

Annual Report 2009



INTRODUCTION

The Telecommunications Regulatory Authority (TRA) spared no efforts in 2009 in its ongoing mission to liberalize the market, establish the regulatory framework, and build bridges and capacities. The Authority focused mainly in 2009 on the development and advancement of the telecommunications market through the preparation of the ground work leading to the deployment of broadband services, improving the quality of service, protecting consumers, and hosting the Global Symposium for Regulators (GSR), a major annual International Telecommunications Union (ITU) meeting for regulators across the globe.

In preparing for the liberalization of broadband services, the TRA focused in 2009 on the objective of bringing true broadband services to Lebanon in an effort to allow the country to catch up with developed nations. The TRA vision in this respect, as indicated in the Broadband Licensing Plan and Broadband Network Requirements, seeks to connect all parts of the country and its citizens to the World Wide Web through fiber optic networks and high-speed Internet services so that Lebanese citizens as well as businesses stand to benefit immensely from the implementation of this service and the facilitation of day-to-day transactions that come with it.

In this regard, the TRA prepared a comprehensive plan for the deployment of broadband services including the preparation of the Request for Application for broadband licenses, the promotion of competition and the drafting of three “enabling” decrees which will provide more clarity to investors, reduce the capital needed to deploy new broadband networks, and maximize proceeds to the Republic of Lebanon from the International auction to provide licenses. In parallel, the TRA has issued the required interim licenses to the existing Data and Internet Service Providers (DSPs and ISPs).

In aiming to improve the quality of service, the TRA has been able to stake out a clear role in regulating the market for mobile services, despite the fact that the two mobile networks are still owned by the Government of Lebanon and managed by two Network Managers. The TRA supported and facilitated the decrease in prices of mobile services in January and defined the quality of service indicators that the mobile Service Providers are required to meet while preparing the requirements for closely monitoring the performance of these managers through the implementation of a quality of service monitoring system.

In accomplishing its mission of protecting consumers of telecommunications services, the TRA has earnestly addressed and resolved consumer complaints in cooperation with the Ministry of Economy and Trade’s Consumer Protection Directorate (CPD) through a defined Memorandum of Understanding (MoU). The Authority, in full coordination with the National Media Council and with the support of the Cybercrime and the Intellectual Property Rights, has also undertaken a campaign to stop illegal FM stations and Internet Service Providers using illegal, unlicensed frequencies, which result in interference on the frequencies allocated to licensed Service Providers and the frequencies related to civil aviation, creating public safety risk. The search and campaign spread through the whole Lebanese territory.

In November 2009, Lebanon achieved a major success in the global telecommunications industry not only by hosting the ninth Global Symposium for Regulators (GSR) and the second Global Industry Leaders Forum (GILF) but also by welcoming a record number of participants to the conference, bringing together **648** participants, Ministers, Members of Parliament, telecommunications regulators, policy makers, and Service Providers from **89** countries.

The TRA coordinated with the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU) in order to organize this conference in Beirut. Despite logistics, budgetary constraints, and the ambiguity of the political

conditions that existed at the time, the team was able to attract top experts to Lebanon, raise awareness, and stimulate interest in the event in just a very short period before the conference.

Held under the theme ***“Hands-on or Hands-off? Stimulating growth through effective ICT regulation”***, on 9-12 November 2009, the GSR was one of the most well-coordinated, interactive, and productive conferences and has helped Lebanon make a powerful comeback in the field of regional and global telecommunications. It gave the country added impetus to move forward towards a prosperous future that stimulates investment in the local telecommunications sector and provided its economy with a plan for sustained growth.

The TRA strongly believes that telecommunications can become Lebanon’s engine for economic growth, job-creation, and a driver of productivity and competitiveness for Lebanese businesses. In the last two years, the TRA has made the fastest progress in a very short time span through the issuance of the first four regulations, their publication in the Official Gazette and their entering into effect, and is poised to launch a large scale liberalization of mobile and broadband services in 2010.

I- PAVING THE WAY TOWARDS LIBERALIZATION

Liberalization is key for the development of the telecommunications sector and for the growth of the national economy. The TRA is legally mandated to liberalize, regulate, and develop telecommunications in Lebanon. In that regard, the Authority has undertaken a significant number of public consultations, and studies related to the mobile, fixed, and broadband fields and has gathered, studied, and analyzed crucial data that will help the Government of Lebanon make the pertinent strategic decisions for the development of telecommunications in Lebanon.

1. MONITORING THE MOBILE MARKET

The mobile sector in Lebanon enjoyed significant growth following the appointment of two companies to manage the networks, Orascom and Zain Telecommunications, and the application of Council of Ministers Decision No. 59 (January 29, 2009). The New Management Agreements coupled with ministerial action resulted in price reductions, network expansion, and a strengthening of sales channels. Despite the price reductions, however, Lebanese consumers are still charged more than twice the regional average prepaid call rate.

Through market surveys and investigations, the TRA sought to ensure compliance with the governmental mandate. The TRA collaborated with the Ministry and both Network Managers to determine and define calculation formulas for mobile Key Performance Indicators (KPIs), and it also suggested general policy distribution guidelines for SIM cards and recharge vouchers to enhance competition and nationwide availability of goods and services.

1.1 MARKET OVERVIEW

From June 2004 through November 2008, FalDete and MTC Lebanon managed the two state-owned mobile networks, MIC1 and MIC2, respectively. Upon the expiration of the contracts, the Council of Ministers authorized the Ministry of Telecommunications to launch a closed tender for the management of both businesses. The selection process in January 2009 resulted in the appointment of Orascom and Zain Telecommunications as the new Network Managers for MIC1 and MIC2, respectively, for a period of one year renewable for an additional year. The management agreements with Orascom and Zain took effect on February 1, 2009.

In 2009, the mobile sector witnessed a significant increase in the number of subscribers and a decrease in the Average Revenue per User (ARPU). This sudden increase in growth is attributed to the application of Council of Ministers Decision No. 59 dated January 29, 2009 in which MIC1 and MIC2 were requested to reduce mobile tariffs for postpaid and prepaid subscribers.

The reduction in mobile tariffs was implemented in parallel with an expansion plan for both networks and a strengthening of the SIM card and recharge voucher sales channels as stipulated in the New Management Agreements. In addition, the management fee structure changed in the New Management Agreements, in comparison to the former ones, adding a new incentive for Network Managers to develop the mobile business and decrease the ARPU while increasing the subscriber base.

As of Q4 2009, the level of mobile penetration in Lebanon, including both MTC Touch and Alfa subscribers, stood at around 57%, an increase of more than 20% points from the previous year. In terms of mobile blended ARPU (both postpaid and prepaid), the number is still well above the regional average of \$14, despite the decrease from \$71 in 2008 to \$50 in 2009.

1.2 MOBILE PRICE REDUCTIONS

Following Council of Ministers Decision No. 59 (January 29, 2009), which mandated the reduction of mobile tariffs, Network Managers Alfa and MTC Touch began to modify their tariffs as of March 1, 2009.

Tariff reductions were applied to non-recurring fees such as postpaid connection fees and prepaid SIM cards. Reductions were also applied to recurring fixed and usage rates such as postpaid line and value added services subscriptions, SMS, and local and international call rates.

Postpaid main tariff reductions* (as of March 1, 2009)

Connection fee: 42%
Subscription fee: 40%
National calls: 16%
International calls: 5%
National SMS: 51%
International SMS: 25%

Prepaid main tariff reductions* (As of April 1, 2009)

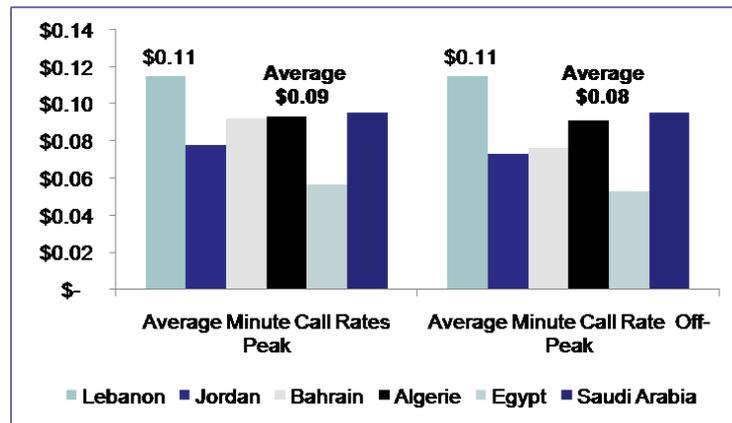
Prepaid line SIM cards: 51%
National calls: 25%
International calls and SMS: as per network managers website
National SMS: 64%

*Price reduction is an average figure calculated based on both Alfa and MTC Touch price decrease percentages (local calls include on-net and off-net rates, and international calls include peak and off-peak rates).

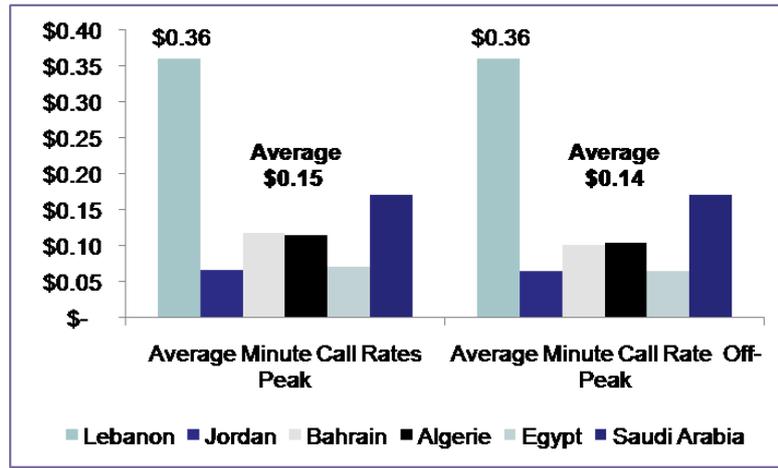
1.3 PRICE BENCHMARKING STUDY

Despite the mobile price reductions of 2009, Lebanese consumers are still charged more than twice the regional average prepaid call rate and 1.2 times more than the regional average postpaid call rate.

Postpaid price per minute (2009)



Prepaid price per minute (2009)



1.4 MARKET SURVEYS AND INVESTIGATIONS

The TRA conducted market surveys to verify the implementation of mobile tariff reduction on postpaid and prepaid SIM cards and on recharge vouchers at points of sales. The surveys also probed into the possible existence of black market activities during peak seasons (elections and summer). The TRA verified the accuracy of the billing and pricing of mobile postpaid and prepaid services. Findings of inappropriate market behavior (such as black market activities or gaps in the voucher distribution process) were reported to the Owner Supervisory Board at the Ministry of Telecommunications.

1.5 QUALITY OF SERVICE AND KEY PERFORMANCE INDICATORS PROJECT

In line with its stipulated role in the new Management Agreements signed by the Ministry of Telecommunications (MoT) and both Network Managers, the Authority has worked closely with the MoT and the representatives of MIC1 and MIC2 on the definition and the calculation method of the Key Performance Indicators (KPIs) as listed in Schedule 1 of the two new Management Agreements.

For each indicator, a detailed definition has been agreed upon as well as a calculation formula depending on the supplier's recommendation and specifications. Due to the projected large network expansion that started at the end of 2008 and in light of some market disturbances resulting from the decrease in mobile tariffs, MoT granted the Network Managers a grace period for the enforcement of the KPIs.

The Authority has also clarified to MIC1 and MIC2 the additional KPIs specified in the Quality of Service Regulation published in the Official Gazette on 16/04/2009. KPI targets were re-defined to be in line with the Management Agreements.

1.6 MOBILE DISTRIBUTION POLICY PROJECT

As per Article 15.4 of the two Management Agreements, the Authority has studied the policy distribution for mobile SIM cards and recharges and has suggested general guidelines for adoption by the mobile operators to enhance competition and nationwide availability of goods and services and to prevent any shortage of SIM cards and prepaid vouchers.

These guidelines aimed at ensuring transparent treatment among distributors and a fair chance to any new distributor to enter the mobile distribution market. Some important measures were also included to avoid any anti-competitive behavior resulting in black market activities and very high prices for end users. These measures mainly tackled specific criteria related to the selection of distributors, variable

commission rates, and alternative distribution channels. The Distribution Policy as applied by MIC1 and MIC2 integrated some of the Authority's recommendations.

2. MONITORING THE FIXED MARKET □ □ □

Lebanon's fixed line market grew in terms of penetration and usage, but call volume as well as broadband Internet rates are still not competitive compared to countries in the Organization for Economic Cooperation and Development (OECD). The increase in household penetration is attributed to a reduction in installation fees and to the demand for Digital Subscriber Lines (DSL). International traffic also increased most likely because of the reduction in call rates.

2.1 MARKET OVERVIEW

In 2009, fixed line residential household penetration increased to a level of around 64%*, an increase of around 6% points over the previous year. Lebanon's rate is higher than the penetration rate of countries with comparable GDP per capita; for instance, Jordan's penetration rate is 46% in 2009.

