ANNUAL REPORT

2006

April, 2007

Table of Contents

1. CHAIRMAN'S OVERVIEW
2. THE AUTHORITY
    a. Strategic Goal
    b. Corporate Structure
        - Policy, International Representation and Legal Affairs
        - Technical Affairs
        - Radio Spectrum Management
        - Economic Affairs
        - Financial & Administrative Affairs
3. TELECOMMUNICATIONS SECTOR PERFORMANCE
        - Mobile Services
        - Mobile Penetration:
        - Market Share:
        - Fixed Line:
        - Internet Services
        - Fixed Line Teledensity
4. SPECTRUM MANAGEMENT AND PLANNING
        - National Frequency Allocation Plan
        - Radio Licensing
        - Re-registering and Updating the Frequency Database
        - Frequency Monitoring System
5. TOWARDS COMPETITIVE MARKET
        - Mobile Number Portability (MNP)
        - Equipment Certification
        - Quality of Service
        - Interconnection
        - Tariff
        - Telecom Services Licensing
6. PUBLIC AWARENESS AND TRANSPARENCY

1. Consumer Protection

2. **Consultations**
3. **TRA Website**
4. **Snap of TRA website**
5. **Dispute Settlements**
6. **Determinations**
    a. **International Outbound Call charges**
    b. **Asymmetric Interconnection Charges**
7. **Launching of the TRA's Logo.**
8. **TRA at COMEX 2006**
9. **Khareef Salalah Festival**

7. INTERNATIONAL MATTERS

- **ITU Plenipotentiary Conference (PP-06)**
- **ITU World Telecommunication Development Conference (WTDC)**
- **ITU Regional Radio-communication Conference (RRC-06)**
- **5th World Telecommunication/ICT Indicators Meeting**
- **International Telecommunication Union's Development Sector**
- **Study Groups 1 & 2**
- **Other International Events**
- **Major Events Hosted by TRA:**
    - **First Regional Meeting for the Coordination of FM Channels**
    - **Meeting of Technical Committee of GCC Secretariat Council**
    - **ITU/BDT Arab regional Workshop on Developing Legislative aspect for Combating Electronic Crimes**
    - **ITU/BDT Human Resources Management Meeting**
    - **ITU CoE Steering Committee Meeting**
- **Visits and Visitors**
- **International Delegations visited TRA**

8. TRENDS AND ISSUES

- **Next Generation Network (NGN)**
- **Third Generation (3G)**
- **Wi-Max**
- **USO**
- **VoIP**

CHAIRMAN'S OVERVIEW

I am pleased to present third Annual Report that highlights the achievements of Telecommunication Regulatory Authority Oman for the year 2006.

Remarkable developments have been taking place rapidly in technology and economics of telecommunications and the Authority has been working hard to ensure that regulatory policies and processes keep pace with these innovations. We have implemented Mobile Number Portability (MNP) in mobile sector of the Sultanate. We believe that MNP will encourage competition and stimulate operators' enthusiasm to maintain their customers. Another land mark for the year 2006 was substantial growth in the mobile sector (36%) compared to last year and subscribers were more than double since entry of new operator in the market with 1.88 million as on December 2006. The mobile subscriber's figure is approaching towards the two million mark which will be achieved in the first quarter of 2007.

TRA published National Frequency Allocation and Assignment Plan to ensure the efficient management and use of radio spectrum. The new plan will support a large number of communications services, particularly for aviation, shipping, defense services, public safety and mobile telephony.

Launching of TRA's logo was one of the important events of the year. The logo symbolizes the Authority as a recent dated organization that keeps abreast with advancement by introducing modern telecommunications technology to the world.

To meet the challenges of new developments in telecommunications, we are in the process of completing most of our human resource requirements and employed a manager in legal affairs and trained our staff to improve their ability to follow progress in the field of telecommunication and regulatory affairs for better understanding the industry we regulate and to assess how well Omanis are served.

