

REPUBLIC OF LEBANON

OFFICE OF THE MINISTER OF STATE FOR ADMINISTRATIVE REFORM



E-Government Strategy for Lebanon

December 2002

Executive Summary Version

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PREFACE

The Office of the Minister of State for Administrative Reform (OMSAR) is pleased to present the “E-Government Strategy for Lebanon”. The realization of this important document is the culmination of a collaborative effort by the Information and Communications Technologies (ICT) team within OMSAR’s Technical Cooperation Unit (TCU). Given the years of work at OMSAR in the area of providing ICT solutions and services to the Lebanese Administration, through a diverse donor-funded portfolio of projects, this *executive summary version* of the document depicts what has been accomplished on the road towards E-Government and summarizes what needs to be achieved as per international best practices in this domain along the various coherent axes of intervention (legal, technical, services, capacity building/promotion/ operations) to attain a full E-Government status. A high level implementation plan for the roll out of E-Government over a span of 7 years is also projected taking into account a number of strategic priority projects.

As part of our professional principle to involve the private sector and academia in our thinking, this document was reviewed, enhanced and validated by a number of local and international domain experts. It was also reviewed and endorsed by the Lebanese Ministerial ICT Committee that I chair and which has as members the Minister of Economy and Trade and the Minister of Telecommunications. These collective inputs and validations make this document truly a solid reference for all future E-Government work in Lebanon. In addition, its impact on the administrative reform agenda that OMSAR has been working on will be most optimal once its implementation plan is integrated with that of the “Strategy for Administrative Reform” that was prepared by OMSAR and approved by the Council of Ministers in September 2001. Such an integrated implementation plan will undoubtedly foster a modern government operation and provide the needed means for equitable access, empowerment and governance for the respective beneficiaries from citizens, to the business community, to academia, to civil society and to the public administration at large.

And finally, with the world of ICT constantly evolving with newer and improved products and solutions, this strategy document is to be considered a working document that will be openly discussed with a large group of representatives from the government, private sector and academia for the inclusion of as many intuitive ideas as possible. It is also to be reviewed on a quarterly basis by a public-private sector working group and updated in accordance with various developments in the relevant domains on the national and international levels. The resulting revisions of this document will be placed in a timely manner on the OMSAR web site at <http://www.OMSAR.gov.lb>.

It is my personal aspiration that through such thought-provoking initiatives, OMSAR with the pro-active involvement of other government institutions can constantly rise to the challenge and make the Lebanese public administration a model of excellence from both the institutional development and ICT deployment perspectives for others to learn from.

Fouad el-Saad
Minister of State for
Administrative Reform
December 2002

1. INTRODUCTION

Since the mid 1990s, the Government of Lebanon has launched a good number of modernization projects that include Information and Communication Technology (ICT) solutions. These projects and the associated ICT solutions were initially planned with the active involvement of the international funding organizations that provided loans and grants for this purpose to select government Ministries and Agencies. With time, the planning for these projects and ICT solutions shifted to a more flexible direction becoming more of a beneficiary (government office) or demand-driven process based on a pre-defined project selection criterion. This allowed for earmarking of available funds to the best suitable project that would render the targeted modernization and operational results through use of ICT. Through this planning modality more tangible projects were implemented in the government over a shorter period of time.

With this background, and for proper future planning that goes one step further to ascertain the requirements of the citizen (the citizen-centric approach) as well as the business and investment community (business-centric approach) insofar as government modernization/ICT projects are concerned, there is a need to lay out an overall strategy for the eventual attainment of all government information and services electronically or online, the subject of this document.

In summary, this document provides an all encompassing strategy for the realization of a Lebanese E-Government initiative. It provides an e-government vision for the Government of Lebanon based on the attainment of a number of key strategic objectives while stating the required underlying principles. It proposes a national focal point and identifies the various key players in both the public and private sectors required for the achievement of this e-government strategy.

It covers three major modules.

Module 1 covers a comprehensive situation analysis of E-government enabling achievements till date in Lebanon with details on the various relevant assessments and studies, the status of the national telecommunications infrastructure, deployed systems and applications, training and capacity building efforts, legislative work and the national awareness campaign.

Module 2 describes the required E-Government framework (legal, technical, services and capacity building/promotion/operations) that needs to be fulfilled.

Module 3 describes the necessary planning steps for a phased implementation. A number of priority (anchor) projects are presented followed by a high level plan for the completion of the overall work as part of this government program with an anticipated duration of 7 years, provided the required funding is secured. Then a listing of the criteria for success and associated risks for this e-government program is documented. A benchmarking section is presented covering the current global e-government landscape. And finally, potential partners and funding sources for this e-government program are mentioned.

