A. USE OF ELECTRONIC TRANSACTIONS AND DOCUMENTS

During this period, Palestinian institutions, whether from the public or the private sector, worked on increasing their reliance on the use of electronic transactions and documents in Palestine. There is an official governmental interest in the security of electronic transactions and reliable applications. This was reflected in the evolution of the banks' customer financial transactions (e- banking) which include transferring funds and checking balances. This was also reflected in the private companies transactions such as paying bills, applying for jobs, requesting and cancelling services such as the services provided by the Palestinian Telecom Company, some Internet providers, and the Jawal Company. In addition to that, electronic services in academic institutions and Palestinian universities developed significantly.

In the government sector, reliance on electronic mail and the exchange of electronic documents increased to a large extent. The e-mail has been adopted as a means of official correspondence between governmental institutions.

B. ONLINE AND NETWORK SECURITY

During this period, little development occurred on the security measures used. The safety of electronic transactions is verified through the applications implemented on the operating systems. For protection, the global technologies available were adopted adding to that some special procedures specific to each institution in order to protect its own applications. Data encryption is used in a small number of institutions.

C. PRIVACY AND DATA PROTECTION

The laws on data and privacy protection were included within the 2009 legislative plan and the unit of intellectual property protection and the rights of electronic publishing was adopted by the Ministry of Telecom and Information Technology. The government is focusing on this area and government institutions are taking tight security measures to protect their data, especially with the multiple attempts by Israeli bodies to penetrate government websites.

D. COUNTERING MISUSE OF ICTS

Some laws and legislation dealt with the subject of countering the misuse of ICT such as the penal code, which devoted several chapters and articles to deal with the misuse of the network, data transfer and the media. The Telecommunications Regulatory Act also cited clear paragraphs regarding the improper use of ICT tools. All institutions, whether private or public, usually take sufficient measures to prevent and detect electronic crimes.

VI. ENABLING ENVIRONMENT

The provision of an enabling environment is essential in order to mobilize resources and provide an atmosphere that promotes the acquisition and dissemination of ICT. Furthermore, trust, transparency, and the moderate legal and regulatory environment are considered the fundamental basis for cooperation between the public and the private sectors.

A. LEGAL AND REGULATORY ENVIRONMENT

Despite the absence of legislative frameworks (Legislative Council), this period due to liberalizing of the telecom market has witnessed the adoption of several laws and regulations aiming at regulating the ICT sector. Upon the proposal of the Ministry of Telecom and Information Technology the Council of Ministers, has approved, a set of regulations:

- An interconnection system.
- A tariff system regarding calls and e-services RIO interconnection.
- ICT certification service systems such as VoIP and Broadband.
- Forming a technical committee to establish the government data center.
- Ratifying the revised administrative structure of the Ministry of Telecom and Information Technology.
- Adopting a list of the cost of frequencies and returns for creating new radio stations.
- Forwarding the draft law for the regulation of the telecom sector to the President for approving it.

The inclusion of several ICT projects and laws within the 2009 legislative plan for discussion and approval by the Cabinet comes to set up the regulatory and legal environment to open the telecom market for operator's competition, to meet the interests of users in getting high quality and affordable services, and to develop the Palestinian economy.

B. DOMAIN NAME MANAGEMENT

The Palestinian National Internet Naming Authority is an official body working on laying down the foundations, rules, regulations and all the work concerning the management and registration of domains within the field of Palestinian Internet, in line with the public interest. It also contributes to the development of laws and policies that govern, develop, and encourage the use of (.ps) ccTLD Internet in Palestine. The Authority aims to support the fruitful cooperation between the different sectors of the Palestinian economy and the work between public and private sectors in a genuine partnership to serve the Palestinian informatics sector and to contribute to the formulation of policies specific to the use and development of the Internet in Palestine. Within the Palestinian domain (.ps), the Government Computer Center plays an important role in the management of domain registration for governmental and academic institutions and the organizations of the Palestine Liberation Organization. The following table shows the number of domain names.