It has been our aim to respond effectively to the new technologies and regulatory issues raised from the concerned quarters to fulfill our obligations set out in our governing legislation (The Act).

Apart from the achievements of the Authority, you will find in this report an account and financial statements of the Authority for the year 2006.

To mark this occasion, we would like to express our appreciation to the support given by Omantel, Oman mobile , Nawras and others in the accomplishment of the tasks associated with the liberalization process.

In the end we would to extend our gratitude to wise leadership of His Majesty Sultan Qaboos Bin Said and for his vision and efforts making telecom sector dynamic in line with the international trends.

Sheikh Mohammed bin Abdullah Al-Harthy
Chairman

THE AUTHORITY

Strategic Goal

To enable the telecommunications needs of Omani community to be met by supporting and encouraging an innovative and vibrant telecommunication sector.

Corporate Structure

The Telecommunications Regulatory Authority (TRA) is a government statutory body; His Excellency Sheikh Mohammed bin Abdullah Al-Harthy is the Minister of Transport and Communications and Chairman of the Authority.

The TRA was established as a result of Royal Decree No 30/2002 issued on 12 March 2002. The Authority comprised the chairman and three full time members. TRA's day to day activities are managed by a team headed by the Chairman and two full time members of temporary committee followed by the managers, senior professionals and junior professionals with the supporting staff. The members are responsible for overseeing all directorates' activities to ensure that the Authority's objectives and strategic goals are achieved. The members act as the corporate designer and are responsible to maintain the operations of the Authority and to ensure that all activities are undertaken in accordance with Telecommunication Regulatory Act 2002. A brief description of each directorate is given below:

Policy, International Representation and Legal Affairs

The Directorate of Policy, International Representation and Legal Affairs is responsible for effective monitoring and timely execution of activities related to policy formulation, international representation and legal functions of the authority. It ensures that these activities are executed within the purview of the Telecommunication Regulatory Act and in accordance to the strategic direction of the authority.

The directorate has following departments:

- Policy
- Enforcement and Complaints
- Legislation
- International Representation

The Communication and Image department is liable for promoting the Authority's image in Oman and to provide proper and timely information of the authority to the consumers, operators and other related organizations and institutions.

Technical Affairs

The Directorate of Technical Affairs is responsible for effective execution of the technical functions of the authority. It monitors network role out obligations develops and manages quality standards of services, and ensures that technical activities are executed in accordance to the laid out quality standards and within an effective control framework. The directorate ensures that the quality standards are properly established for all the telecommunication equipment and are complied with. It prepares fundamental plan to meet its daily operational needs. The directorate has following departments:

- Fundamental Planning
- Type Approval and Pricing

Radio Spectrum Management

The Directorate of Radio Spectrum Management is responsible for effective allocation of spectrum and for providing licensing authority on radio frequency usage. They are also responsible for sectoral planning and ensure the efficient international coordination. The directorate has following departments:

- Frequency Allocation
- Monitoring & Inspection
- Radio Licensing

Economic Affairs

The Directorate of Economic Affairs is responsible for activities related to competition, pricing, Universal service obligation, interconnection and other economic aspects. It ensures fair competition in the telecommunication sector and takes measures to prevent anti competitive behavior. It has following departments:

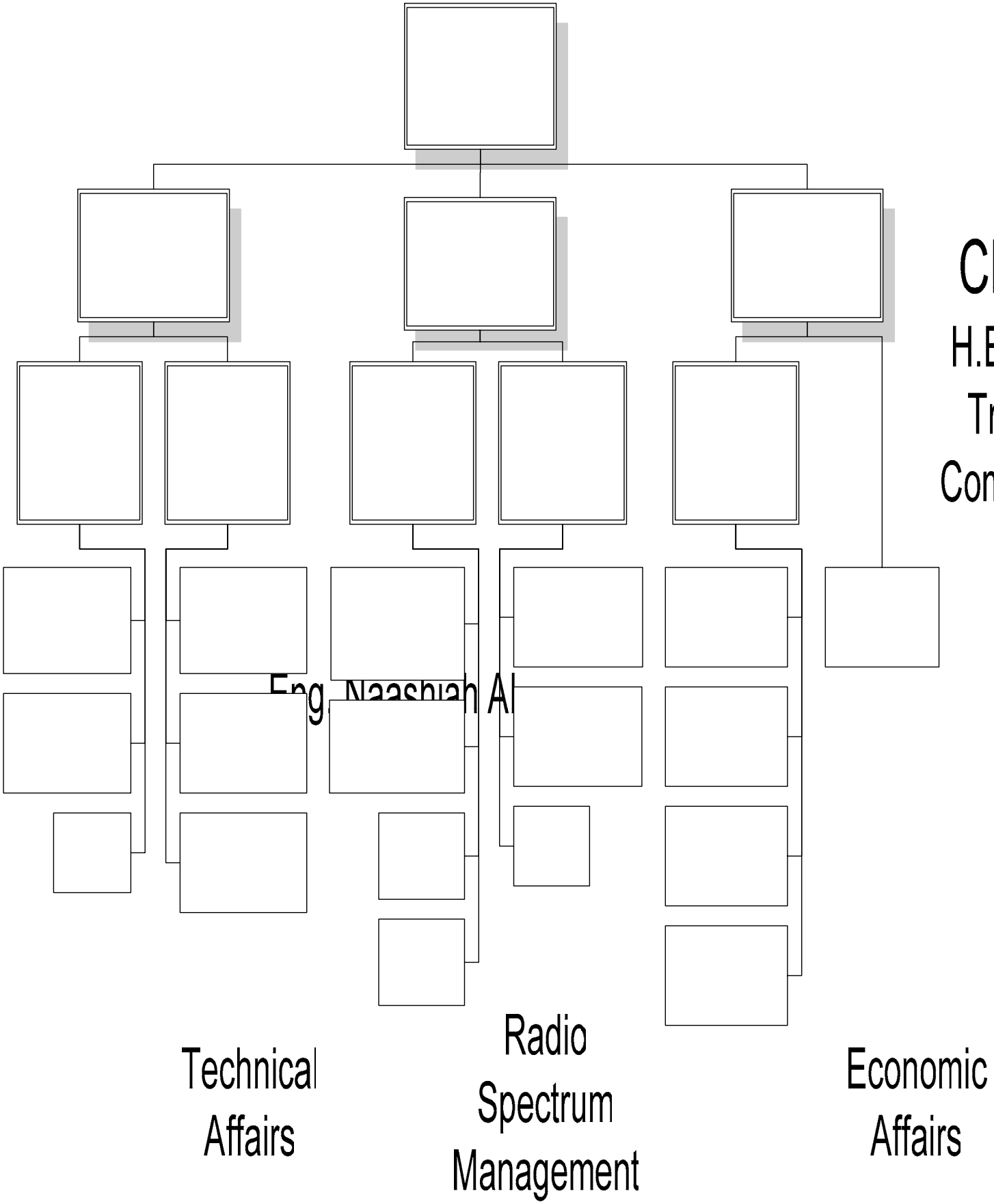
- Pricing, Competition, Interconnection &, Consumer Affairs
- Telecom Services Licensing,
- Planning, Control & Statistics

Financial and Administrative Affairs

The Directorate is responsible for managing the authority's financial planning and accounting practices. It has overall responsibility for ensuring that appropriate financial and internal controls are in place, financial transactions are recorded in the books accurately on a timely basis. The directorate oversees all activities relating to the authority's employees and ensures adequate security and control over the authority's assets. The directorate has following departments:

- Human Resources & Administration
- Financial Affairs
- Information Systems

ORGANIZATIONAL STRUCTURE



TELECOMMUNICATIONS SECTOR PERFORMANCE

March 2005 was considered as an evolution in the history of telecommunications in the Sultanate of Oman with the introduction of competition in mobile market with the entry of Nawras (Omani Qatari Telecommunication Company). Over these years the telecom market had experienced healthy competition among mobile service providers resulted reduction in prices. On the other hand, till the end of December 2006, Omantel is a sole provider of basic fixed access services and internet.