2. THE LEBANESE E-GOVERNMENT VISION

The e-government vision for Lebanon centers around the attainment of a number of strategic objectives based on citizen and business-centric approaches. These are made possible by the facilitating role of Information and Communication Technologies (ICT) and backed by the required institutional and legal frameworks. These objectives can be summarized as follows:

- Dissemination of all public sector information that a citizen¹ is entitled to through various communication channels – the Internet, via hotlines, through government service centers, etc.
- Fulfillment of all public sector services for citizens online, whether for their individual use or on behalf of an establishment, through any government office or through the Internet regardless of the geographical location of this office or the residence of the citizen.
- Reduction to a minimum the information and supporting documents required of a citizen to fill out a public sector formality not considering the means by which this formality is being submitted. Once entered in the government information systems, no re-entry of the same information would be required.
- Provision of a single point of notification for a citizen to use in informing the government of any change in personal or business information. From this point, all concerned government information systems will be updated accordingly.
- Realization of all government procurement processes online based on a harmonized commercial coding schema. This is to serve as the leading example for electronic commerce on the national level and hence is intended to foster its growth.
- Attainment of all intra-government information exchanges and communiqués online, reducing in the process the dependency on courier services and/or the diplomatic pouch.

3. UNDERLYING PRINCIPLES OF THE E-GOVERNMENT STRATEGY

To attain the just stated e-government vision for Lebanon, the strategy to be followed needs to be supported by a number of underlying principles. These principles can be summarized as follows:

- The government will assure the enactment of the required institutional, regulatory and legal frameworks for the administration at large – in the country and abroad - in an orderly and timely manner.
- The government will undertake the necessary measures to realize a comprehensive network infrastructure throughout the administration and to gradually roll out compatible information systems that exhibit open design architectures and operate on top of replicated data repositories or centers.
- The government will adopt a secure means of data entry for all e-government applications through the use of leading-edge smart card technology and biometrics.
- All citizens will be given the opportunity to be part of the electronic or networked society notwithstanding their financial, social or educational conditions.
- All public servants will be given, by the nature of their new job functions, an equal opportunity to be part of the electronic or networked society, whether for their provision of services to the citizen or for intra-government communications.
- The government, in partnership with the private sector, academia and non-government organizations (NGOs), will work aggressively on the proliferation of ICT literacy

¹ acting in an individual capacity or as a representative of a business establishment or other organization

throughout the country, whether through the continuous enhancement of the education curriculum or through the provisioning of targeted awareness campaigns and training programs.

- Electronic commerce will be adopted by the private sector, with government taking a leading-by-example role through its e-procurement initiative.
- The government will actively involve the local ICT industry in the various e-government related projects and constantly work on promoting this industry for it to be a national resource in support of the national and international Information Society.

4. BENEFITS

The E-government initiative being proposed is to the benefit of various entities, those being the participating parties, namely the Government, the citizen, the businesses in Lebanon and outside Lebanon, the government employee him/herself, as well as international organizations and the educational institutions. Described below is part of those benefits that come to mind:

Government:

For the Government, the benefits can be described in the following areas:

- Better management of resources hence placing the right person in the right position
- Streamlined operations and simplification of procedures, hence more efficiency
- Reduction in transaction time, hence cost reduction per transaction
- Enhanced operational accountability and transparency, hence less chances of error and forgery
- Electronic transfer of authenticated forms between government agencies, hence reduction of transport and other cost related elements
- Less storage space needed for archiving documents, hence less spending on rent
- Government spending when and where needed through analysis of data, hence anticipated and studied budgeting
- Better services offering to the government employees and the citizen, hence a supported government
- Revenue generation instead of revenue spending through the savings done, the creation of new jobs, the targeting of studied investments, projects done more efficiently through lessons learnt

Citizen:

As for the citizen, the E-government initiative views the citizen as the customer and the government as the provider. Hence, customer satisfaction is targeted through the following points:

- Less time in doing a government transaction
- Accessibility to different government transactions through one window – the one-stop-shop model
- Updating of life event data (as change of marital status, change of address, etc.) in one place and one place only

- Carrying personal data and benefits offered by the government through a smart card that will be distributed by the government, validated and updated through secure channels, authorized by the government, very near the premises of the citizen, hence reducing the time spent in getting the right forms filled
- Notification alerts through various delivery means (cellular, internet mail, etc.) when certain updating of information is needed by the government, certain offerings are given by the government, etc.
- Reduced number of visits to government offices, hence decreased queuing time resulting in enhanced personal and national productivity
- Multiple accessible channels offered by the government related to information distribution, service offerings, citizen information updates, and available transactions
- ICT awareness raising and minimizing the digital divide through training, hence opportunities for a digital community to be born that would face the challenges of the new world which Lebanon cannot but be part of
- Opportunity to learn and use ICT through the establishment of multi-purpose community centers
- Expanding the local ICT job market with government as the employer for young university graduates
- E-government initiatives would also be instrumental in building the next generation through updated curriculums at schools and universities and giving opportunities to innovative business ideas through the various facilities offered by the government itself or the negotiations that are always taking place with the private sector for the benefit of increasing the business opportunities, the usage of the internet, the creation of jobs, and the elimination of all illegal entities that would be a hindrance to the community as a whole.