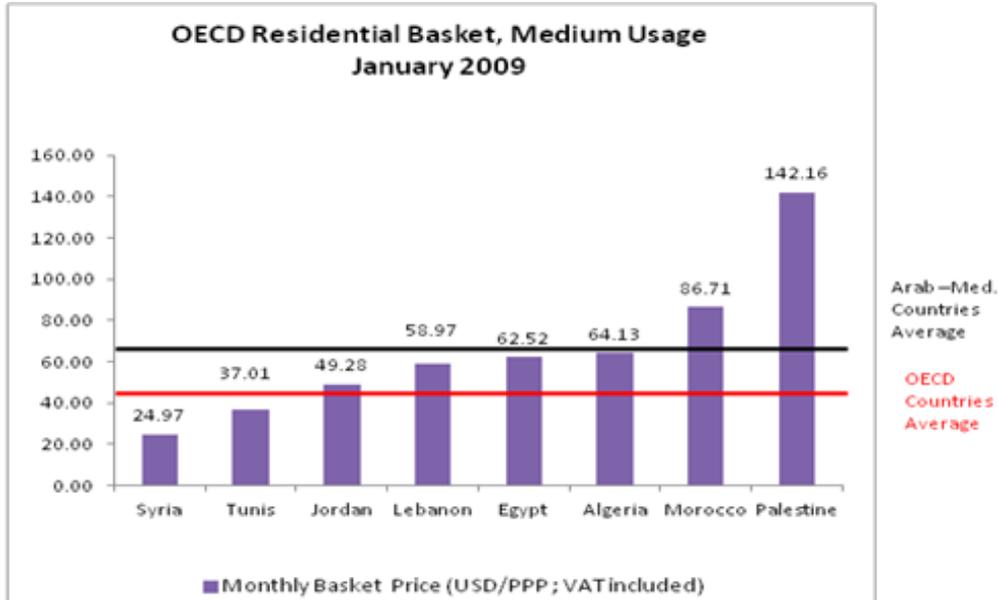
The Authority attributes the increase in demand in the fixed line market to two reasons. Firstly, the reduction in installation fees from LBP 200,000 to LBP 50,000 during the last quarter of 2008 removed the barrier to entry to subscribe for a new fixed line. Secondly, the high demand for Digital Subscriber Lines (DSL), coupled with the widening availability of the service, has led to greater demand for fixed lines. In fact, the number of DSL subscribers grew by around 62% (from roughly 80,000 in Q4/2008 to 130,000 in Q4/2009), and Digital Subscriber Line Access Multiplexers (DSLAMS) were deployed in 42 additional central offices by the last quarter of 2009.

International traffic on fixed services also increased by around 50% since November 2008 mainly due to the 37% reductions in international peak and off-peak call rates (effective November 2008) and due to the free and open access to international services. Lebanon Public Switched Telephone Network (PSTN) tariffs are comparable to Arab Mediterranean countries such as Algeria, Egypt, Jordan, Morocco, Palestine, Tunis, and Syria but do not compare with tariffs in OECD member countries.

*Fixed line residential household penetration is calculated assuming 75% of total fixed lines are used by residential households and 25% by corporations.

2.2 PRICE BENCHMARKING STUDY

Benchmarking the average usage PSTN basket cost shows that, despite Lebanon's competitiveness with Arab Mediterranean countries, tariffs are still well above the OECD average, which is approximately \$41/PPP.



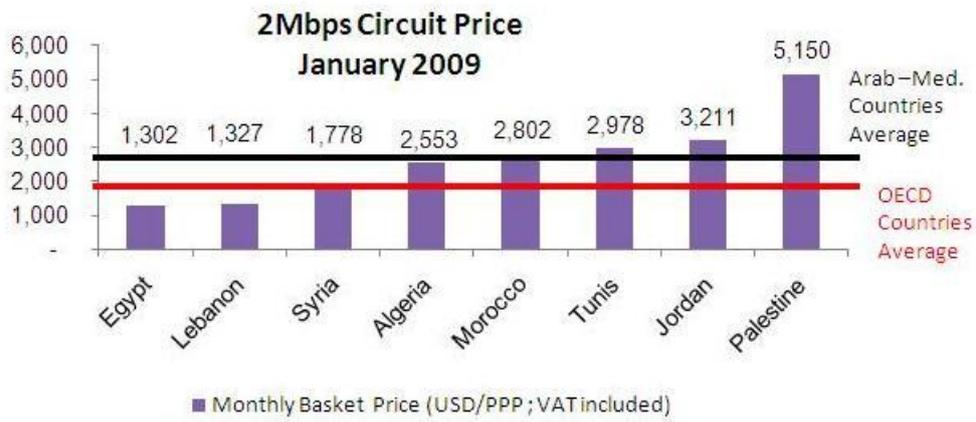
Source: AREGNET Price Benchmarking Study 2009 - Analyzed by the TRA Lebanon

Similarly, International Residential PSTN basket prices in Lebanon are below the average of Arab Mediterranean countries but are around three times more expensive than OECD countries. The graph below shows that, despite the reduction in prices applied on international call rates by end of 2008, Lebanon is still positioned well above OECD countries.



Source: AREGNET Price Benchmarking Study 2009 - Analyzed by the TRA Lebanon

On the other hand, Digital Leased Line Basket Price benchmarking shows that Lebanon is competitive with Arab and Mediterranean and OECD countries at low speeds (64kbps) but is less expensive at higher speeds (2MB). The graph below shows that 2MB Digital Leased Line baskets in OECD and Arab Mediterranean countries are respectively 1.4 and two times more expensive than in Lebanon.



Source: AREGNET Price Benchmarking Study 2009 - Analyzed by the TRA Lebanon

3. MONITORING THE BROADBAND MARKET □ □ □

The TRA has been monitoring the development and implementation of broadband services since the launch of wireless broadband and Asymmetric Digital Subscribers Line (ADSL). Poor quality of service (for residential market), high prices, and limited availability characterize the broadband market in Lebanon. It is underdeveloped with respect to the needs of both residential and business subscribers. ADSL services did enjoy growth in 2009, but still only 13% of households in Lebanon have access to the service.

3.1 HISTORY OF THE BROADBAND MARKET

Competition between Data Service Providers (DSPs) has driven the early adoption of wireless broadband services; currently, four DSPs are offering residential wireless broadband, each using a different technology (Iburst, Pre-Wimax, CDMA).

On the other hand, ADSL services were introduced in Lebanon much later than other developing countries, which began to unbundle the local loop as early as year 2000. The ADSL project started in January 2006 when the Ministry of Telecommunications (MoT) signed a landmark Memorandum of Understanding (MoU) with DSPs and Internet Service Providers (ISPs), setting out the principles to guide the introduction of ADSL services through the unbundling of the local loop by the Ministry. The MoU specified two types of unbundling: bitstream access provided to ISPs and line sharing to the DSPs.

Pursuant to the above-mentioned Memorandum, three decrees were issued (Nos. 16852, 17096, and 17090) setting rules for the use of MoT infrastructure. Based on the MoU and the related decrees, DSL services were launched in April 2007 by the Ministry of Telecommunications/Ogero and later by the ISPs and DSPs in the summer of 2007.

3.2 BROADBAND MARKET OVERVIEW

Currently, Lebanon lags behind countries in the region in the adoption of broadband. Services are also limited in terms of national coverage, bandwidth, and services offered. The quality/price ratio offered is far from the required level of true broadband-enabled communications in the developed markets. Residential users suffer from poor quality of service, and business users are subject to very high prices.

3.2.1 Wireless broadband services

Although there seems to be a competitive market with several Service Providers offering residential wireless broadband services, the speeds and prices are similar across the market. In 2009, Service Providers increased their network investments in order to increase service coverage; however, it is still restricted to major cities and some suburban areas. The number of subscribers reached 30,000 by October 2009. Prices remained constant (in some cases, upload or download speeds of some of the cheapest packages were doubled, and traffic was slightly increased), indicating that there has been minimal competitive pressure for decrease in prices: prices vary between \$39 dollars to \$132 depending on the package.

3.2.2 Asymmetric Digital Subscribers Line (ADSL) services

In 2009, ADSL services experienced a growth of approximately 63%. ADSL subscribers reached 130,000 in October 2009, or around 13% of households, with most opting for the 256 kbps download package.

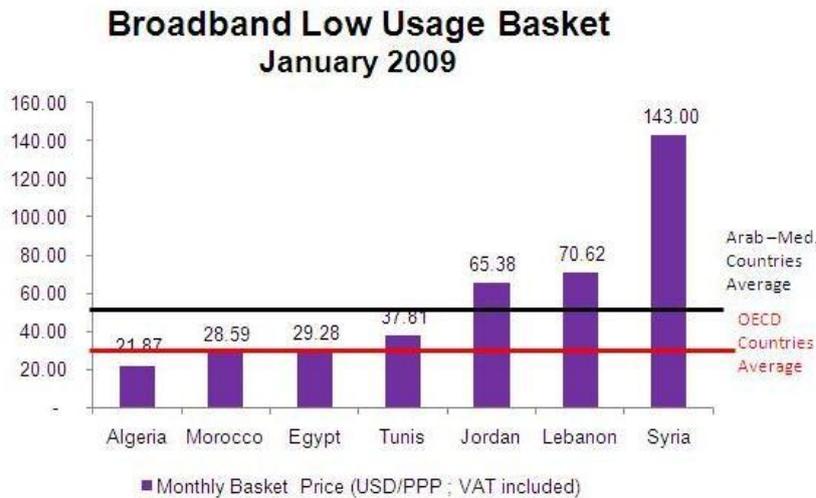
Service speed ranges from an entry level of 128 kbps downlink to symmetrical 2.3 Mbps in case of HDSL. Most Service Providers offer identical upload/download traffic caps for the respective speed plans as part of the standard packages. Some offer additional services such as unlimited nighttime

downloads (12am to 8am) as well as accelerated speeds during specific times of the day. Some ISPs also provide the HDSL product, which offers up to 2.3Mbps (symmetrical) with unlimited download capacity. In most instances, however, this product is only available to business customers with the restriction that it cannot be used for VPN (Virtual Private Network) services as stipulated in the Memorandum of Understanding signed by the Ministry of Telecommunications and the Service Providers. Prices range from \$19 for entry level to \$220 for HDSL corporate service.

In 2009, the Ministry authorized and enabled more Central Offices (CO) for ADSL services, numbering to a total of 89 DSL-enabled COs out of more than 300 COs.

3.3 PRICE BENCHMARKING STUDY

Residential broadband tariffs for low speed services (less than 1Mbps) offered in Lebanon are expensive. The graph below shows that Lebanon's broadband service is ranked among the highest rated Arab Mediterranean countries and is 2.4 times more expensive than OECD countries.



Source: AREGNET Price Benchmarking Study 2009 - Analyzed by the TRA Lebanon

4. DEVELOPING THE BROADBAND LIBERALIZATION STRATEGY □ □ □

The TRA collaborated with the World Bank and Qualcomm to commission studies and reports on broadband in Lebanon in order to identify how best to liberalize the broadband market. The studies indicated that, if the government takes an active role in the introduction and implementation of broadband, the effects on the economy would be positively significant:

The TRA developed a comprehensive strategy for the development of broadband networks. This strategy balances public and private interests and aims at improving infrastructure. In addition, the TRA prepared a draft decree to address rights of way, access issues, and the use of public property; it has also prepared a draft decree for building requirements to support broadband services, which will be submitted to the Council of Ministers for approval.

4.1 RECENT REPORTS AND STUDIES ON BROADBAND IN LEBANON

In 2009, the TRA participated in the preparation of three major reports on broadband: the World Bank broadband report, Qualcomm broadband and mobile affordability project, and the mobile and broadband sequencing study.

4.1.1 World Bank broadband report

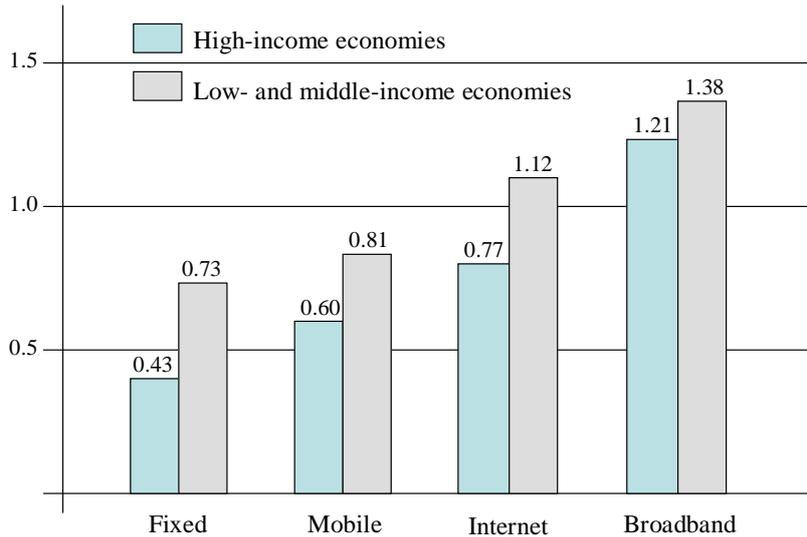
At the request of the Ministry of Finance, a team from the World Bank prepared a report on the fiscal, economic, and social impact of broadband liberalization. The Authority worked closely with the World Bank representatives to clarify the current structure of the market as well as the regulatory framework and the licensing plan issued for public consultation.

Currently, Lebanon is well behind regional countries in terms of broadband deployment. Broadband services offered are still very limited with low speeds and relatively high prices. This results mainly from a lack of competition in the data and Internet market. In order for Lebanon to benefit from the economic growth and competitiveness to be generated from broadband introduction, some major policy decisions should be taken by the Government of Lebanon to facilitate the roll out of world-class Broadband networks and services. The main findings from the World Bank report can be summarized as follows:

- A broad range of constraints, including the market structure or the regulatory and policy considerations, are currently hindering the development of broadband. The lack of effective competition in the market and the delay in the provision of high end broadband services at affordable prices are the result of the delay in the establishment of Liban Telecom and the monopoly over the fixed line services, the core infrastructure, and the provision of international telecommunications services.
- The success of broadband development relies on the adoption of a pro-active policy ensuring the participation of the private sector in the deployment investments to stimulate demand and promote broadband access.
- The broadband policy and framework to be adopted should take into consideration the timing of broadband licensing with respect to the corporatization of Liban Telecom and the privatization of the mobile businesses. Other parameters to consider are the coverage obligations for each type of license and the future of currently existing Data Service Providers.