TABLE 6 – TOTAL NUMBER OF DOMAIN NAMES FROM 2004 TO 2008

Year	New registration	Re-registration	Total
2004	789	16	805
2005	1671	578	2249
2006	1511	1282	2793
2007	1394	1862	3256
2008	1561	2273	3834
Total	6926	6011	12937

Source: Palestinian National Internet Naming Authority - PNINA

C. STANDARDIZATION IN ICT

Government and private sector establishments are putting a great effort in the field of standardization. In this context, the Council of Ministers formed a permanent national group its mission is to lay down the specifications and standards necessary for linking databases. The decision of the Council of Ministers to form a technical committee for establishing governmental data center is also another example on this. There are also regulations adopted by the Council of Ministers which include articles that define the specifications and standards for efficiency and quality of ICT services.

D. SUPPORTING MEASURES

The government encouraged a genuine partnership with key stakeholders for the development of the information society. This partnership included many types, such as the government initiatives, the private sector initiatives, and the initiatives from the academic institutions and non-governmental organizations. The most important of which are the multiple partnership initiatives such as the e-learning initiative, the

Palestinian Woman Project which is concerned with women's empowerment and enhancing their role in the ICT sector, the rural women ICT tools training initiative, the research centers at academic institutions, and finally the Palestinian ICT incubator which adopts and supports young professionals and innovators creative ICT projects.

VII. ICT APPLICATIONS

A. E-GOVERNMENT

In February 2006, the government endorsed the strategic action plan for the Palestinian e-government project. A decision was made by the Council of Ministers to form a ministerial committee especially for this project. Besides, a technical committee completed the work plan. The approval and adoption of the General Directorate of the e-government pushed the project forward. Several e-government projects were selected and adopted in the 2008 to 2010 medium-range plan.

The studies necessary for the establishment of the government data center, the development of the government network that links all ministries with the Government Computer Center, and the adoption of the emergency computer center were all prepared as part of a plan for the e-government project infrastructure.

E-government solutions

The design of the e-Government Portal is currently under construction. Adding to the website the services of some key ministries and some electronic services signals the beginning of the first phase of the electronic services of the e-Government Portal. The site is expected to be launched in June 2009. The adoption of the central financial system, the linking of all government institutions with automated financial systems, and provision of e-services to beneficiaries, all come as part of the e-government solutions. Similarly is the linking and exchanging of data between the Ministry of Telecom and Information Technology and the Ministry of Interior. Added to that is the project of identifying and classifying government transactions in-order to start re-engineering government services, which is considered as a preparation for the provision of electronic government services. Moreover, there are the e-services which are related to the private sector such as the electronic communications and service companies, banks, and electronic services for universities.

B. E-BUSINESS

The e-economy is considered one of the main access gates that allows the Palestinian economy to interact with the global economy and to overcome the limitations imposed on it by the Israeli occupation. That is why, some of the economic, financial, tourist, and industrial institutions used ICT tools to promote their services and their local industries such as the timber industry, the insurance services, the electronic banking services, and tourist and hotel services as well as some telecommunications and information technology services.

A survey of the ICT in the business sector that was conducted by the Central Bureau of Statistics in collaboration with the Ministry of Telecom and Information Technology and the consortium of Palestinian information systems companies, showed that up till June 2008, 21.3 per cent of the total institutions in the Palestinian territories have used computers. The percentage of institutions using the Internet was 12.7 per cent of the total number of institutions. The percentage of Internet use amongst companies that use computers was 67.8 per cent with 7.7 per cent for the purpose of providing customer services, 1.6 per cent for financial and banking services, and 1.3 per cent for the purposes of dealing with government institutions. The percentage of the establishments that carried out electronic commercial transactions over the Internet amounted to 2.0 per cent, and the percentage of organizations that carried out e-business transactions across networks was 0.4 per cent. The percentage of institutions that used computers and Internet and that performed online sales transactions to all institutions was 9.8 per cent. The total annual expenditure on ICT services by the economic institutions of the occupied Palestinian land reached 175,283 thousand dollars.