Business and Investment Community:

As for the business and investment community, whether in Lebanon or outside, the E-government initiative proposed encompasses the following benefits:

- Facilitating the registration of new companies of all kinds
- Researching the availability of certain businesses and assisting in establishing partnerships or alliances i.e. new investments
- E-procurement services
- Secure payments over the Internet
- Streamlined operations for requesting permits through one-stop-shop investment portals
- Faster transactions for business dealings with the government
- Expanded local ICT market with government as the largest user of ICT products and services

Government Employee:

Through the implementation of the e-government strategy, the benefits listed below would be few of the ones the civil servants will get:

- Increased productivity, through the simplification of procedures
- Information availability any time and any place
- Faster communication within the government across departmental boundaries

- Information and knowledge sharing
- Efficient Human Resources related services like performance appraisals, online requests and approvals
- Salaries paid through e-banking

International Organizations:

In dealing with the Government of Lebanon, International Organizations are surely to benefit from the e-government initiative as follows:

- Better and timely sector statistics provided through government information systems
- Streamlined, transparent and accountable government processes that concern such organizations
- Better management of fiscal matters and effective donor coordination whether for loans or grants from such organizations
- Timely decision-making by the government officials through decision-support system environments

Educational Institutions:

Last but not least are the educational institutions that produce the new generations of e-government benefactors. They are to benefit from the e-government initiative in several ways such as:

- Involvement of teachers and researchers in the e-government design and implementation processes – an alliance with the government and the business community that can generate new research revenue channels for the institutions and lead to innovative ideas and technical papers
- Expanding the ICT curriculum to include topics of relevance to e-government deployments. Hence, the new graduates will be ready for involvement in e-government projects and universities can become e-government centers of excellence
- Providing training and continuing education sessions to civil servants and/or citizens in support of e-government applications usage or administration

5. NATIONAL FOCAL POINT FOR E-GOVERNMENT STRATEGY ATTAINMENT

The Government of Lebanon formed a Ministerial Information and Communication Technology Committee (MICTC) in May 1997 based on decision 33/97 issued by the Prime Minister and based on decree 9500 dated 7/11/96. The MICTC is currently chaired by the Minister of State for Administrative Reform and includes the Minister for Economy and Trade and the Minister of Telecommunications. Its prime objective is to develop and implement a nationwide ICT Policy and Strategy which will make maximum use of CT in the various sectors to promote the economic development of Lebanon. In that context, the MICTC shall be the executive level decision-making body for the e-government strategy attainment. It shall be supported by an e-government advisory committee with domain expert representatives from the public sector, private sector and academia.

In coordination with the Ministerial ICT Committee and for the proper achievement of e-government, there needs to be a national focal point entrusted with the overall planning, implementation, management and monitoring of the documented strategy. Within the context of the Government of Lebanon, and given its various initiatives in support of e-government

attainment since its establishment in 1995, this focal point is the Office of Minister of State for Administrative Reform (OMSAR). OMSAR with its well-established core competencies in the fields of Information and Communication Technologies (ICT) designs and implementations, modern procurement procedures and institutional and legal framework developments in addition to its active relationships with international donors and its direct organizational link to the Council of Ministers (CoM) is best qualified to be the focal point for e-government realization.

In that regards, it is envisaged that OMSAR's current ICT operations, under the Technical Cooperation Unit, shall be revised and expanded to address the E-government requirements. This in turn shall lead to the formation of a National ICT Unit (NICTU) at OMSAR with the following Divisions:

1. E-Government Strategy and Planning
2. E-Government Implementation
3. E-Government Central Operations and Management

The E-Government Strategy and Planning Division will serve as the driver behind all e-government projects to be handled by the Implementation division. It shall be responsible to work on e-government white papers, as well as on updating this strategy to stay current with international developments and best practices in this field. It shall develop and monitor the high-level action plan and facilitate a phased implementation through detailed annual work plans.

The E-Government Implementation Division will be formed in OMSAR with participation from other government ministries and agencies for each defined project to oversee the required design and implementation processes. With a broader collaboration from the agencies/ departments, government-wide ownership and commitment to the e-government initiative will be attained. The E-Government Implementation division shall be responsible to plan, scope and manage the implementations of e-government solutions before handing over to the E-Government Central Operations and Management division.