The economic and fiscal impact of the introduction of broadband networks and services in Lebanon is expected to be significant: a 10 percentage point increase in broadband penetration in Lebanon would result in a recurring 1.38% increase in the growth rate of GDP per capita, equivalent to US \$400 million per year, with an annual fiscal contribution resulting from this additional growth estimated at \$90 million per year on a recurring basis. The capital expenditure associated with this growth is likely to be significantly less than the increase in GDP for one year.

Percentage point increase in GDP per capita for every ten percentage point increase in ICT penetration, 1980-2006.



Source: Qiang and Rossotto, 2008

Note: All results are statistically significant at the 1% level, except for that of broadband in developing countries, which is at the 10% level.

4.1.2 Qualcomm broadband affordability project

In July 2009, the Authority collaborated with Qualcomm on a study to evaluate broadband affordability in Lebanon. The study concluded that affordability is relatively high for around 60% of households; affordability could reach more than 80% in the next five years as device and service prices decrease and as incomes increase. A major barrier to broadband services affordability is the client device cost, namely the cost of PC acquisition.

With a strong affordability of broadband services, the government will likely rely on the following tools to overcome the affordability barriers:

- Using a Universal Service Obligation (USO) fund in order to incentivize operators to expand their networks
- Re-farming or allocating key spectrum in a globally harmonized manner.

Moreover, the study involved the application of link budgets and propagation models to estimate site count and use it as a proxy to estimate network cost and ultimately as a corollary to broadband service affordability as well as coverage and capacity analysis for different technologies and spectrum bands.

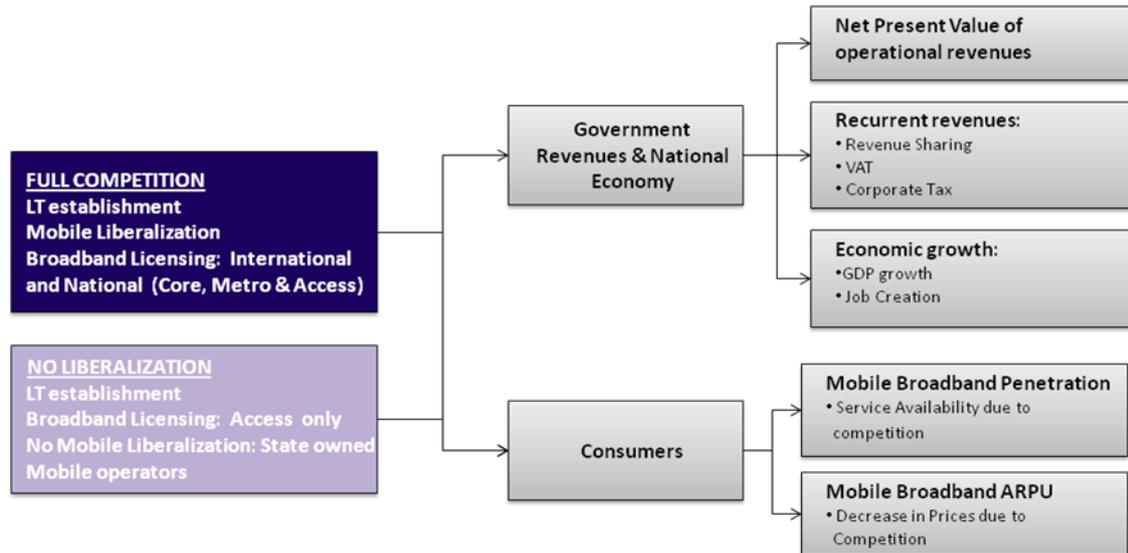
4.1.3 Mobile and broadband sequencing study

Policy decisions in the coming months will have a direct impact on broadband and mobile market development. To predict the effects of different policy decisions, the TRA has simulated a variety of scenarios, ranging from full competition to no liberalization. Simulating the market structure and dynamics for each scenario required setting specific assumptions related to the mobile and broadband markets such as the number of players, timing of mobile companies' privatization and Liban Telecom corporatization, 3G roll out coverage time frame, and price reductions. Other market assumptions were related to competition dynamics, inflation, government revenue share, spectrum allocation, and minimum roll out coverage obligations of licensees.

The Authority used its own models to evaluate the impact of each scenario on the national economy, government revenues, and consumers. Relevant figures included net present values of operational

revenues, government revenue share, value added tax (VAT), corporate tax, GDP growth, job creation, mobile broadband penetration, and average revenue per user (ARPU).

The Authority concluded that broadband liberalization is an important lever for economic, social, and business development, boosting job creation, GDP growth, and consumer access.



4.2 LICENSING PLAN AND BROADBAND NETWORK REQUIREMENTS CONSULTATION

In June 2009, the Authority launched a public consultation on the Broadband Licensing Plan and the Network Requirements for future broadband licensees.

Pursuant to this Broadband Licensing Plan, the Authority intends to issue Service Provider frequency licenses with a view to establishing across Lebanon – in the cities, towns, and rural areas – widespread coverage by competing high-speed access networks connected to the global Internet and interconnected domestically and abroad by high-speed, carrier-class metro and core networks and international gateways. The Authority is convinced that the state of the current market in high-speed data, Internet, and international services needs radical improvements in terms of investment in high-capacity networks and introduction of new services that are available in a large number of other countries but not in Lebanon.

The Authority's Broadband Licensing Plan represents a comprehensive strategy for the development of Broadband networks that is intended to balance carefully the interests of the state-owned and private sector Service Providers, potential new entrants, existing customer investments, and the overwhelming need for improvements in infrastructure and service offerings, all within the framework dictated by the Telecommunications Law 431/2002, economic, and other constraints.

The Broadband Network Requirements document sets out the network requirements that will be applicable to licensees under the Broadband Licensing Plan of the TRA.

The Broadband Network Requirements document has two primary purposes:

- To elaborate the network and service related conditions of the licenses, which will, to the extent possible, be technology neutral, in accordance with the Authority's policy of allowing licensees to build their networks using the technology of their choice. The broadband network and service description and standards detailed in this document are based on best industry practices and standards for ensuring interoperability and quality of service, and in particular those espoused by the Broadband Forum, ITU, and WiMAX Forum.

- To specify the information that applicants must submit as part of their license applications about their proposed networks, services, and operations.

4.3 RIGHTS OF WAY DRAFT DECREE

The Authority has prepared a draft decree addressing the rights of way access and the use of public property as called for in the Telecommunications Law 431/2002, Article 35. The draft decree sets out the legal and procedural framework including the TRA's mediatory role and provides a basis for the calculation of charges and fees that licensed service providers should pay to access and use the relevant infrastructure.

The TRA organized a workshop to present the draft decree to concerned parties and met with the Ministry of Telecommunications, Ministry of Power and Water, and the Water entities of Beirut and Mount Lebanon to solicit their feedback. After reviewing the comments from the public and the private sector, the TRA will deliver an updated draft decree to the Minister of Telecommunications in 2010 to submit to the Council of Ministers for approval.

4.4 NEW BUILDING REQUIREMENTS TO SUPPORT BROADBAND SERVICES CONSULTATION

Following the Authority's work on new building requirements to secure the delivery of broadband services to residential and commercial tenants in 2008, the TRA has issued a construction requirements document and presented the draft in a workshop and met with the High Council for Urban Planning, General Directorate for Urban Planning, and the Order of Engineers and Architects of Beirut to solicit their feedback. After reviewing the feedback from the public and the private sector, the TRA will submit a draft decree for new building requirements to the Council of Ministers for approval via the Directorate of Urban Planning.

4.5 ISSUANCE OF DSP INTERIM LICENSES REINSTATED BY THE STATE COUNCIL

On October 27, 2009, and as a part of TRA plans to develop the broadband market, the TRA of Lebanon granted interim licenses to three Lebanese companies: TRISAT SARL, LCNC SAL, and Waves SAL.

The three companies had been awarded telecommunications licenses prior to the entry into effect of Telecommunications Law No. 431/2002. These licenses had been terminated in 2001 but were subsequently reinstated by the Council of State (Shura Council) in 2003.

Based on these licenses, TRISAT SARL, LCNC SAL, and Waves SAL shall be able to install and operate networks of their own and utilize the spectrum they have been assigned nationwide to provide broadband data and Internet services, thus adding value in Lebanon's telecommunications market.

The above telecommunications services will be available to the public in areas that the TRA has identified as requiring further coverage to meet the needs of an increasingly growing market: the networks will initially cover the greater Beirut area and subsequently provide national coverage progressively.

The issuance of these three new interim licenses is a step forward that contributes to the enhancement of competition in the Lebanese telecommunications market and is a significant milestone towards market liberalization. While the TRA awaits the entry into effect of the Spectrum Refarming Plan, it has reiterated its commitment to safeguarding an open, transparent, and competitive market.

II- STRENGTHENING THE REGULATORY FRAMEWORK

The TRA's mission is to promote competition, ensure market stability, and protect the rights of users of telecommunications services. The TRA issues licenses, regulations, and decisions, manages the spectrum and the numbering plan, monitors the market for any abuse of dominant market position and anti-competitive practices, and takes remedial action when necessary.

In this regard, the TRA has worked in 2009 on crucial regulatory guidelines and studies across a number of sectors such as the renewal of interim licenses granted in 2008 and reinstatement in December 2009 to Internet and Data Service Providers, and focused on the management of scarce resources and consumer protection.

In partnership with Lebanon's Internal Security Forces (ISF), the TRA also conducted investigations and field detection efforts allowing the implementation of coercive measures to punish violations of Telecommunications Law No. 431/2002. These initiatives were aimed at rooting out sources of interference in the cellular networks.

Lastly, after rounds of discussions with stakeholders, the TRA issued Decision No. 1/2009 to provide for new codes (71 and 72) for MIC2 and MIC1 respectively. The addition of new codes addresses market needs and anticipates the expansion of the two networks by providing for the progressive availability of one million numbers; it also prevents the emergence of a black market.

1. INTERIM LICENSES □ □ □

The TRA upheld its commitment to equal treatment of telecommunications Service Providers in Lebanon by granting yearly renewable interim licenses to three companies whose licenses were issued prior to the establishment of the TRA, based on Article 48 of Telecommunications Law 431/2002. The TRA renewed these licenses in April 2008 and again in 2009 on interim and yearly basis.

Therefore, the TRA in late December of 2009, issued interim licenses to all existing Internet Service Providers and Data Service Providers in addition to the three licenses that have been effective in 2009.

2. LEGAL STUDIES □ □ □

The TRA conducted several legal studies and developed guidelines throughout the year pertaining to the topics of licensing (see above), control and inspection, spectrum interference, and other issues.

2.1 CONTROL AND INSPECTION

As part of its mission to inspect and monitor the market, the TRA established a procedure with Lebanon's Internal Security Forces (ISF) in order to conduct investigations and implement coercive measures against any person committing a violation of Telecommunications Law 431/2002. In application of this procedure, on-site investigations can now be undertaken by the TRA and the ISF; the minutes drawn up during the investigations; and attestation of violations are forwarded to the Public Prosecutor. Complaints and reports of violations addressed to the TRA are also forwarded to the Public Prosecutor.

2.2 SPECTRUM INTERFERENCE

The TRA, with the support of the Cybercrime and Intellectual Property Protection Bureau, undertook in 2009 a field detection effort in several areas in Lebanon to identify sources of interference on the frequencies of cellular networks and service provider networks. Interference sites have been identified in Ashrafieh, Furn el Chebbak, and on the main road leading to the Beirut International Airport, where the devices causing interference have been confiscated.

2.3 OPERATIONAL TASKS

The TRA regularly receives a variety of requests from stakeholders in the telecommunications sector and performs daily follow-up procedures in response to them. Those related to licensing requests for telecommunications services or wireless frequencies are responded to in accordance with the existing legal framework. The TRA also regularly responds to complaints from licensed Service Providers regarding interference that impairs quality of service as well as complaints relating to the difficulties faced by updating the TRA customer database in specific markets.

Mail and email requests related to the rules, regulations, and procedures applicable to the grant of new licenses, type approval, and related subjects are responded to on a daily basis by the TRA.

3. TECHNICAL STUDIES □ □ □

The TRA conducted technical studies, drafted regulatory guidelines, and issued requests for proposals in an effort to strengthen the regulatory framework. The TRA submitted a proposal for the introduction of collect calling to the Ministry of Telecommunications, and drafted a paper that outlines optical fiber to the x (FTTx) deployment options tailored to national needs. Lastly, the TRA identified WiCOM/Nexius as a partner to provide quality of service (QoS) and key performance indicators (KPIs) measurement solutions for telecommunications services in Lebanon.

3.1 COLLECT CALLING

A collect call (or reverse charged call) is a call in which the receiving party pays for the call and not the calling party. In line with the Ministry of Telecommunications strategy to introduce new services in the mobile and fixed networks, the TRA prepared a technical study that recommends an efficient method to introduce collect calling in Lebanon. The study has been submitted to the Ministry of Telecommunications for review and implementation.

3.2 GROUNDWORK PREPARATION FOR FIBER TO THE X (FTTX)

Fixed high-speed broadband access has become essential to the infrastructure of the information economy. Broadband access enables the growth of e-commerce, telemedicine, Voice Over Internet Protocol (VoIP), online entertainment services, telecommuting, e-government, and other industries, all of which create new jobs for the information economy.

Optical fiber, which has been used in core network connectivity for decades, provides a “future proof” solution for broadband connection because the fiber itself does not place strict limits on the speed of the connection. Governments worldwide are planning for access network fiber deployment to achieve high penetration of broadband access. Fiber deployment strategies range from fiber to the node (FTTN) to fiber to the home (FTTH). In addition, hybrid approaches that utilize fiber to the street cabinet and copper for the last mile to the customer premise provide interim solutions.