C. E-LEARNING

In this field, there are many government initiatives, the most important of which is the Palestinian E-education Initiative. Using ICT tools and moving towards e-learning, it began implementing its plans for the development of teaching and learning. The e-school project comes within the plans of the Ministry of Education and Higher Education for the development of the educational process, in collaboration with other authorities, and so does the "computer for each student" project. Added to that are the school computers which come with direct support from the government or through grants. All computer labs in schools - only 44.4 per cent of all schools have computer labs - are connected to a central network at the Ministry. All universities are working on providing e-learning services on their electronic portals whereby this period has witnessed a quality step in the development of e-content and e-learning services for students and lecturers.

D. E-HEALTH

Despite its emphasis on providing basic health services to citizens, the Palestinian health institutions, particularly the Ministry of Health, gave great importance to the developmental aspect of improving health services offered to citizens and using ICT tools for the development of health sector services. As an example, the health sector received a significant share from the 2008-2010 reform and development Plan. There is a project to develop, link, share, and exchange data between three government agencies namely the Ministry of Health, the Ministry of Interior and Islamic Courts, for which the necessary studies were completed and the implementation process was initiated. With the support of donors work also started on the development of the management information systems (MIS), and the health information system (HIS). These projects will have an impact on the process of reform and development of the Palestinian health system in its various sectors including hospitals, primary care, pharmacy, health insurance etc... The duration of this project is five years. It is part of the Ministry's development plan. And its implementation will end in 2014.

E. E-EMPLOYMENT

Most government institutions were inclined to announce government jobs on their websites, as well as the results of job interviews and examinations. Some private sector companies, banks and universities relied on their websites to advertise jobs and the submission of applications online. Examples on the use of ICT tools in this area is the Souktel Incorporation which uses mobile telephones and recorded messages for the recruitment process and for job hunting for its customers. There are some Palestinian companies and specialists who work for foreign companies remotely in the field of programming and the design and development of informatics systems.

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

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

As a result of the Palestinian community's awareness of the importance of preserving cultural heritage and national identity to face the Israeli occupation, most of the applications of ICT skills and tools focused on national and cultural fields. Official and civil institutions, political parties, and political frameworks focused on highlighting and documenting political and cultural issues, folklore, history and the cultural heritage of the Palestinian people. These applications constituted more than 70 per cent of the total number of applications whereby ICT tools were used effectively and efficiently for saving historical records and focusing on heritage and historical issues.

Cultural official institutions such as the Ministry of Culture, the Ministry of Information and Tourism, many centers and cultural forums, and political parties became active through their websites home and abroad using more than one language.

B. LOCAL AND NATIONAL DIGITAL CONTENT DEVELOPMENT

Due to its importance in the development of the Palestinian information society, the ICT national strategy, in one of its main themes included the development and description of the digital content. The same reason, which was represented by documenting the Palestinian cultural heritage and the preserving of the national identity, was the motive behind the use of ICT tools in developing different applications significantly and with high professionalism. Examples on this are the production of documentary movies, historical, touristic, folklore and popular films, and storing them in several languages and using different media. Moreover, during this period the digital information content witnessed a clear improvement, through the development of the content of the e-libraries and the start of the development of the content of the Palestinian Information Center. We recall here the role of the Palestinian universities in the development of local and national content such as virtual museums and the universities informational and cultural centers.

C. ICT TOOLS AND R&D PROGRAMS

Although, the ICT national strategy urged to support this area and invited the private sector and universities to support partnerships in R&D and called on the government to allocate a special budget for this purpose. Still the economic situation, the priorities and needs of education, health and basic infrastructure did not enable the government to support this area.

This period witnessed outstanding efforts by Palestinian universities to develop tools such as the multi-language search engines and the applications related to research in the field of chemical houses. Nowadays, there are attempts by Palestinian universities to make international partnerships in this area especially by the Palestine Academy for Science and Technology and within the framework of the Euro-Mediterranean Partnership.

IX. MEDIA

A. MEDIA INDEPENDENCE AND PLURALISM

The special political situation in Palestine has made out of the media a means for struggle against the Israeli occupation practices. That is why journalists were the target of repeated Israeli attacks. According to statistics for the year 2008 till the beginning of 2009, 7 Palestinian journalists were assassinated, 19 were wounded, and 5 were arrested, each representing a different media. Several media establishments, were bombed, destroyed, or closed, and newspapers were prevented from entering Gaza Strip. Nevertheless, Palestine is characterized by an active, independent, and a wide variety in this area. All local newspapers have Websites, and private companies own 98 per cent of the media. There are specialized informational sites, the most famous of which are Ma'an News Agency, Wafa Palestine News Agency, Sawt Al-Wattan, Al-Quds Press and others. These companies use intensively all ICT tools such as Web sites, satellites, and mobile telephones.