The E-Government Central Operations and Management Division shall be responsible to ensure proper operation of all e-government implementations and monitor and evaluate their impact. This Central Operations and Management division shall also oversee and coordinate the planned e-government operations and management division(s) in the various government ministries/agencies.

MODULE 1: SITUATION ANALYSIS

6. KEY PLAYERS IN THE PUBLIC AND PRIVATE SECTORS

To successfully realize an e-government implementation within a partnership perspective, all key players in both the public and private sectors need to be identified. Within the Lebanese context, these key players can be listed as follows.

- Central Government Bodies
- Ministries and Autonomous Agencies
- Mouhafazats and Municipalities
- Embassies, consulates and missions abroad
- Banking and Financial Services Sector
- National ICT Sector
- Non-Government Organizations

The roles of these players in Lebanon's E-government Initiative are elaborated in the detailed version of the E-government Strategy Document (EgSD).

7. E-GOVERNMENT-ENABLING ACHIEVEMENTS

7.1. Assessments and Studies

Since the end of the civil war in the early 90s, various ICT, human resources, and institutional assessments have been made for the government by a number of local and international consulting firms. An initial assessment that focused on the rehabilitation and reform requirements of the Lebanese Administration led to securing 2 loans and a grant from international donors for OMSAR. Other sector specific assessments led to securing additional loans and grants for concerned Ministries and Agencies through the Council for Development and Reconstruction (CDR).

From the loans and grants secured by the government, a number of ICT, human resources and institutional programs have been launched, all with the objective of realizing a modern administration that can operate more efficiently and answer to the service requirements of the citizen in a timely and effective manner. The current results of these programs are highlighted in the detailed version of the EgSD.

Studies resulting from these loan and grant programs cover a National ICT Strategy and Policy document, an Institutional Development Strategy, a consolidation of human resources databases proposal, plans for the merger and restructuring of government Ministries and Agencies, a privatization study and others.

7.2. Infrastructure

Modern telephony systems and core data network systems are deployed in government core offices, Ministries and Autonomous Agencies.

Overall, the current status of the local infrastructure in most of the government offices is sufficient to support any e-government implementation (details can be found in the in the detailed version of the EgSD). Required still is the completion of the local infrastructure in the remaining government offices, covering Ministries, Autonomous Agencies, Mouhafazats, large and medium Municipalities as well as Embassies, Consulates and Missions abroad.

As relates to Internet Service Providers (ISP), there are some 15 active ISPs in Lebanon, providing different levels of service to the end user. And due to the flat national telephone tariffs scheme, accessing the ISPs from anywhere in Lebanon costs the same – currently at \$1.80 per hour for dial-up accounts².

7.3. Systems and Applications

With the local infrastructure in place, a number of system applications have been developed and deployed. These applications range from mere office productivity tools and email applications to more advanced document management and archiving systems to online service processing systems to intra-government administrative systems. Open design and development standards have been used in these systems applications so that they can be easily interfaced in the near future.

A good number of government offices have a web site that offers information about the concerned office and its branches. Also, a comprehensive government point-of-information portal entitled “informs.gov.lb” has been developed along with a hotline help desk facility. This portal and supporting help desk provide citizens with detailed information on all

² at the time of writing this document, a government decree reducing this fixed rate as per a usage time table was near completion

government formalities, covering the forms themselves, the required supporting documents, associated fees and processing procedures.

A complete inventory of all developed and deployed system applications is being prepared and will be added to the detailed version of the EgSD.

7.4. Training and Capacity Building

It has been general practice that all ICT implementations in the Government of Lebanon are accompanied by the required training for the concerned civil servants. The training of thousands of civil servants has covered end user training for PCs and productivity tools, advanced network and database administration training, systems applications development tools training and training on the developed tailored systems applications.

As a result of this training, capacity has been built in various government offices to constantly operate, maintain, upgrade and populate the available information systems and their enabling environments. This capacity will form the core ICT operations units for the government.

Non-ICT training has also been given to a good number of civil servants, focusing mainly on modern administrative best practices.

7.5. Legislative Work

On the legislative front, work has been done in support of streamlining government operations. Examples of this work include the merger of a number of Ministers and Autonomous Agencies, the introduction of new accounting practices, and the enactment of a privatization law. Other examples are provided in the detailed version of the EgSD.

As relates to digital content, an intellectual property rights law was passed by the government in 1999. A digital or electronic signature bill is also near its final approval. And most recently, legislative work has started on matters of privacy protection and cyber-crime prevention.

7.6. National Awareness

For any government-wide initiative to succeed, society at large needs to be aware of the resulting tangible benefits. Within the context of e-government, this is even more the case as society is not only the benefactor but is also the determining factor in making e-government provisions and services a success or not. To this end, national awareness on the various achievements to date towards an e-government status in Lebanon has been a key undertaking.