The Authority is drafting a paper that addresses the different FTTx deployment options in order to provide recommendations, tailored to national needs, for the roll-out of broadband access networks by licensed broadband Service Providers.

3.3 TECHNICAL SPECIFICATIONS FOR QUALITY OF SERVICE COMPLETE MEASUREMENT SOLUTIONS

In April 2009, the TRA Board nominated a request for information (RFI) committee to prepare the technical and administrative details for a request for proposals (RFP) for Quality of Service (QoS) monitoring and Key Performance Indicators (KPIs) measurement for telecommunications services in Lebanon. The aim was to maintain a reasonable level of quality of service by monitoring the compliance of Service Providers with mandatory QoS and KPI requirements.

The RFP sought two types of proposals for the acquisition of the quality of service (QoS) system and application. The first proposal option was for a QoS measurement platform, based on a turnkey solution, which would be owned by the TRA. The second proposal option was to outsource the QoS audit for the designated TRA KPIs. The TRA invited more than 35 international companies to the tender and launched a public announcement.

Further to the evaluation of the received offers, the TRA announced the results of the eligibility and technical evaluations and opened the financial offers in the presence of the bidders. WiCOM/Nexius, the exclusive partner of telecommunications solutions provider Nexius, Inc., was declared the winning bidder of both proposal options based on the overall performance evaluations. The TRA board was scheduled to settle on an option, sign a contract, and implement the solution by early 2010.

4. MANAGING SCARCE RESOURCES □ □ □

In 2009, the TRA sought to systematize the management of spectrum and band resources by building databases and instituting monitoring mechanisms to ensure compliance with international and national regulations. These efforts were also geared at curtailing demand by promoting the most valuable usages of the spectrum.

4.1 DATA COLLECTION

The Authority developed and issued a request for information (RFI) to build a centralized database on spectrum usage and occupancy. The RFI sought detailed information to manage and maintain efficient spectrum usage in Lebanon, resolve interference issues, and initiate coordination with the International Telecommunication Union and neighboring countries. The results of the RFI helped in deciding on possible reassignments and in assessing what it takes to clear segments of occupied bands.

Service type	Number of operators who received the RFI	Number of operators who replied (1 ST RFI)	Number of operators who replied (2 nd RFI)	% of 1 st received RFI	% of the 2 nd received RFI	Error ratio
Data Service Providers	4	4	2	100%	50%	15%
Mobile operators	2	2	1	100%	50%	25%
Banks	55	-	35	-	63%	-
TV Broadcasting	9	8	3	90%	33%	40% 1 st RFI 20% 2 nd RFI
FM Broadcasting	30	15	8	50%	26%	80% 1 st RFI 20% 2 nd RFI
Satellite operators	16	3	0	10%	0%	
MVDS operators	3	3	-	100%	-	-

4.2 SPECTRUM MANAGEMENT

Spectrum is a scarce national resource, and as such its effective management is important to the TRA's mission. Aiming for efficient usage and accommodating government and civil needs while also providing for new technologies and emergencies, the TRA focused on all major aspects of spectrum.

4.2.1 Spectrum licensing

Before the Authority began issuing spectrum licenses, it focused on finalizing spectrum pricing and the Spectrum Management and Licensing Regulation, which was approved by the TRA board members on April 27, 2009. The TRA presented the document for public consultation on July 27, 2008 with a deadline of September 7, 2008, and the board members took into consideration feedback from stakeholders before approval. This regulation will become binding further to the State of Council's review and upon publication in the Official Gazette.

Moreover, in November 2009, the Radio Site Installation and Modification Guidelines have been developed and finalized; they will be incorporated into the Spectrum Management and Licensing Regulation as an annex. According to the radio guidelines, all Service Providers of telecommunications services, as well as of television and radio broadcast services, must adhere to a set of procedures to obtain authorization permits to install and modify radio sites. The guidelines also outline the technical specifications for the installation or modification of such sites.

The TRA also drafted licensing guidelines based on International Telecommunication Union recommendations for different radio services including private land mobile radio, maritime and aeronautical radio services, amateur, fixed, and satellite services. Accordingly, application forms and licenses for these services have been developed and will be issued when finalized.

Given the development of services and the increase in the availability of equipment operating in the 2.4 GHz and 5 GHz bands and following requests from Service Providers and the public for using these bands for Internet access applications, the TRA worked on drafting "Regulatory Guidelines for Use of the 2.4 and 5 GHz Band for WLAN/RLAN in Lebanon." The purpose of these guidelines is to harmonize the usage of frequency bands, set up technical and operational parameters, ensure easy market entry, certify interference free operation, and guarantee quality and grade of service.

In addition, on October 27, 2009, the Authority granted and extended interim licenses to three Lebanese companies – TRISAT SARL, LCNC SAL, and Waves SAL – to install and operate networks. The issuance of these licenses raised the number of privately licensed Data Service Providers with their own networks to 24, seven of which can provide wireless data services. These licenses were issued in accordance with the principle of equal treatment of telecommunications Service Providers in Lebanon. The three licensees will utilize the 2.3 GHz band, which was assigned on a national basis to provide broadband data and Internet services, thus adding value in Lebanon's telecommunications market. The above telecommunications services will be available to the public in areas that the TRA has identified as requiring further coverage to meet the needs of an increasingly growing market: the networks will initially cover the greater Beirut area and, subsequently, provide for national coverage on a progressive basis.

The TRA has also collaborated with the Ministry of National Defense and Ministry of Interior and Municipalities to assign frequencies for government usage.

4.2.2 Broadcasting

The Authority collaborated with the Ministry of Telecommunications, Ministry of Information, and National Council of Media and Information to organize a workshop, entitled A Broad Vision for a New Broadcast Evolution on January 9, 2009. The workshop discussed the current situation as well as the challenges and opportunities of FM and TV broadcasting and how to resolve FM internal and cross border interference issues. The workshop also discussed those issues affecting the operation of airport radio communications and instrument landing system. During the workshop, the TRA presented a consultation plan that the TRA plans to adopt in an effort to improve FM broadcasting and

another consultation plan to migrate from analog to digital TV broadcasting based on the 2006 Geneva Agreement.

4.2.3 Spectrum pricing

The Authority has issued for consultation the Draft Opinion for Determining Spectrum Right To Use Fees from June 22, 2009 through August 3, 2009. These Right to Use (RTU) Fees will be applied to spectrum licensees in addition to the Spectrum Administrative Charges (SAC) that are intended to recover the Authority's administrative costs incurred in spectrum management, control, and enforcement. The main objectives in determining RTU fees for spectrum usage are as follows:

- To ensure a fair return to the public for private use of a public asset by charging economic rent for spectrum usage in addition to the cost of maintaining and using the asset which will be covered by the SAC charges. Economic rent is the surplus of the value of the public asset to the private user.
- To guarantee efficient spectrum usage and reduce waste of this scarce resource. By imposing charges based on the band, the level of occupation and availability of substitutes will push frequency licensees to optimize their efficiency.
- To encourage the most valuable use of scarce spectrum resources when allocating frequency bands for which demand exceeds the available supply. The RTU fees will effectively curtail demand to the point where it no longer exceeds supply and weed out the less valuable uses of spectrum.
- To establish transparent allocation protocols to determine which applicant will be granted frequency licenses with the corresponding bandwidth. Pricing spectrum at or near the level of economic rent is an efficient way to assign spectrum on a first-come, first-serve basis when supply exceeds demand.

The Authority targeted the following applications and bands as a first step for setting RTU Fees:

Application	Spectrum bands
Mobile broadband services	900 MHz, 1800 MHz, 2.1GHz, 2.3GHz, 2.5 GHz
Fixed and mobile broadband wireless services	1.9, 2.3, 2.5, 3.5, 3.7, and 26 GHz
Point to point (PTP) shared	6, 7, 8, 11, 15, 18, 23 and 26 GHz
Point to point exclusive and point to multi-point	11, 15, 18, 23 and 26 GHz
Professional mobile radio (PMR)	138-144, 146-174, 230-380, 380.399.9, 406.1-430 and 440-470 MHz

4.2.4 Spectrum Management and Measurement System (SMMS)

In February 2009, the Authority and the United States Agency for International Development (USAID) signed a memorandum of understanding granting the TRA \$3 million to fund the procurement of spectrum management equipment and the requisite technical assistance and training. A request for proposal (RFP) for the procurement of an “Automated National Spectrum Management and Measurement System (SMMS) for Lebanon” was issued on May 18, 2009 with the support of USAID and in coordination with the System Research and Applications Corporation (SRA), a wholly owned subsidiary of SRA International, Inc. The TRA received and is evaluating bidder proposals in order to begin the vendor selection process. The system, which consists of the National Control Center for fixed and mobile monitoring stations, will be implemented and commissioned in 2010.

The SMMS allows the TRA to efficiently manage the spectrum, establish rules for its use, identify entities exploiting frequencies, define spectrum occupancy, and track sources of interference. The system will lead to better license protection from any interference and unauthorized use.

4.2.5 Re-farming

Current spectrum allocations, especially in the 2.5 GHz and 3.5 GHz bands, are not aligned with International Telecommunication Union allocations and recommendations. They do not reflect the real value of spectrum bands, which are a scarce resource.

In 2009, the TRA re-assessed the usage of valuable bands (1.9, 2.5, 3.5, 5 and 26 GHz) and made initial recommendations in its “Spectrum Re-Farming and Packaging Plan.” The plan deemed the reallocation of the 2.5 GHz and 3.5 GHz bands to be essential.

The TRA carried out consultations on the plan, seeking feedback from industry stakeholders. Through these consultation meetings, the TRA discussed with Data Service Providers’ (DSPs) their needs and perspectives, predicted the impact in terms of cost of re-farming, and determined the implementation schedule. The meetings also allowed the TRA to identify spectrum bands to be allocated to existing DSPs and spectrum blocks to be reserved for National Broadband Carrier License (NBCL) and National Broadband License (NBL) licenses, to be awarded at an auction. The TRA also identified spectrum bands to be reserved for future usage.

In revising the re-farming proposal, the TRA will incorporate industry feedback, market needs, and suggested solutions.

4.2.6 Spectrum management

In 2009, the Authority addressed interference claims from a variety of operators and entities including global system for mobile (GSM) operators, FM and multipoint video distribution system (MVDS) broadcasters, and Data Service Providers (DSPs). The TRA also addressed claims from the civil aviation sector, ISF, and the Ministry of Defense. The TRA received claims from different regions of Lebanon, where illegal devices were dismantled and confiscated. A Notice of Violation was prepared and sent to concerned parties.

The TRA, with the support of the Internal Security Forces - Cybercrime and Intellectual Property Bureau, surveyed the field in several regions of Lebanon to detect sources of interference on the frequencies of cellular networks and service provider networks in order to stop the illegal usage of frequencies. The survey identified and allocated interference sources in many regions, and interfering devices were confiscated.

The TRA also carried out field and monitoring investigations, including site inspections, in response to interference complaints from the radio-communications systems affiliated with the Beirut International Airport; it also resolved and followed up on cross-border interference issues with Turkey, Jordan, and Syria.

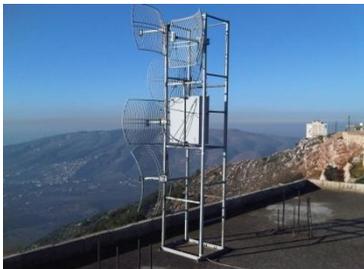
The Authority has also addressed the health effects of electromagnetic field (EMF) exposure by conducting a study, based on measurements from the field, and comparing the findings with international standards.

4.2.7 International coordination

The TRA participated in a number of international and regional meetings organized by the International Telecommunication Union, Arab Spectrum Management Group (ASMG), and Inter-American Telecommunication Commission (CITEL).

During the ASMG meeting in March 2009, Dr. Imad Hoballah, Commissioner, Board Member and Head of Telecommunications Technologies Unit was designated as the coordinator between ASMG and CITEL. In its role as coordinator, the TRA presented ASMG's preliminary positions on the agenda items of World Radiocommunication Conference 2012.

Through its participation in these events, the TRA sought to benefit from the experience and support of authorities around the world and to empower Lebanon to regain its leading role in the field of telecommunications.



4.3 MANAGING THE NEW NATIONAL NUMBERING PLAN (NNP)

According to Telecommunications Law 431/2002 Articles 5 (1-f) and 31 (1), the Authority is responsible for administering and managing the numbering required for customers and users of public telecommunications services.

In May 2009, the TRA finalized a new National Numbering Plan (NNP) and Numbering Regulation after consulting with concerned entities in the private and public sector. The new NNP and Numbering

Regulation have been handed over to the Minister of Telecommunications to be submitted for the State Council's review.

In the meantime, the TRA has addressed the market's needs for new numbers, especially for mobile operators, by publishing decisions in the Official Gazette. The TRA has also set annual numbering fees for fixed, short codes, and mobile numbers to recover the cost of administering the NNP.

4.4 TYPE APPROVAL

Pursuant to articles 22 and 23 in the Telecommunications Law 431/2002, the TRA shall define the standards and technical requirements applicable to all telecommunications equipment intended to be imported and used in the Lebanese market.

Accordingly, the TRA has issued and published the Type Approval Regulation in the Official Gazette (No. 17, April 16, 2009). This regulation includes all the procedures and conditions to be applied by all telecommunications equipment suppliers and manufacturers prior to importing and selling these equipment into the Lebanese market, and especially those that are destined to be connected to telecommunications public networks. This regulation also defines the implementation conditions and specifications of the TRA approval label (certification logo) that should be affixed on all telecommunications equipment in the Lebanese market.