B. THE MEDIA AND ITS ROLE IN THE INFORMATION SOCIETY

All local newspapers have websites; the best known ones are Al-Quds, Al-Hayat Al-Jadida, Al-Ayyam, and others. These newspapers are interested in all aspects of life including the cultural, the social, sports, the technical, and the technological, as well as the political coverage of daily life in Palestine. The informal local radio and television stations such as Al-Estiklal TV, Watan TV, Ajial Radio, Al-Hurria Radio and others cover a large part of these fields as well as local news. In addition to that, there are specialized electronic sites, some of which are news sites, such as the Ma'an News Agency, and Wafa Agency and others are local covering all areas of life.

TABLE 7 – SUMMARY OF THE NUMBER OF MEDIA

Type of Media	2007	2009
E-press	8	14
Newspapers and press offices	56	83
Radio and television stations	62	67
Magazines	-	26
Satellite transmission service establishments	-	6

Source: Media Guide 2009 – the Ministry of Information

X. INTERNATIONAL AND REGIONAL COOPERATION

Building the information society requires cooperation among all stakeholders at the international and regional levels, particularly with regard to funding, implementation, development of ICT, and creating an action plan for building the information society.

A. FINANCING OF ICT NETWORKS AND SERVICES

All the support and funding was focused on basic services such as education, health, and rebuilding the infrastructure, but there were bodies which supported some government institutions' infrastructure projects and services. Besides, there is also an inclination of the World Bank to support certain infrastructure and service projects, but most of the support came through the Government initiative and that was reflected in the 2008-2010 reform and development plan.

B. INFRASTRUCTURE DEVELOPMENT PROJECTS

Most international efforts in this area are concentrated on training, capacity building, consultancy and development of some of the services of governmental and non-governmental institutions using ICT, examples on these are the Japan International Cooperation Agency (JICA), the European Union, the German Agency for Technical Cooperation (GTZ), the World Bank, the U.S. Agency for International Development (USAID), the International Telecommunications Union (ITU), ESCWA, the Government of India, Korea International Cooperation Agency (KOICA) and the Chinese government. Work is in progress now on the implementation of the e-garden project which is supported by the Indian government.

XI. MILLENNIUM DEVELOPMENT GOALS

A. PROGRESS TOWARD ACHIEVING THE MDGs

Because of the presence of the occupation the obstacles set by the closures and restrictions on the economic activity, the lack of control over resources, the lack of stability in Palestine, the internal political situation and the lack of adequate financial resources, all of these factors led to the non-implementation of many development plans and programs, some of which were included in the government plan. Despite the lack of any significant progress in achieving the Millennium Development Goals, the government tried to fight poverty and implement special programs for social security and creating new jobs. The following table shows the increase in the percentage of workers amongst family members and those spending on the family and the contribution of women in their support of their families.

TABLE 8 - PERCENTAGE OF SELF-EMPLOYED WORKERS AND WORKERS AMONGST FAMILY MEMBERS CONTRIBUTING TO FAMILY EXPENDITURE TO THE TOTAL NUMBER OF WORKERS

Year	Total	Male	Female
2000	29.3	26.6	43.4
2001	33.2	32.9	35.0
2002	37.1	36.8	38.4
2003	39.2	38.1	44.4
2004	37.6	36.5	42.6
2005	36.2	34.9	42.7
2006	36.1	34.3	44.2
2007	36.2	33.5	47.2

Source: the Palestinian Central Bureau of Statistics.

As for the educational programs, primary education expanded and many educational objectives were achieved in the past few years. The following table shows plans and programs that were achieved in this area. In 2007/2008 the ratio of females to males in secondary and higher education reached 113.3 per cent and 117 per cent, respectively.