Whether at general ICT seminars or conferences or at specialized e-government events, the government has been presenting on e-government progress, focusing in a large part on the basic building blocks of e-government as well as on the requirements of society to benefit from its offerings.

MODULE 2: E-GOVERNMENT FRAMEWORK

8. LOGICAL FRAMEWORKS

The vision of the E-Government framework is built upon 4 logical frameworks. All these frameworks are closely linked together and cannot be treated as separate entities. The logical view of the E-Government Framework is depicted as follows:

8.1 Legal Framework (Law, Legislative, Administration)

(Refer to Section 9 in the detailed version of the EgSD for details)

The legal framework addresses the aspects of legalizing electronic information and services, protection of electronic information and security of electronic services. It considers all initiatives around laws for Electronic Signatures, Data Protection and Data Security. This forms the legal and regulatory basis for the other frameworks.

8.2 Technical Framework

(Refer to Section 10 in the detailed version of the EgSD for details)

The technical framework covers the need for a secure national and global communications network infrastructure to interconnect all of the government offices in the country and abroad; the unification of data sources through the establishment of redundant data centers for the government operations and the introduction of a national ID or e-government personal smart card; branding and standards for e-government applications (portals or web sites) and associated domain name classifications and directory services.

It takes into account all technologies pertaining to Networks, Security Infrastructure (Public Key Infrastructure, Digital Certificates), and Data Interoperability and Access devices (direct delivery, Internet account holders, multi-purpose community tele-centers, individual interactive kiosk stations at municipalities, mobile solutions, etc.). This forms the technological basis for the services framework.

8.3 Services Framework

(Refer to Section 11 in the detailed version of the EgSD for details)

The services framework highlights all services delivered for the interaction between

- i. Government and Citizen (G2C and C2G)
- ii. Government and Businesses (G2B and B2G)
- iii. Government and Government (G2G)
- iv. Government to Employees (G2E and E2G)

It describes a number of *information dissemination applications* such as government-wide information portals, specific web sites, tourism portal, business portal; government *transactional online service applications* covering government-wide services portal(s) and a dedicated e-procurement portal; *inter-government applications* ranging from simple email exchanges, to workflow, document management and archiving system applications, to information and decision support system applications and finally to government-to-government and government-to-employee administrative applications; *independent service* offerings that complement the functions described above, like payment gateway and directory services.

8.4 Capacity Building/Promotion/Operations Framework

(Refer to Section 12 in the detailed version of the EgSD for details)

The capacity building framework focuses on training, educating and raising awareness for both the civil servants and the society at large. It also covers guidelines for E-government operations and management structure covering both the central government requirements and the specific government offices (Ministries, agencies and international offices) requirements. It describes mechanisms for

marketing the service offerings and defining guidelines for the operation and maintenance of the services.

MODULE 3: IMPLEMENTATION PLANNING

9. PRIORITY PROJECTS

A number of priority (anchor) projects can be identified under the 4 logical frameworks of e-government – legal, technical, services and capacity building/promotion/operations. These projects will collectively provide the foundation for the proper gradual provision of online services by the government, in addition to the e-procurement portal. This gradual provision will make the role out of online services to the level of reaching a government services portal more attainable because of the gradual momentum building that will take place. By placing online crucial services first, both the government staff involved and the recipient citizens will self-generate the enthusiasm for these online services to be frequently accessed and benefited from. One successful roll out after another, in a prioritized way, will tend to shift a good number of citizens to the online services provision channel and away from the routine manual paper-based process.

The priority projects under the 4 logical frameworks can be documented as follows:

- Legal Framework: *the timely drafting and enactment of all ICT-related legislation and regulation (including implementation decrees) as without this there will be no legal ground and regulatory basis for dealing with electronic information or data, not to mention online services or e-procurement contractual liabilities.*
- Technical Framework: *interconnecting through a secure network information infrastructure the central government bodies, a number of key ministries and agencies, and a couple of international offices.* This being based on well designed domain name classifications and directory services, a pilot data center and supported by a sound PKI communications mechanism.
- Services Framework: *providing the solutions for the following online services:*

Utilities subscription and billing services: covering electric power, water, and phone services. These services are vital to the day-to-day living requirements of the citizens and certainly are the revenue generating services for the government. The placement of their subscription and billing online is a priority in that better and timely services will be rendered and more revenues will be brought in to the government. A note needs to be made here that with the privatization process underway, most if not all of these services will be privatized. However, until this is achieved which for some utilities might take a year or two and even more, the placement of the subscription and billing services online still needs to be worked on for the mutual benefit of the citizen and government.

Civil and Criminal Records: as supporting documents for most of the forms to be submitted to the government, these records need to be placed online so that the citizen through a secure network can obtain them in a timely manner.