In order to simplify the issuance of licenses and certifications, the TRA has implemented a fully automated application system that allows importers and manufacturers to submit online their importation licenses and approval certifications applications. The TRA is also coordinating with the National Standards Institution (LIBNOR) for adopting the international standards to be used by the TRA as Lebanese standards.

The TRA worked on specific procedures and workflow with the Ministry of Defense and the Lebanese Customs to facilitate suppliers and manufacturers approval procedures. As such, the final equipment clearance is now handled by the TRA, which sets a deadline of only 48 hours to provide the necessary licenses and certifications. Based on these licenses and certificates, the equipment is cleared directly through the Lebanese Customs and does not require any further clearance. The implementation of this regulation is pending MoT approval.

5. PROTECTING CONSUMERS

As the TRA strives to protect consumers in the telecommunications industry and to strengthen the regulatory framework, the TRA board approved the Consumer Affairs Regulation on June 19, 2009. The directive ensures the protection of consumer rights vis-à-vis Service Providers, and it sets out a clear procedure for the submission of complaints to Service Providers and the TRA. The regulation will become binding further to the review of the State of Council and upon publication in the Official Gazette.

In the meantime, consumers can submit complaints to the TRA through the Consumer Protection Directorate (CPD) at the Ministry of Economy and Trade (MoET). A designated CPD hotline handles consumer complaints, including those related to telecommunications issues. The TRA and MoET signed a Memorandum of Understanding on February 11, 2009 to improve the hotline service.

The Director General of MoET and head of CPD, had already opened a hotline (1739) and call center within the CPD to handle consumer complaints, including those related to telecommunications. The memorandum allowed both institutions to join efforts to better share the hotline and to better serve telecommunications consumers.

5.1 RESOLVING COMPLAINTS THROUGH THE CONSUMER COMPLAINTS SYSTEM (CCS)

The Memorandum of Understanding between the TRA and the Ministry of Economy and Trade (MoET) also stipulated the development of a shared structured query language (SQL) database to

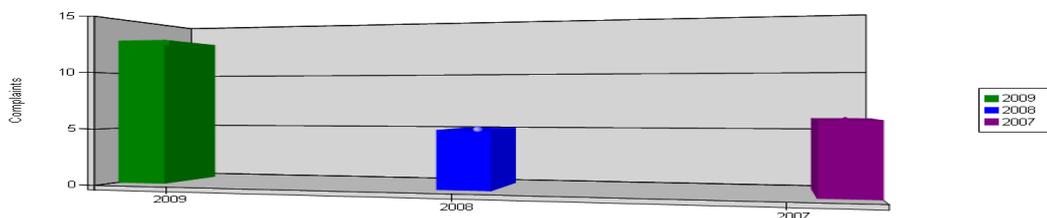
enable real-time communication between both entities. The shared SQL database, or the Consumer Complaints System (CCS), was built and tested in the third quarter of 2009, and it allowed the TRA to resolve telecommunications complaints in a regulated, efficient, and timely manner.

After the initial test phases of the system, the TRA organized a workshop for the Consumer Protection Directorate (CPD) in April 2009 to outline the TRA's consumer protection priorities and to train CPD employees on how to use the system.

Since the training, the Authority has received numerous telecommunications complaints which it addresses with the cooperation of CPD. The TRA looks forward to launching an awareness campaign to encourage consumers to log their complaints via the hotline.

5.2 CODE OF PRACTICE FOR VALUE ADDED SERVICES

The number of complaints about value added services has increased, suggesting that Lebanese consumers are growing dissatisfied with the quality of customer service they are receiving. The complaints, which were submitted through the Consumer Complaints System (CCS), include misleading price announcements, failure to announce prices for additional services, breach of confidentiality agreements, false hopes of winning a lottery, and misleading advertisements of services.



In an effort to protect consumers' rights and to hold Service Providers accountable to the TRA, the Authority drafted the Code of Practice for Value Added Services that, once published, will replace the Code of Deontology issued by the Ministry of Telecommunications. The new Code of Practice takes into account the contemporary legal framework (Telecommunications Law 431/2002), latest market developments, and international best practices.

The TRA issued the Code for public consultation on April 9, 2009. In addition, the Authority organized a workshop on June 16, 2009 to acquaint Service Providers with their responsibilities. The workshop also emphasized the value added services providers' responsibility to ensure that the content, promotion, and operation of services comply with the terms of the code.

The new code stipulates that Service Providers must ensure that the value added Service Providers sign an agreement based on the code, whereby both parties agree to abide by the terms of the code and provide fair services and reliable content.

5.3 CHILDREN PROTECTION AND CYBERSECURITY



In line with its mission to protect telecommunications consumers as per Telecommunications Law 431/2002, the Authority aims at raising awareness of the challenges to ensuring the security of children online. The TRA considers children's protection a critical component of developing a knowledge society. Children are vulnerable in cyberspace, where they may be targets of pedophiles, cyber bandits, hackers, and online predators.

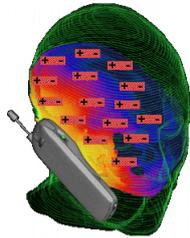
Last year, the TRA took steps to promote children online protection. For instance, the Authority hosted a round table in cooperation with the Higher Council of Child Protection in Lebanon on May 14, 2009. The TRA convened Internet Service Providers, software vendors, NGOs, and members of the legislative Internet committee to share visions of online protection, discuss measures to implement, and provide recommendations. The TRA also offers information on children protection on its website.

Also, the TRA has made several contributions to local, regional, and international conferences and workshops dedicated to all aspects of online child protection in Lebanon, such as legislative, technical, and regulatory issues. In addition, the TRA is an effective contributor to committees of the Higher Council for Childhood and is working closely with stakeholders to issue a code of conduct for ISP's and Internet cafes in order to ensure the safest environment on the net.

Regarding Cybersecurity, the TRA formulated technical regulations for securing telecommunications infrastructures and ensuring the safety of critical and personal data. The Cybersecurity regulation contains mandatory measures and recommendations that apply to all licensed operators and Service Providers in Lebanon. The regulation shall be issued for public consultation in 2010.

As part of the Pan Arab Cybersecurity Observatory Initiative, the TRA is committed to play a role in regional and national efforts to promote and implement all necessary Cybersecurity measures in Lebanon and the Arab World.

5.4 HUMAN EMF EXPOSURE LIMIT REGULATION



The TRA issued the Human EMF Exposure Limit Regulation that is in line with the recommendations of the International Commission of Non-Ionizing Radiation Protection (ICNIRP), adopted by the World Health Organization and the International Telecommunication Union.

The purpose of the Human EMF Exposure Limit Regulation is to set National limits for the level of EMF exposure in order to protect the public and labor force from potential health effects of man-made non-ionizing radio frequencies in living and working environments. Article 23 in the Telecommunications Law 431/2002, states that the Authority is responsible for setting the standards and technical requirements of telecommunications equipment in order to prevent harm to networks and hazards to public health and safety, and this regulation falls under that mandate.

6. TRANSPARENCY □ □ □

Transparency is one of the Authority's fundamental values in addition to independence, accountability, and fairness. The organization integrates transparency into every facet of its work, both internally and externally. The TRA has a number of tools and mechanisms to promote transparency, open dialogue, and facilitate access to information by its stakeholders.

6.1 ISSUING PUBLIC CONSULTATIONS

The TRA has the obligation by law to carry out consultations, which may be limited to stakeholders or open to the wider public. In 2009, the TRA launched five major documents for public consultation:

6.1.1 Use of Public Properties

The Authority prepared the Use of Public Properties Study pursuant to Article 35 (3) of Telecommunications Law 431/2002. The law states that the conditions for the use of public properties, the procedures for requests for such use, and the bases for the allocation of charges, compensations, and fees shall be established by a decree issued by the Council of Ministers upon proposal of the Minister of Telecommunications. This decree would be based on a study prepared by the TRA and on the opinion of the relevant government authority.

The TRA is preparing to establish a national broadband and local broadband access licensing process to attract new investment and to enable the build-up of infrastructure for next generation services. These new networks will rely on elements of Lebanon's public properties for fixed and wireless infrastructure, including ducts, poles, towers, rooftops, related assets, and facilities owned and administrated by the public sector. The networks will also rely on the usage of public rights of way.

Access to the public properties discussed in this study will enable licensed Service Providers build network infrastructure, utilizing public rights of way and existing passive, public infrastructure (ducts, poles, towers, etc.). This approach reduces network rollout costs and shortens the time required to introduce needed services to the businesses and population of Lebanon.

The TRA will request feedback on this study and finalize the document and the decree for the Use of Public Ducts, Poles, Antenna Sites, Rights of Way, and Related Public Properties by Licensed Telecommunications Service Providers.

6.1.2 Broadband Licensing Plan and Network Requirements

The Authority has issued a Broadband Licensing Plan document for public consultation, and it is adopting this plan pursuant to its duties and powers under Telecommunications Law 431/2002. The TRA intends to issue service provider and frequency licenses with the aim of establishing widespread coverage across Lebanon – in cities, towns, and rural areas. The coverage would consist of high-speed access networks interconnected domestically and abroad by carrier-class metro and international gateways.

The Broadband Network Requirements document outlines the network requirements that licensees must adhere to under the Broadband Licensing Plan of the TRA. The document seeks to elaborate the network and service-related conditions of the licenses, which will, to a certain extent, be technology neutral (the Authority maintains a policy of allowing licensees to build networks using the technology of their choice). The document also specifies the information that applicants must provide in their license application about their proposed networks, services, and operations.

6.1.3 Code of Practice for Value Added Services

The purpose of the Code of Practice for Value Added Services is to protect consumer rights and to emphasize the value added Service Providers' responsibility to ensure that the content, promotion, and operation of services comply with the terms of the code.

The TRA prepared this code by taking into account the new legal framework (Telecommunications Law 431/2002), the latest market developments, and international best practices. The Code was issued for public consultation so that all value added Service Providers could provide feedback and understand their new obligations to consumers. Network providers, who are also bound by the code, will hold the Service Providers accountable through a back-to-back arrangement, informing the TRA of breaches of the code.

6.1.4 Draft Opinion for Determining Spectrum Right to Use Fees

The Authority developed a Draft Opinion for Determining Spectrum Right to Use (RTU) Fees, an important document for setting the policy framework of spectrum right to use (RTU) fees in the broadband and mobile sectors. The TRA aims at securing the efficient usage of radio frequencies, a scarce and vital resource for the development of telecommunications and a major asset to the Lebanese economy, and at promoting consumer welfare.

The framework would ensure a fair return to the public for private use of a public asset and institute economic discipline on usage of scarce spectrum bands all while establishing transparent allocation protocols.

6.1.5 Human Electromagnetic Field (EMF) Exposure Limit Regulation

As previously mentioned in the section "Protecting Consumers" of this report, in October 2009 the Authority issued the Human EMF Exposure Limit Regulation draft for public consultation with the objective of protecting the public and workers from adverse health effects due to exposure to EMF in living and working environments by setting limits for human exposure to electromagnetic fields caused by the non-ionizing radiation. The regulation would limit human exposure to EMF in the frequency range 3 KHz to 300 GHz.

6.2 SUBMITTING REGULATIONS FOR REVIEW

The TRA issued several regulations in 2009 and sent them through the Ministry of Telecommunications to the State Council for review ahead of their publication in the Official Gazette, when they are put into effect. All regulations are in line with international best practices, the constitution of Lebanon, and applicable laws and regulations.

6.2.1 Consumer Affairs Regulation

The Consumer Affairs Regulation (CAR) was issued for public consultation in June 2007 with a deadline to consult by August 2007. After having considered stakeholders' feedback and created a consumer complaints procedure, the TRA board members approved the Consumer Affairs Regulation on June 19, 2009. The regulation will become binding further to the State of Council's review and once published in the Official Gazette. CAR will guarantee the rights of consumers vis-à-vis telecommunications Service Providers.

6.2.2 Service Providers Licensing Regulation

The Service Providers Licensing Regulation clarifies the TRA's role vis-à-vis licensing Service Providers and the issuance of licenses. The document details the types and classifications of licenses to be granted by the TRA. It also reviews the conditions of license delivery, such as the issuing

process for the various types of licenses, the validity period, and the renewal of licenses. Once published in the Official Gazette, this regulation will enter into effect and will ensure a better market structure and a clearer framework for Service Providers.

6.2.3 Class and Frequency License Fees Regulation

The purpose of this regulation is to provide a framework for the applications for the issuance, the holding, and fees payable in connection with class and frequency licenses to be issued by the TRA.

6.2.4 Spectrum Management and Licensing Regulation

The Spectrum Management and Licensing Regulation provides stakeholders in the sector with clear and concise explanations of the TRA's role in the management and licensing of the radio frequency spectrum as well as on the procedures to be adopted by the TRA for the allocation of frequencies for all types of licenses. The regulation also ensures a fair, efficient, and transparent procedure for the licensing of Radio Frequencies to Service Providers in line with international best practices.

6.2.5 Numbering Regulation

This regulation set the administrative arrangements that will be adopted by the TRA to assign numbers and to determine number charges as well as to ensure a sufficient supply. The Numbering Regulation is designed to ensure that all licensed Service Providers are treated with objectivity, transparency, and fairness.

6.2.6 National Numbering Plan

After a period of consultation, the TRA issued a new National Numbering Plan (NNP). The NNP determines the numbering rules for fixed, mobile, and special services as well as other new services.

The proposed plan entails a closed numbering plan with no area code and a uniform dialing procedure for all calls. With the exception of international numbers and short codes, all numbers would have the same length, reducing potential customer confusion and simplifying the introduction of number portability.

The actual implementation of the NNP will be announced at a later stage in coordination with the operators.