TABLE 9 - PROPORTION OF STUDENTS COMPLETING PRIMARY EDUCATION

Year	Ratio
2001/2002	97.5
2002/2003	97.2
2003/2004	99.3
2004/2005	99.4
2005/2006	99.4
2006/2007	99.4
2007/2008	99.4

Source: the Palestinian Central Bureau of Statistics.

B. USE OF ICT FOR ACHIEVING THE MDGs

There are some small and medium-sized programs that are either supported by the government or by international donations and that use ICT tools for implementing development projects in the areas of education, health and small production projects. Like, the projects implemented by the government to develop its services to the citizens and to develop the different sectors, the programs which focus on training rural women on how to use ICT, and the project of the "Palestinian woman" that support the Palestinian female graduates in this area.

XII. BUILDING THE ICT SECTOR

A. ICT FIRMS

Whether direct or indirect, there are many government and private sector establishments which are working on developing the infrastructure and the ICT tools. According to the 2008 general statistics of establishments the number of establishments operating in the ICT sector amounted to 961 establishments. The most important institutions working in the development of this sector are:

- The Ministry of Telecom and Information Technology;
- The Union of Palestinian information technology companies;
- The Electronic Incubator;
- The Palestinian National Internet Naming Authority;

- The Palestinian Internet Society;
- The Palestinian Trade Center;
- The Palestinian Investment Fund;
- The Ministry of National Economy;
- The Ministry of Finance;
- The Palestinian e-learning initiative;
- The Palestinian Telecommunication Group;
- Alwataniya Palestinian Telecom;
- Centers of excellence;
- United Nations Development Program;
- International bodies and donors.

B. R&D AND INVESTMENTS IN THE ICT SECTOR

As a result of their living conditions, the priorities of the Palestinian people are their education, health, and part of the basic infrastructure services. Despite that, there are some attempts to support the R&D in the ICT sector. The results of R&D statistics in the West Bank based on the 2007 administrative records data showed that, the number of R&D researchers amounted to 981 researchers, which is equivalent to 280 full time researchers (the full time equivalent was calculated on the basis that a full time researcher spends at least 90 per cent of the total working hours throughout the year in R&D). The number of male researchers is 187 full time researchers and the number of female researchers is 93 full time researchers. The total value-added of the R&D activities amounted to five times that of the year 2000 which reached 0.7 million dollars. In 2007 it amounted to \$ 3.5 million dollars with an average annual growth rate of 46 per cent.

C. CONTRIBUTION OF ICT SECTOR IN THE NATIONAL ECONOMY

Though the economic activities in general take place under siege and closures and lack of control of the Palestinian National Authority over the commercial boundaries and the ICT sector, yet the private sector, with the encouragement of the Government has worked hard to develop this sector. The total value-added of this sector amounted to three times that of the year 2000 to reach about 330 million dollars in 2007, with an average annual growth rate of 30 per cent. As far as the computer-related activities are concerned, the total value-added amounted to five times that of the year 2000, reaching 16 million dollars in 2007, with an average annual growth rate of 76 per cent. The three economic activities mentioned above (telecom, computer-related activities, and R&D activities) form the so-called "knowledge economy", which constitutes 8.5 per cent of the gross domestic product, most of which (8.0 per cent) are produced by the telecom sector.

TABLE 10 – CONTRIBUTION OF ICT TO THE NATIONAL ECONOMY

Number of establishments working in the ICT sector	961	The updated general statistics of establishments, 2008
Value of the ICT sector imports as a percentage of the total imports	6.5	Foreign trade statistics, 2007
Value of the ICT sector exports as a percentage of the total exports	5.5	Foreign trade statistics, 2007

Source: the Palestinian Central Bureau of Statistics.

D. GOVERNMENT FACILITATION

Successive Governments have given special importance to this sector. This was evident in the legislations, laws and regulations endorsed by those governments. Such as, the Investment Promotion Law, the liberalizing of the telecom market, exempting companies operating in the sector from some taxes, facilitating payment of fees to licensed companies due to difficult economic circumstances, reducing the licensing fees for companies operating in the sector, approving the Telecommunications Regulatory

Commission by the Council of Ministers, and the inclusion of some private sector projects related to the development of the ICT sector in the Government's medium range plan. Added to that is the government support of multiple partnerships for the development of the sector.

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