Completion of the NOOR online customs system: to handle all of the customs formalities at all ports of entry in the country.

Residence and Work Permits for Foreigners: a tedious paper-based process that must be placed online to facilitate better services to the concerned person requesting these permits and in turn to allow for proper online bookkeeping by the government in terms of the different nationalities in the country and the periodic revenue generated by issuing these permits.

Passport and Visa Petitions and Issuances: these two document types are being modernized as this strategy document is being prepared. They will be made up of secure paper media and have machine readable codes printed on them. Currently, also passports can be renewed by mail. Placing the petitions for their submittal online will ease the process for the citizen and help the government in better managing the relevant files and generated revenue.

Vehicle Registration: this laborious process has been automated within the premises of the various vehicle registries in the country. Yet online registration with payment is still missing. With this new facility, vehicle owners will fulfill their forms more expeditiously and government will instantly maintain proper online records of all register vehicles in the country and the revenue generated from their registration.

Vehicle Excise Tax Payment: this is an annual expense to be paid by vehicle owners. Currently, it can be paid at bank branches throughout the country, yet the related paperwork is still tedious. With online excise tax form and payment submittals possible, with an interface to the vehicle registration system to cross-reference and check relevant vehicle information, both the vehicle owners and government will benefit.

The proper scheduling and budgeting for the realization of these online services will be worked on after more assessments are made.

- Capacity-Building/Promotion/Operations Framework: (1) *approving a modern and effective ICT organizational structure for the government at large* based on the requirements of individual ministries and agencies; (2) *continuing ICT training of civil servants*; (3) *deploying multi-purpose community centers in the Mouhafazats to train citizens on ICT and facilitate online access*; (4) *promote the e-government strategy during various events* (tradeshows, conferences, forums, visits of international delegations, etc); and (5) *completing the government-wide operations and management structure for e-government* and populating the central division and a few field units.

10. HIGH LEVEL PLAN AND COST ESTIMATES FOR E-GOVERNMENT ROLL-OUT

The table below provides a high level plan (in terms of yearly quarters) for e-government roll-out as per the identified requirements and projects in this document. The plan for each e-government project will be refined and the proper cost estimates (fixed and recurring) will be made as part of an annual work plan process that will be followed for the full realization of the e-government strategy. The overall duration anticipated to attain the various e-government deliverables is 7 years, assuming that the funding is secured in accordance with this high level plan. With possible delays in the securing of funds on one hand and the attainment of the administrative reform strategy (a 10 year plan) on the other hand, the overall duration for accomplishing the e-government strategy may shift by a couple of years.

E-government Program Component	Anticipated Start / Duration	
	Start	Duration
The E-Government Legal and Regulatory Framework		
Legalizing Electronic Information and Services	Q4 2002	1 to 2 years
Protection of Electronic Information	Q4 2002	1 to 2 years
Security of Electronic Services	Q4 2002	1 to 2 years
E-Government Technical Framework		
National Infrastructure for Government Operations	Q1 2003	3 to 4 years

Global Infrastructure for Embassies, Consulates and Missions	Q4 2002	6 to 7 years
Public Key Infrastructure	Q1 2003	continuous
National ID or E-Gov Smart Card	Q1 2003	6 to 7 yrs
Standards & Branding	Q3 2002	1 to 2 years
E-Government Data & Data Centers	Q2 2003	2 to 3 years
E-Government Delivery Channels & Access	Q2 1997	continuous
E-Government Services Framework		
Enabling Applications (email, DS, WF/DMS/A, IDSS)	Q1 1998+	6 to 7 years
Information Portal	Q1 2002	2 to 3 years
Service Portal	Q2 2003	6 to 7 yrs
Government to Citizen (G2C and C2G)	Q2 2003	6 to 7 yrs
Government to Business (G2B and B2G)	Q2 2003	6 to 7 yrs
Government to Employee (G2E and E2G)	Q3 2003	6 to 7 yrs
Government to Government (G2G)	Q2 2003	6 to 7 yrs
E-Government Capacity Building/Promotions/Operations Framework		
Building National Capacity	Q4 2002	continuous
Internal Government Training and Capacity Building	Q1 1998	continuous
E-Government Operations and Management Structure	Q1 2003	6 to 7 yrs

11. CRITERIA FOR SUCCESS AND ASSOCIATED RISKS

The criteria for success in the documented e-government initiative for each identified project are based on the attainment of the following benchmarks:

1. Resource mobilization is secured for the full roll-out of the specific e-government project inclusive of ICT solutions, training and capacity building of required human resources and operations and maintenance expenses. The idea of taking a percentage of the increase in government revenue as a result of e-government applications and reusing it in the financing of new e-government applications needs to be qualitatively and quantitatively assessed.
2. The Lebanese society becomes more educated and connected to the national information infrastructure through the Internet. With a current base of only some 7% of the population as Internet users, a pragmatic success criterion would be to have a 3% percent of the population increase in terms of Internet users every year for a period of 6 to 7 years, making the Internet usage rate some 25% of the population by the end of 2009. E-government applications will become more utilized directly by the citizens instead of through government clerks as intermediaries.
3. Productivity of civil servants increases at a rate of between 10 to 15% per year over the 6 to 7 year span of the e-government roll-out. This rate will vary and could increase this bracket depending on the type of e-government application at hand (information portal, services portal or inter-government administrative portal, etc.).
4. Paper-based government information and services get reduced by a rate of 7 to 12% per year, with the target of having only 25% of such government information and services still in existent by the end of 2009.
5. Government revenue from services rendered through e-government applications increases at a rate of 15 to 20% per year, with the objective to have a two-fold increase in revenue by the end of 2009.
6. Government operations and procedures get simplified and streamlined at a rate of 10 to 15% per year, with the target to have full simplification of procedures and streamlining of operations by the end of 2009. The streamlining is to include having

the proper number of skilled civil servants remaining in the government to fulfill its operations.

More developed e-government application specific success criteria need to be identified and documented at the start of implementation of each application so as to ascertain the most out of each implementation for the benefit of both the government and the citizen.

As with any initiative, success is always associated in one way or another to a number of risks. In the context of realizing the Lebanese e-government strategy, the associated risks that could delay the e-government roll-out agenda can be identified as follows:

1. Political instability in the government, which could lead to interruption and in some cases re-direction of the e-government initiative.
Risk Level: High.
Impact Level: Very High.
Mitigation Plan: None, resubmit vision again at later stage.
2. Poor resource mobilization to fund the e-government initiative, particularly in the absence of sizeable funds from increases in government revenues.
Risk Level: Medium.
Impact Level: High.
Mitigation Plan: Assuming the technical framework is already available try to implement the top ten priority projects with funding available.
3. Intentional or unintentional delays in the enactment of the required legal and regulatory framework which forms the core of any e-government implementation.
Risk Level: High.
Impact Level: Medium.
Mitigation Plan: Assure funding and start in parallel with the implementation of the infrastructure and the design of the service applications.
4. National disasters associated with the regional conflict, which could disrupt required infrastructure (power or telecom) for a considerable period of time.
Risk Level: High.
Impact Level: Very High.
Mitigation Plan: None, delay program.
5. Insurmountable resistance to change by the civil servants who fear for their job future as a result of the simplification and streamlining of government procedures and operations.
Risk Level: High.
Impact Level: High.
Mitigation Plan: Immediately start with additional dialogue, mediation and involvement in projects. Setup training and education plan and deliver as soon as possible.
6. Unwillingness of society to become e-educated and connected to the national information infrastructure through the Internet in an accelerated manner due to severe socio-economic problems.
Risk Level: High.
Impact Level: Medium.
Mitigation Plan: Immediately start with additional discussions and awareness promotions. Setup awareness building plan and deliver as soon as possible.
7. Insufficient capacity of the local ICT industry and/or poor support of the international ICT industry to work with the government on realizing the e-government implementations.
Risk Level: High.
Impact Level: High.

Mitigation Plan: Transfer of knowledge to the local ICT industry with their involvement along with international ICT companies within projects.

12. BENCHMARKING E-GOVERNMENT ON A GLOBAL SCALE

For a country to succeed in its efforts to become part of the new world, comparisons and benchmarking with other countries must take place on a continuous basis. Based on a recent global report, Lebanon is considered to be doing well in its e-government efforts being placed among the top thirty six global country leaders in the world. This has been published in "Benchmarking E-Government: A Global Perspective – Assessing the Progress of the UN Member States". Through this report the American Society for Public Administration (ASPA) and the United Nations Division for Public Economics and Public Administration (UNDPEPA) undertook a research study analyzing the approach, progress and commitment on the part of 190 UN member states in an effort to gain an appreciation of the global e-government landscape in 2001.

In determining what defines an enabling environment, the report analyses issues by benchmarking the prevailing core areas supporting national e-government programs. The final measure or E-Government Index attempts to: 1) objectively quantify these critical factors and 2) establish a "reference point" for which a country can measure future progress.

The E-government Index is a mean figure derived from three measures: the Web presence, telecommunication infrastructure and human capital.