6.2.7 Lebanese National Frequency Allocation Table

The Authority's goal is to manage spectrum use while taking into account international standards and the needs of the government and private sector. The TRA also aims at stimulating technological innovation and competitiveness. The Lebanese National Frequency Allocation Table (LNFT) divides Lebanon's radiofrequency spectrum into a number of frequency bands and specifies the general usages of the bands and when they may be used. The publication of the LNFT is a milestone in the efficient use of the spectrum, and the TRA expects it to play a major role in interference reduction. The LNFT will be updated as necessary to accommodate international initiatives and national decisions.

6.3 ISSUED REGULATIONS

Issuing appropriate regulations forms a major pillar of the TRA's legal mandate to organize and develop the telecommunications market in Lebanon to promote fair competition and ensure a healthy environment. Four major TRA regulations were issued in 2009.

6.3.1 Type Approval Regulation

The Type Approval Regulation was published in the Official Gazette (Issue 17, April 16, 2009) through Decision 5/2009 after reviewing the feedback from the public consultation. The implementation date of the Type Approval Regulation depends on a transitional agreement to be defined with the MoT and the Customs in order not to disrupt the market with inappropriate actions from one of the parties.

Furthermore, the TRA has worked on the following:

- **Development of type approval online application**

The Authority signed a Memorandum of Understanding with the Ministry of Defense for the exchange of information related to type approval certificates and importation licenses. The TRA will launch an online Type Approval application for this purpose. The aim of this application is to help importers submit online Importation License and Type Approval applications and to follow the status of their application in order to retrieve the officially signed license or certificate. It also offers and facilitates access to information and enables consumers to check approved equipment as well as the granted importation licenses.

- **Setting Lebanese standards (LIBNOR)**

As a member of the LIBNOR JTC1 committee, the TRA attends regular meetings to discuss and study international standards such as the ISO/IEC standards (e.g. ISO 27k family security standard) and participates in the adaptation of more than 100 international standards to Lebanese standards. In 2010, the TRA aims at issuing Lebanese standards for telecommunications equipment, telecommunications quality of service, and other services.

6.3.2 Technical Quality of Service and Key Performance Indicators Regulation

The Technical Quality of Service (QoS) and Key Performance Indicators (KPIs) Regulation issued through Decision 6/2009 reflects the Authority's commitment to developing a competitive environment. Through this regulation, the Authority sets standards to ensure quality of service, fairness in tariffs, and transparency in billing. The regulation requires from Service Providers to improve billing accuracy and procedures for the resolution of customer disputes; it also requires from them to clarify service availability, quality of service, and network performance for their products. This regulation will allow the TRA to take corrective measures if Service Providers do not reach the required level of performance for each type of service. The regulation also identifies a meaningful set of KPIs for mobile, fixed, data, and Internet Service Providers. The TRA will ensure that these KPIs are published and made available to customers to help them make informed decisions about their service provider.

6.3.3 Significant Market Power Regulation

The Significant Market Power (SMP) Regulation was issued through Decision 3/2009 further to the review and analysis of feedback from public consultation. The regulation grants Service Providers with information to clarify the Authority's research strategy as it studies the telecommunications markets segments to determine which providers hold SMP. The SMP Regulation also aims at promoting the adoption of international best practices by Service Providers and the provision of high quality services to end users based on technical and economic efficiency.

6.3.4 Interconnection Regulation

The Interconnection Regulation was issued through Decision 4/2009 further to the review and analysis of feedback from the public consultation. The regulation clarifies the arrangements for the interconnection and provision of services between Service Providers. It also intends to guide Service Providers with Significant Market Power (SMP), including Liban Telecom, which was once designated as having SMP through the process of preparing a Reference Interconnection Offer (RIO).

III- BUILDING CAPACITIES AND BRIDGES

The TRA focused in 2009 on building its internal and external capacity by capitalizing on its existing human resources and limited financial means. Nevertheless, the TRA was able to strengthen its relations with local, regional and international organizations and entities through participation in conferences and workshops and the signing of MoUs. The TRA was also able to streamline its interaction schemes with internal and external stakeholders by updating communications vehicles and by organizing conferences and workshops. The GSR, in that regard, can be considered as the event that helped Lebanon make a come-back on the international telecommunications scene.

1. BUILDING INSTITUTIONAL CAPACITY □ □ □

In its ongoing effort to build institutional capacity, the TRA focused on training the staff and board members to enhance knowledge sharing techniques and to provide them with updated information about cutting edge issues in the telecommunications industry. The TRA also partnered with the European Union and the World Bank to fund capacity building projects valued at 1.3 million Euros and \$492,000, respectively, as well as with the United States Telecommunications Training Institute (USTTI) and United States Agency for International and Development (USAID). Through these projects, the TRA acquired essential technical tools to streamline internal processes and to improve the Authority's ability to implement its regulatory agenda.

1.1 TRAINING THE STAFF

Despite the limited resources and the inability of the TRA to recruit at full capacity (75 persons) as proposed in the budget, the administration empowered existing staff members and capitalized on their potential given the resources at hand. The Authority offered training sessions focusing on knowledge sharing techniques as well as skill and knowledge development. More than 25 staff and board members participated in local, regional, and international training and learning activities. Topics varied from regulatory cost modeling, LTE/Wimax evolution, spectrum management, and Cybersecurity to time management and Microsoft Office productivity. Hosting the Global Symposium for Regulators conference in Lebanon also served as a learning opportunity for staff and board members to build event production and logistics management skills.

1.2 MANAGING THE BUDGET

As per the Telecommunications Law 431/2002, the TRA should achieve its financial independence starting its third year of operations by collecting regulatory fees from licensed Service Providers.

The TRA Based on its duties as stated in the New Management agreements for regulating and monitoring the activities and Technical and operational performance of the two Mobile networks, included in its 2009 budget an item related to its revenues based on applying a yearly regulatory fee of 0.4% of gross revenues from the two mobile operators the TRA compensation.

Furthermore, the TRA 2009 budget included a contribution from the MoT to the TRA for an amount of LBP 10,000,000,000. Moreover, TRA received in January 2009 a contribution from the MoT for the year 2008 of an amount of LBP 4,000,000,000. As for the budgeted MOT Contribution for 2009, TRA collected through three consecutive payments during the fourth quarter of 2009, an amount of LBP 1,500,000,000 out of the LBP 10,000,000,000, thus allowing the TRA to barely cover its overhead costs, running expenses and basic needs only.

Finally, the TRA worked in 2009 on the 2010 draft budget and sent it for review and approval as per applicable rules and procedures as defined in Telecommunications Law 431/2002.

1.3 FUNDRAISING

The TRA partnered with international organizations, including the European Union and the World Bank, to fund capacity building projects. Through these projects, the TRA acquired essential technical tools and undertook training sessions to enhance internal processes.

1.3.1 European Union

The European Union (EU) funded a project entitled “Technical Assistance to the Telecommunications Regulatory Authority.” The objective of the project was to provide technical tools for the economic, technical, and legal implementation of the licensing, liberalization, and regulatory agenda of the Authority. The EU project helped to increase broadband access and services; establish Internet provider backbones; increase access to voice services for mobile and fixed lines; reduce the price of voice services; expedite the deployment of new technologies to enhance market competition and promote investment; generate short-term revenue for the government through up-front license fees; and generate long-term revenue for the government through revenue sharing and similar mechanisms.

The purpose of the project, valued at 1.3 million Euros, consisted of five main elements. Firstly, it called for a market analysis and assessment and the subsequent development of remedies to promote fair competition. Secondly, it encouraged the implementation and drafting of regulations and policy papers. Thirdly, the funds assisted the Authority to monitor the quality of service in the market to protect consumer rights and ensure customer satisfaction. Fourthly, the project supported the TRA in the establishment of liberalization policy. Lastly, it provided for expertise to help with interconnection, numbering, and frequency management.

In 2009, the project witnessed the drafting of Terms of Reference (TOR) and the presentation of the TOR to the European Commission Delegation in coordination with the Project Administration Office at the Presidency of Council of Ministers. The TOR was approved by the delegation, and the TRA has prepared a list of equipment required by its team.

1.3.2 World Bank

The World Bank funded a project entitled, “Request for IDF Financing: Telecommunications Regulatory Capacity Building.” The project, valued at \$492,000, supported the TRA in the streamlining of its internal processes, strengthening transparency, and building technical capacity on regulatory issues. The objective was to improve the Authority’s standing as a credible, efficient, and responsive regulator.

Strengthening the regulatory environment for telecommunications in Lebanon will unlock significant growth opportunities. The IDF grant assists the TRA in creating a more efficient telecommunications sector to attract investment, create jobs, and rebuild the Lebanese economy.

In March 2009, under the auspices of this project, a World Bank team met with the TRA board members to identify critical areas of assistance, and the team sent a draft Terms of Reference to the TRA, which provided feedback on the scope of work in August 2009.

2. INTERACTING WITH STAKEHOLDERS

The TRA interacts with the general public, stakeholders, international organizations, and its staff members by organizing events, such as public consultations, and by deploying digital communication tools, including the TRA website and newsletters.

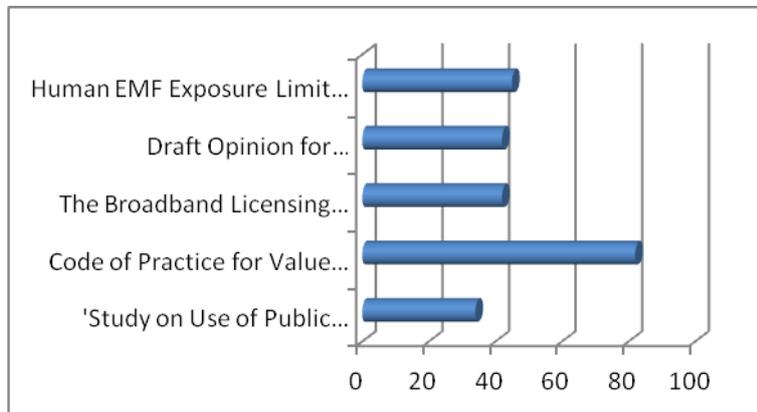
2.1 INTERACTING WITH THE PUBLIC

The TRA interacts with the general public and its stakeholders by organizing public consultations to discuss new regulations, by expanding its website, which has become a valuable resource for telecommunications stakeholders on national and international levels, by issuing regularly its

electronic newsletter to keep stakeholders up-to-date with latest TRA news and projects, and by organizing workshops.

2.1.1. Public consultations

In line with the Authority's commitment to transparency, the TRA adopts a process of public consultation to invite telecommunications stakeholders to provide feedback or comments prior to the issuance of new regulations.



2.1.2 Website

After its launch in 2008, the TRA website, the official gateway for all telecommunications stakeholders, has continued to expand, increasing the visibility of the TRA on both national and international levels. In 2009, more than 115 news items, 55 decisions, 54 events, five consultations, and four regulations were uploaded onto the site.

Sections were also revamped to provide consumers with more information on the role of the TRA in resolving complaints in accordance with the Consumer Affairs Regulation. A children's protection section offers popular tools to monitor and protect children in cyberspace. Market data and the offers and tariffs module are regularly updated. The info center allows the public to access the TRA press releases, speeches, and presentations. The TRA publications, including the 2007 and 2008 Annual Reports and the quarterly newsletters, are distributed to stakeholders and made available to the public.

The website is a critical communications vehicle that connects stakeholders to the TRA. In 2009, more than 130 information requests were submitted to the TRA via the email address provided on the website, info@tra.gov.lb. According to statistical reports, average hits per day increased by 38%; average page views per day increased by 49%; and average visitors per day increased by 23% in 2009.

The website is also an important tool for TRA stakeholders to file complaints such as complaints related to interference and the illegal use of frequencies.

2.1.3 Newsletter

The Authority develops and issues a periodic bilingual newsletter to update stakeholders about the TRA's work and activities. In 2009, the TRA distributed two newsletters. The first newsletter tackled the broadband theme and highlighted the TRA's efforts to develop telecommunications services in Lebanon and to liberalize broadband services. The second newsletter focused on consumer protection and stressed the role of the TRA in addressing complaints, which increases consumer confidence in telecommunications Service Providers.

The newsletters are distributed by email to a growing list of subscribers. After distributing, the newsletter is posted on the TRA's website for the general public's reference.

2.1.4 Organizing workshops

The TRA organized several important workshops in 2009:

- **Code of Practice workshop**

On June 16, 2009, the TRA held a workshop further to the issuance of the Code of Practice document for consultation to review the plan and to highlight its challenges and opportunities. The Authority invited telecommunications stakeholders and media to participate and provide feedback.

- **Rights of Way and New Building Requirements workshop**

On February 26, 2009, the TRA held a workshop on rights of way and new building requirements at the Gefinor Rotana Hotel. The aim of the workshop was to present two draft decrees and to solicit public and private sector feedback. Attendees included HE Eng. Gebran Bassil, Minister of Telecommunications; representatives from the Ministry of Public Works and Transportation; representatives from the Order of Engineers and Architects; and the media.

- **A Broad Vision for a New Broadcast Evolution workshop**

As part of its effort to build telecommunications skills and capacities, the Authority organized a workshop titled "A Broad Vision for a New Broadcast Evolution" on January 9, 2009 at the Bristol Hotel. Workshop attendees discussed FM and TV broadcasting challenges and the TRA plan to improve FM broadcasting. The plan, based on the 2006 Geneva Agreement, called for the migration from analog to digital TV broadcasting.

Attendees included HE Eng. Gebran Bassil, Minister of Telecommunications; HE Mr. Tarek Mitri, Minister of Information; Mr. Abdel Hadi Mahfouz, Chairman of the National Council of Media and Information; and general and information technology managers of TV, film, and radio stations.

2.2 INTERNAL COMMUNICATIONS

The Authority instituted communication mechanisms, such as Flash Info and Intranet, to improve the circulation of information and updates among staff members. Since its launch in February 2009 as an internal electronic weekly newsletter distributed via email, the TRA has released 59 editions of the Flash Info newsletter. Its contents may be summarized as follows:

TRA Intranet, which was launched in 2008, was enhanced in 2009 to better facilitate communication and access to information to promote project collaboration and the sharing of knowledge and ideas. Eight new sections, focusing on topics such as internal procedures, templates, and meeting minutes, were added to improve access to quality information and, consequently, to increase productivity.

Categories	Number of news
TRA activities and work progress	103
Knowledge sharing and regulatory news	53
TRA Social news	19
Other	21
TOTAL	196

2.3 COOPERATING WITH LOCAL AND INTERNATIONAL ORGANIZATIONS

The TRA has formed partnerships with Lebanese ministries and international organizations, such as USAID, European Union, World Trade Organization, and the Arab Regulators Group Network, in an effort to protect consumer rights, to define regulations, and to contribute to regional and international telecommunications policy.

2.3.1 Signing Memorandum of Understanding (MoU)

2009 was marked by the signing of three major MoUs destined to help the TRA fulfill its mission. One of them was designed to ensure the protection of telecommunications consumers rights, a second one to coordinate type approval issues and a third memorandum for the procurement of spectrum management equipment.

- **Memorandum of Understanding with the Ministry of Economy and Trade**

On February 11, 2009, the Authority and the Ministry of Economy and Trade signed a Memorandum of Understanding to protect telecommunications consumers' rights and address their complaints. The Director General of the Ministry and head of the Consumer Protection Directorate (CPD) had already opened a hotline (1739) and call center within the CPD to handle consumer complaints, including those related to telecommunications. The memorandum allowed both institutions to join efforts to better share the hotline and to better serve consumers of telecommunications services.

The memorandum also stipulated the development of a shared structured query language (SQL) database to allow them to resolve telecommunications complaints in a regulated, efficient, and timely manner.

- **Memorandum of Understanding with the Ministry of National Defense**

The Telecommunications Regulatory Authority (TRA) and the Ministry of National Defense (MoD) signed a Memorandum of Understanding (MoU) on February 8, 2010. The MoU defines the coordination procedure for the importation and approval of telecommunications equipment as well as the matters related to general spectrum and military frequency management.

A type approval database was developed by the TRA to facilitate the coordination with the MoD to gather information related to importation license and equipment specifications. The database also enables the MoD to access this information in order to offer comments within a limited time frame set by the Authority.

- **Memorandum of Understanding with USAID**

On February 13, 2009, the TRA and USAID signed a Memorandum of Understanding (MoU) granting the Authority \$3 million to fund the procurement of phase one of the spectrum management and measurement system equipment.

The MoU enables the TRA to acquire spectrum management equipment and software, and it will fund related technical assistance and training to help the Authority manage the Lebanese Radio Spectrum efficiently and carry out spectrum enforcement activities. This equipment will allow the TRA to address frequency overlap problems, to protect granted licenses, to better coordinate with international institutions, and to fight the illegal use of frequencies. The USAID donation will support Lebanon's initiative in establishing a well organized and regulated telecommunications sector that will result in the provision of state of the art services for the Lebanese population through enhanced networks and reduced prices.

The TRA will acquire an automated spectrum management system. With this system, the Authority will be able to manage the spectrum efficiently, establish rules for its use, identify parties exploiting frequencies, and track sources of interference or unauthorized transmission.

The system will lead to more valuable spectrum usage and more protection to licensed users from any interference and unauthorized sources, especially for safety of life applications. It will help the TRA better coordinate with the International Telecommunications Union by identifying and managing available resources that could eventually lead to an increase in the influx to the state treasury through the provision of a larger number of licenses and to greater choices offered to consumers.

2.3.2 Participating in international and regional events

The TRA participated in a number of events planned and organized by international and regional organizations where Board Members and experts shared and exchanged information and showcased the Authority's work.

- **Arab Regulators Group Network benchmarking studies**

Arab Regulators Group Networks commissioned a study by an independent consulting firm, Teligen, to establish a comprehensive price comparison of main telecommunications retail prices for Arab countries. As a member of AREGNET, the Authority participated in a workshop to follow up on the methodology and the information used in this study.

The TRA also participated in a workshop to review wholesale prices and regulatory measures across the Arab region. Afterwards, the group prepared a wholesale benchmark report to assist regulators across the Middle East in understanding their comparative position.

- **European Union Open Hearing**

Since January 2007, relations between the European Union and Lebanon have developed under the framework of the European Neighborhood Policy (ENP), which builds on the EU-Lebanon Association Agreement. Nearly three years after the adoption of the EU-Lebanon ENP Action Plan, the EU delegation organized a series of round tables in Beirut in the form of open hearings. Representatives of the European Commission, Lebanese authorities, and civil society leaders attended this hearing, evaluated progress and obstacles, and formulated recommendations to further develop EU-Lebanon relations.

The Authority, represented by Commissioner Patrick Eid, participated in the fifth round table session, titled "Trade Related Issues: Market and Regulatory Reform," which took place on October 8, 2009 and addressed trade liberalization and enterprise policy.

- **Euro-Mediterranean Regulators' Group (EMERG)**

EMERG representatives met in Brussels in April 2009 to discuss the level of commitment of each country and to recap year 2008. Following the appointment in September 2009 of a new European consultant within the New Approaches in Telecommunication Policy 3 (NATP-3) program to follow up on EMERG's progress, an extensive benchmarking exercise covering all regulatory aspects in member countries was undertaken.

In the meeting held in Jordan in November 2009, the results of the benchmarking were used to assess the differences and similarities in regulatory approaches in order to shed light on opportunities for regulators to harmonize or to join forces with EMERG support. The EMERG work plan for 2010 will cover the future of fixed networks; universal service obligations; independence and cooperation of regulatory authorities; usage of Significant Market Power (SMP) designation as a regulatory tool; and next generation networks as well as their impact on the market and regulatory frameworks.

- **World Trade Organization**

On February 26-28, 2009, the Authority participated in the WTO meetings in Geneva. The Lebanese delegation was led by the Minister of Economy and Trade His Excellency MP Mohammad Safadi. The delegation also included representatives from the Ministries of Telecommunications, Economy and Trade, Industry, Agriculture, and Finance; Higher Customs Council; Central Bank; and Federation of

Chambers of Commerce for Industry and Agriculture. These meetings are part of the accreditation process for the accession of Lebanon to the WTO.

More than 50 member countries attended the multilateral meeting to discuss the WTO accession of Lebanon. The delegation provided information on Lebanon's progress and efforts to implement change in its trade regime in order to fall in line with WTO recommendations.

3. ORGANIZING EVENTS □ □ □

The TRA organized events to build capacities on internal, national, and international levels. The Authority convened more than 648 participants from 89 countries for the ninth Global Symposium for Regulators, at which regulatory leaders discussed the impact of the financial crisis on the ICT sector. In addition to its large-scale initiatives, the TRA also held round tables and workshops focused on national issues, including broadcast evolution, children's online protection, and ICT development.



3.1 GLOBAL SYMPOSIUM FOR REGULATORS

In November 2009, Lebanon hosted the ninth Global Symposium for Regulators (GSR) and the Global Industry Leaders' Forum (GILF), attracting a record number of participants to the conference. Delegates praised the event as one of the most well-coordinated, interactive, and productive conferences they had attended.

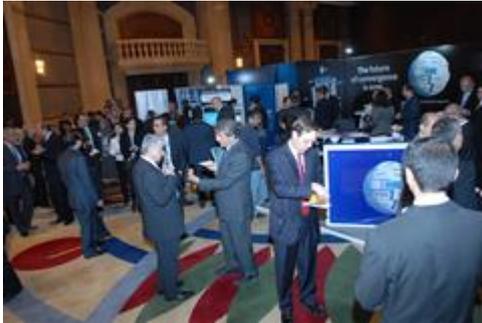
The Global Symposium for Regulators (GSR) is an annual event organized by the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU). The symposium brings together the heads of National telecommunications regulatory bodies from developed and developing countries to exchange perspectives and experiences. The meeting fosters open dialogue between regulators, private sector investors, consumers, and stakeholders in the sector of information technology and communications.



The Global Industry Leaders' Forum was introduced to complement and promote the GSR. Its aim is to facilitate dialogue between decision-makers and regulators on issues that threaten to prevent or slow down investment in the IT and telecommunications sectors of developing and under-developed countries. This forum encourages discussion and dialogue sessions, rather than formal presentations.

First launched in 2000 in Geneva as a dialogue between regulators with 215 delegations from 80 countries, the conference was hosted in Beirut on November 9-12, 2009 at the Habtoor Grand Hotel. It attracted over 648 participants, including regulators, policy-makers, and telecommunications Service Providers from 89 countries. More than 50 directors of regulatory bodies, ministers and other VIPs as well as 95 ITU-D Sector Members also attended. The event contributed to boosting Lebanon's position as a regional telecommunications leader, and it stimulated the sector on a national level, providing the economy with a plan for sustained growth.

The theme of the conference was "Hands-on or Hands-off?" A 500 square-meter exhibition, produced in parallel to the conference, also provided a space for gold and silver sponsors to expose their brands, products, and services.



The Authority and ITU Telecommunication Development Bureau (BDT) collaborated to organize this conference in Beirut. One of the challenges faced by the team in Lebanon was related to the logistics of organizing such a big event with limited resources and little time. Despite these difficulties and the uncertainty of political circumstances, the team attracted top experts to Lebanon and stimulated interest in the event in just a very short period before the conference.

More than 150 people contributed directly or indirectly to preparing for the event. The team gathered sponsorships from 25 of the biggest regional and international telecommunications companies and financial institutions, including three gold sponsors Zain, Oger Telecom, and the GSM Association with Bank Audi as the gala dinner sponsor. Silver sponsors included Saudi Telecom Company (STC), Nokia Siemens Networks, Atheeb (Go), and Qualcomm. Bronze sponsors Bank Med, MTC Touch, Alpha, Orange, Lintel/Africell, Ogero (Lebanon), and Mada also supported the event. Other sponsors include Thuraya, Cisco, Alcatel-Lucent, AT&T, TerraNet, Solidere, Intel, and Meatel.

The four-day conference agenda began with an opening ceremony held under the auspices of President Michel Suleiman, represented by His Excellency Minister Gebran Bassil. The Global Industry Leaders' Forum was chaired by Dr. Saad al Barrakand. The three-session program encouraged discussion among regulators and industry leaders on topics such as the impact of the financial crisis on information technology and communication. Participants also discussed enforceable global public policies for the twenty-first century as well as Internet Protocol (IP) and telecommunications convergence.



The GSR tackled other topics such as the impact of the economic crisis on telecommunications regulation; consumer protection; meeting the expectations of users; universal access policies in the

21st century; IP and traditional telecommunications (voice) interconnection; market entry; and voice over IP (VoIP). Participants agreed on best practice guidelines that were summed up at the closing session by Dr. Kamal Shehadi. The recommendations can be read in full in the Annex of this report.



"I am confident that this gathering marks the beginning of a renaissance in telecommunications in Lebanon and that, from now on, our country will not miss out on opportunities for social development and economic prosperity and will achieve, in record time, a leading position in telecommunications worthy of Lebanon and the aspirations of the Lebanese."

-Dr. Kamal Shehadi

Chairman of the Telecommunications Regulatory Authority



Mrs. Mahassen Ajam, Commissioner and Board Member at the Telecommunications Regulatory Authority, speaks about Lebanon experience in the field of Consumer protection and relates the cooperation mechanisms with other public organizations and develops the TRA achievements in these fields.



Session 7: Market Entry in a Converged World

During the panel discussion, Dr. Imad Hoballah, Commissioner, Board Member, and Head of the Telecommunications Technologies Unit at the TRA, stressed that the Authority faces many constraints that include the legal and business environment and the current state of the market inherited from the previous administration.



Session 8: A VoIP World?

Mr. Patrick Eid, Commissioner and Head of the Market and Competition Unit at the TRA, highlighted the similarities and differences between basic voice telephony and VoIP. Mr. Eid also outlined the TRA's vision on the regulatory framework for voice over IP.

The 9th Global Symposium for Regulators (GSR) also featured social activities to allow participants from more than 98 countries worldwide to network and enjoy Lebanon. Coffee breaks and business lunches, sponsored by companies such as Thuraya, Etisalat, Cisco, Solidere, Alcatel Lucent, AT&T, Intel and Meatel, provided opportunities for the participants to meet and continue discussions from the panel sessions.



On November 9, the TRA organized a special gala dinner sponsored by Bank Audi. The dinner, complete with mezze, sweets, and folkloric dance, took place in Deir El Kamar, a UNESCO World Heritage Site in the Chouf Mountains. Attendees included PM Mohamad al Hajjar representing HE Prime Minister Saad al Hariri, HE Ms. Michelle Sisson, US Ambassador to Lebanon; HE Mr. Ahmed el Biddawy, Ambassador of Egypt to Lebanon; Dr. Hamadoun Toure, Secretary General of ITU; Mr. Sami el Bashir el Morshed, Director of Development Bureau of ITU; Dr. Kamal Shehadi, Chairman of the TRA; Ms. Mahassen Ajam, Dr. Imad Hoballah, Mr. Patrick Eid, members of the TRA board; and other Lebanese and international VIPs.



In addition, on November 10, 2009, a dinner at Le Particulier brought together the friends of the TRA, such as HE Minister Gibran Bassil; HE Ms. Michele Sisson, US Ambassador to Lebanon; HE Mr. Mohamad Biddawy, Ambassador of Egypt to Lebanon; Mr. Julian Genkowsky, Federal Communications Commission (FCC) Chairman; Mr. Sami el Bashir al Morshed; and other personalities and representatives from the telecommunications sector.