- The first captures a country's online stage of development (Lebanon's web presence=3, Ave=3.6).
- The second compares six primary indicators which define a country's ICT infrastructure capacity. They are: PCs per 100 individuals (Lebanon=4.64, Ave=27.5), internet hosts per 10,000 individuals (Lebanon=23.00 Ave=447.93), percentage of a nation's population online (Lebanon=9.0, Ave=32.2), telephone lines per 100 individuals (Lebanon=19.96, Ave=46.00), mobile phones per 100 individuals (Lebanon=19.38, Ave=49.68), televisions per 100 individuals (Lebanon=352, Ave=459.5).
- The third attempts to capture a country's and its citizens' facility, opportunity and willingness to use online government. The indices of relevance here are: The UNDP Human Development index (Lebanon=.758, Ave=.883), the information access index (Lebanon=.250, Ave=.844) and the urban/rural population ratio (Lebanon=89.3, Ave=82.3).

In terms of E-government capacity,

- Thirty six countries, or 25% of the 144 indexed are reported to have High E-government Capacity with Lebanon having an e-government index of 2.0 (Ave=2.29). Countries in this category have the technical and human capacity and the resources to sustain innovative and productive citizen-centric e-government programs with few hindrances.
- Twenty six countries (18%) have Medium E-Government Capacity. Countries in this group are technologically advanced and enjoy a well educated population.
- Thirty six countries (25%) demonstrated a Minimal E-Government Capacity. These are newly emerging economies, developing and least developing countries.
- Thirty five countries (24.3%) demonstrated Deficient E-Government Capacity. These are among the world's least developed nations.

The Middle East regional index of 1.76 qualifies its E-government Capacity as Medium. However, the enabling environments of each country vary dramatically. For Arab States, the United Arab Emirates (2.17) Kuwait (2.12), Bahrain (2.04) and Lebanon (2.0) demonstrated

a High E-government capacity in 2001, while Tunisia, Yemen and Algeria are well below the regional index.

For the purpose of the UN/ASPA survey, a country's online presence can be categorized by one of five stages: emerging, enhanced, interactive, transactional and fully integrated or seamless.

- No country has yet achieved the seamless stage where the instant access to any service is through a "unified package".
- Seventeen countries (USA, UK, Australia, France, Canada, etc.) out of 169 have transactional presence meaning complete and secure transactions can be done online.
- Fifty five counties (Lebanon, UAE, Pakistan, Jordan, Kuwait, Greece, Egypt, Italy, Malaysia, Japan, etc.) have interactive presence, meaning that the country's presence on the internet is expanding dramatically with access to a wide range of government institutions and services.
- Sixty five countries (Tanzania, Indonesia, Kenya, Bahamas, etc.) have enhanced presence meaning that government publications, legislation and newsletters are available. A country's online presence begins to expand as its number of official websites increases.
- Thirty two countries (Yemen, Syria, Fiji, Cyprus, Mali, etc.) have emerging presence meaning that the country commits to becoming an e-government player. A formal but limited web presence is established through a few independent government websites which provide users with static organizational or political information.

Beyond e-government indices and survey results, a good number of countries around the world have developed and are implementing E-government Strategies. Leading the pack are countries like Canada, Singapore, United States, United Kingdom, and Australia. In the Arab World, countries like Jordan, Egypt and the United Arab Emirates have documented their e-government blueprints and are currently implementing them. Lebanon, through the formation and phased implementation of this e-government strategy will join this group of countries in advancing government service delivery to the citizen and realizing the needed logical frameworks for all e-initiatives (e-commerce, e-learning, etc.) to benefit from.

13. POTENTIAL PARTNERS AND FUNDING SOURCES FOR THE E-GOVERNMENT PROGRAM

Given the already established relations between the Government of Lebanon and both the international funding community and a good number of international and local ICT firms, a large number of potential partners and funding sources for the e-government program can be easily identified. The following funding organizations are documented for the purpose of illustration and do not constitute an exhaustive list of potential partners and funding sources. International and local ICT firms are not listed here so as not to create any marketing pretenses. Their respective involvement in the e-government program will be announced in accordance with its occurrence and at that time only so as to be impartial to all.

International Funding Organizations:

- International Bank for Reconstruction and Development (IBRD or the World Bank)
- Canadian International Development Agency (CIDA)
- United States Agency for International Development (USAID)
- United States Trade and Development Agency (USTDA)
- European Union (EU)

- European Bank for International Development (EBID)
- Arab Fund for Social and Economic Development (AFSED)
- Islamic Development Bank (IDB)
- Kuwaiti Fund (KF)
- Saudi Fund (SF)
- Japanese Fund (JF)

14. CONCLUSION

In closing, the proposed Lebanese E-Government strategy document is to be considered a working document that will be openly discussed with large group of representatives from the government, private sector and academia for the inclusion of as many intuitive ideas as possible. It is also to be reviewed on a quarterly basis by a public-private sector working group and updated in accordance with various developments in the relevant domains on the national and international levels.