To cap off the event, the TRA organized a tour for participants to explore Downtown Beirut.



3.2 TRAININGS AND ROUND TABLES

In an effort to build bridges and capacities, the TRA took steps to promote children's online protection. The Authority hosted a round table in cooperation with the Higher Council of Child Protection in Lebanon on May 14, 2009. The TRA convened Internet Service Providers, software vendors, NGOs, and members of the legislative Internet committee to share visions of online protection, discuss measures to implement, and provide recommendations.

On July 3, 2009, the TRA conducted a workshop to train the Ministry of Economy and Trade team on how to field consumer complaints submitted through the existing hotline, 1739. The training sought to ensure that the Ministry was equipped to handle telecommunications complaints ahead of the implementation of the Consumer Complaints System, a joint-venture by the TRA and the Ministry.

As a leader of ICT development in Lebanon, the TRA collaborated with the American University of Beirut and the IEEE communication section in Lebanon to organize the third IEEE Lebanon Communications Workshop 2009 (IEEE LCW '09) on November 21st, 2009 at the American University

of Beirut Mr. Mohamad Ayoub, Senior Spectrum Management Expert, moderated the “4G Wireless Communications” session. The TRA’s Senior Technical Operations Expert gave a presentation on “Building the Fiber Nation” during the “Next Generation Broadband Networks” session. Mr. Hassan Dhainy, Senior Spectrum Monitoring Expert, participated as a speaker in a panel on the “Impact of Electromagnetic Radiation on Health,” where he gave a presentation titled “Exposure To Electromagnetic Field (EMF).” The target audience of IEEE LCW '09 included students, professors, and professionals from telecommunications companies and organizations. IEEE LCW '09 addressed cutting edge telecommunications topics in addition to the important subject of electromagnetic radiation, a national public health concern.

Annex : GSR Recommendations

I. Promoting convergence to further develop ICT and broadcasting markets

1. We recognize that convergence is a technology and market-driven process.
2. We recognize that convergence is most likely to thrive in an environment which allows competition between broadband networks and infrastructure and Service Providers.
3. Nevertheless, we note that regulators need to be particularly attentive to the challenges stemming from convergence, in order to pave the way for the establishment of a regulatory environment that is transparent, is conducive to investment and growth, fosters fair and greater competition as well as innovation, stimulates the deployment of infrastructure, promotes the development of new services, is security conscious, and protects and benefits consumers.
4. We believe that, in doing so, policy-makers and regulators need to:
 - a. Establish appropriate policy goals and refrain from imposing regulatory restrictions except when strictly necessary to promote competition and consumer protection, and that are proportionate to the established policy goals.
 - b. Adopt a technology-neutral approach, including in frequency spectrum allocations and assignments, to facilitate the use of all transport mechanisms, whether wireline or wireless, and to promote the utilization of new and emerging technologies.
 - c. Promote innovation and research and development.
5. Regulators need to adopt appropriate regulation on interconnection and access, including pricing, taking into account the relevant technological market developments including the roll-out of Next Generation Networks in the core (NGN) and in the access layer (NGA).
6. We note that NGNs and IP-based services may offer the opportunity for operators to take advantage of market convergence and create new revenue streams while expanding access to ICT services at lower costs to consumers.
7. We recognize that regulators should take an active part in setting international standards relating to convergence in order, for example, to ensure an optimum level of quality of service and increased interoperability between different networks, applications, services and devices, in a constantly changing technological and market environment, whilst taking utmost account of the primary role that the industry has in developing effective standards.
8. We note that voice services, no matter which technology they use, should benefit from a flexible numbering plan and simple assignment and reservation procedures both at National and international levels. A coordinated approach to numbering plan development will foster effective market entry for new players, flexible and effective number portability and fixed-mobile convergence.
9. Regulators may consider developing adequate provisions both in the fixed and the mobile Internet access services to ensure technology neutrality and effective management of Internet traffic.
10. We recognize the importance of promoting universal access to broadband services, notably by developing a broadband policy and a targeted universal access strategy and by cooperating

with governments and international organizations. These strategies need to be aligned with policies of other sectors and programmes (such as e-governance, e-education, e-government, e-health, e-commerce), as appropriate.

11. With the growing dependence of government, businesses and society on converged ICT services we recognize the importance of working with other agencies to ensure the resilience of networks and services and that contingency plans are in place to safeguard critical National infrastructures, as well as during times of National emergencies.

12. We recognize that regulators need to pay particular attention to all environmental issues and where required issue guidelines on the use of ICTs to support meeting environmental commitment.

II. Building effective regulatory institutions

1. We recognize the importance of regulatory authorities being able to carry out their mandate efficiently, while ensuring consistency and transparency of regulation, equal treatment of market players and accountability of regulatory decisions.

2. We stress the importance for regulatory authorities to be empowered with suitable tools to ensure enforcement of the various laws, by-laws, regulations and procedures.

3. We recognize that the creation of a converged regulator in charge of ICTs and broadcasting could be an effective step towards enabling market integration in a converged environment. Should this not be feasible, closer coordination and collaboration between the sector-specific regulatory authorities in charge of telecom, broadcasting and electronic media, as well as authorities in charge of competition is essential.

4. We recognize that a converged regulator will require skilled human resources and adequate financial resources in order to perform its extended mandate successfully.

5. We stress the importance of integrating into the mandate of the converged regulator strategic and policy activities to build the information society and to play an inter-sectoral coordinating role.

6. We recognize the importance of close collaboration with other concerned agencies to ensure that appropriate measures and tools are put in place to safeguard Intellectual Property Rights (IPR), Internet safety covering such issues as the protection of the children online and fraudulent activities.

7. We note the importance of further observing and examining the evolution of regulatory institutions to reach efficient regulation for the development of domestic markets and consumer welfare and share best practices....

8. We recognize the importance of international cooperation between National and regional regulatory authorities in building a harmonized and coordinated approach to oversee the evolution of the converged markets.

III. Using regulatory tools to stimulate investment in a converged world

We recognize that, in order to stimulate investment to grow converged markets, regulators need to further:

1. Build an adaptive regulatory framework by adopting a technology neutral approach, administratively simplified and flexible licensing regime providing for easy market entry of new players, such as through general authorizations and multiservice/unified licences.
2. Encourage the roll-out of broadband infrastructure (especially in remote and underserved areas) by providing suitable incentive schemes such as tax incentives, lower regulatory or spectrum fees and by facilitating access to rights of way.
3. Foster competition in converged services over wireless networks through efficient and integrated spectrum management, using market based tools such as auctioning to assign spectrum more efficiently while recognizing that spectrum is a public good.
4. Shift regulatory attention from retail to wholesale markets, i.e., by ensuring that alternative operators have access to dominant players' infrastructure (through passive sharing such as duct sharing, local loop unbundling, local sub-loop unbundling, bitstream access, network and facility sharing, etc.) to offer competitive converged services, therefore avoiding unnecessary duplication of infrastructure and reducing costs.
5. Apply effective, proportionate and non-discriminatory regulatory measures to enable the development of convergent bundled services while promoting competition among market players, and offering a level playing field for small niche players.
6. Raise awareness of the benefits and risks of technological progress for the market and consumers and consider regulatory measures to address issues such as personal and data protection, consumer rights, protection of minors and vulnerable segments of the society and protection of end-users.
7. Involve all stakeholders in policy setting, improve transparency, conduct public consultations and consider other collaboration mechanisms to further dialogue with industry, consumers and other stakeholders, employing self-regulatory measures to the widest extent feasible.
8. Conduct periodic regulatory and market review that may include regulatory impact assessment, making the outcomes widely available and using them to refocus National policies and strategies.

IV. Stimulating growth in innovative services, applications and devices towards connecting the unconnected and for the benefit of consumers

1. We believe that Governments and regulators have a key role to play in stimulating demand for ICT services and applications, in the framework of broader strategic goals, such as connecting public institutions (especially public administrations, schools, libraries and hospitals), businesses and residential users with broadband, promoting economic development, digital inclusion, social cohesion and equality of opportunity.
2. We recognize the key role regulators and other relevant agencies play in overcoming connectivity challenges, increasing ICT literacy and awareness of security issues, fostering the development of content in local languages (including on regulators' websites), promoting the availability of low-cost multifunctional devices, encouraging innovative public private partnerships (PPPs) and using universal access/universal service mechanisms to connect underserved areas more quickly while involving all stakeholders.

3. We, suggest that governments may consider using public funds to finance infrastructure roll-out in areas where private sector investment is insufficient.
4. We recognize that the deployment of NGN and NGA and the more rational use of resources, such as sharing of common infrastructure and scarce resources may stimulate the development of new services and applications available to users, lower prices to consumers and is also likely to have a leveraging effect on other sectors and the entire economy.
5. We recognize that increasing competition and the move towards convergence raise the importance of consumer protection and consumer education with respect to both the opportunities and challenges that Internet connectivity brings.

TABLE OF CONTENTS

I- PAVING THE WAY TOWARDS LIBERALIZATION

1. Monitoring the mobile market
 - 1.1. Market overview
 - 1.2. Mobile price reductions
 - 1.3. Price benchmarking study
 - 1.4. Market surveys and investigations
 - 1.5. Quality of Service and Key Performance Indicators project
 - 1.6. Mobile distribution policy project
2. Monitoring the fixed market
 - 2.1. Market overview
 - 2.2. Price benchmarking study
3. Monitoring the broadband market
 - 3.1. History of the broadband market
 - 3.2. Broadband market overview
 - 3.2.1. Wireless broadband services
 - 3.2.2. Asymmetric Digital Subscribers Line (ADSL) services
 - 3.3. Price benchmarking study
4. Developing the broadband liberalization strategy
 - 4.1. Recent reports and studies on broadband in Lebanon
 - 4.1.1. World Bank broadband report
 - 4.1.2. Qualcomm broadband affordability project
 - 4.1.3. Mobile and broadband sequencing study
 - 4.2. Licensing Plan and Broadband Network Requirements consultation
 - 4.3. Rights of Way draft decree
 - 4.4. New building requirements to support broadband services consultation
 - 4.5 Issuance of DSP interim licenses reinstated by the State Council

II- STRENGTHENING THE REGULATORY FRAMEWORK

1. Interim licenses
2. Legal studies
 - 2.1. Control and inspection
 - 2.2. Spectrum interference
 - 2.3. Operational tasks
3. Technical studies
 - 3.1. Collect calling
 - 3.2. Groundwork preparation for fiber to the x (FTTx)
 - 3.3. Technical specifications for QoS complete measurement solutions
4. Managing scarce resources
 - 4.1. Data collection
 - 4.2. Spectrum management
 - 4.2.1. Spectrum licensing
 - 4.2.2. Broadcasting
 - 4.2.3. Spectrum pricing
 - 4.2.4. Spectrum Management and Measurement System (SMMS)
 - 4.2.5. Re-farming
 - 4.2.6. Spectrum monitoring
 - 4.2.7. International coordination
 - 4.3. Managing the new National Numbering Plan (NNP)
 - 4.4. Type Approval

5. Protecting consumers
 - 5.1. Resolving complaints through the Consumer Complaints System (CCS)
 - 5.2. Code of Practice for Value Added Services
 - 5.3. Children protection and Cybersecurity
 - 5.4. Human EMF Exposure Limit Regulation

6. Transparency
 - 6.1. Issuing public consultations
 - 6.1.1. Use of public properties
 - 6.1.2. Broadband Licensing Plan and Network Requirements
 - 6.1.3. Code of Practice for Value Added Services
 - 6.1.4. Draft Opinion for Determining Spectrum Right to Use Fees
 - 6.1.5. Human EMF Exposure Limit regulation

 - 6.2. Submitting regulations for approval
 - 6.2.1. Consumer Affairs Regulation
 - 6.2.2. Service Providers Licensing Regulation
 - 6.2.3. Class and Frequency License Fees Regulation
 - 6.2.4. Spectrum Management and Licensing Regulation
 - 6.2.5. Numbering Regulation
 - 6.2.6. National Numbering Plan
 - 6.2.7. Lebanese National Frequency Allocation Table

 - 6.3. Issued regulations
 - 6.3.1. Type Approval Regulation
 - Development of Type Approval online application
 - Setting Lebanese standards (LIBNOR)
 - 6.3.2. Technical Quality of Service and Key Performance Indicators Regulation

 - 6.3.3. Significant Market Power Regulation

 - 6.3.4. Interconnection Regulation

III- BUILDING CAPACITIES AND BRIDGES

1. Building institutional capacity
 - 1.1. Training the staff
 - 1.2. Managing the budget
 - 1.3. Fundraising
 - 1.3.1. European Union
 - 1.3.2. World Bank

2. Interacting with stakeholders
 - 2.1. Interacting with the public
 - 2.1.1. Public consultations
 - 2.1.2. Website
 - 2.1.3. Newsletter
 - 2.1.4. Organizing workshops
 - Code of Practice workshop
 - Rights of Way and New Building Requirements workshop
 - A Broad Vision for a New Broadcast Evolution workshop
 - 2.2. Internal communications

 - 2.3. Cooperating with local and international organizations
 - 2.3.1. Signing Memorandum of Understanding (MoU)
 - Memorandum of Understanding with the Ministry of Economy and Trade
 - Memorandum of Understanding with the Ministry of Defense

- Memorandum of Understanding with USAID

2.3.2. Participating in international and regional events

- Arab Regulators Group Network benchmarking studies
- European Union Open Hearing
- Euro-Mediterranean Regulators' Group (EMERG)
- World Trade Organization

3. Organizing events

- 3.1. Global Symposium for Regulators
- 3.2. Trainings and round tables

Annex : GSR Recommendations