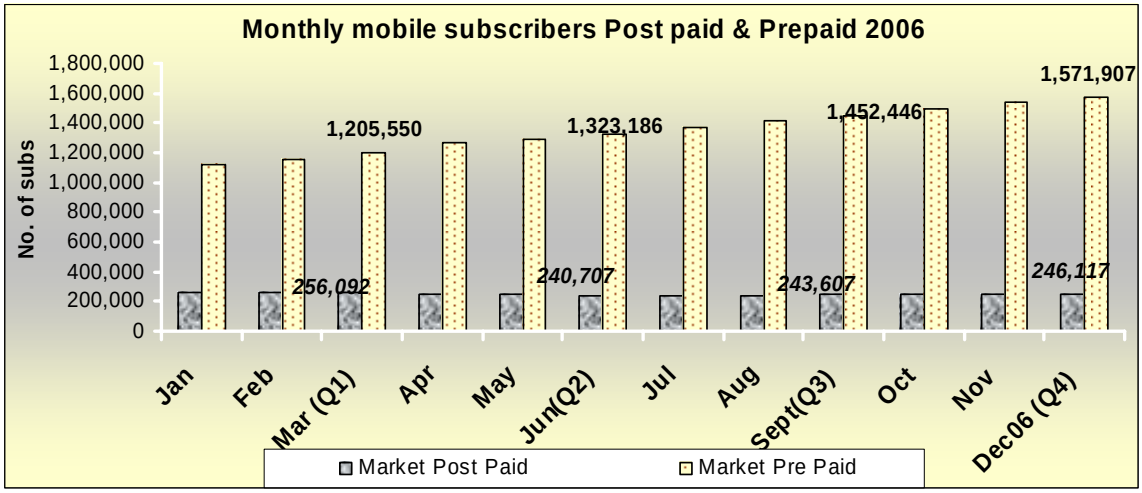
The chapter highlights the performance of the telecom sector during 2006. Trend of the major telecom indicators is given at Annex I.

Mobile Services

Since the entry of new operator (Nawras) in the market (March 2005), the mobile subscribers are increasing and reached at 1,818,024 by December 2006 showing an increase of 36 % as compared to December 2005 when mobile users were 1,333,255. Oman mobile had 1,246,089 while Nawras got 571,935 subscribers.

Figure.1 shows that mobile pre paid service is more popular than post paid among mobile users. Mobile pre paid users were 1,571,907 by December 2006 compared to 1,080,113 in December 2005, showing an increase of 45.5 % in one year. On the other hand, with a negative growth of 2.7%, mobile post paid subscribers reached at 246,117 comparing to 253,112 under the period of report. A look at graph shows that the number of postpaid users has begun to fall as a proportion of total subscribers mix. In December 2005, postpaid subscribers made of 19% of the total and as December 2006 have dropped to 13.5 % of all subscribers.

Figure. 1: Mobile Post paid & Pre paid subscribers, 2006



Source: Oman mobile & Nawras

Mobile Penetration:

Penetration is one of the major indicators in telecommunications to compare the access and usage of mobile between regions and countries. In terms of mobile sector, 72 out of 100 people had access to the mobile in the Sultanate by December 2006 as compared to 56.4 % in 2005 and 34.1 % in 2004 showing a significant growth and comparable with the regional countries.

Market Share:

In March 2005, Nawras started its operation in the Sultanate, and during this period it worked hard to increase its subscriber's base and market share by competing with Oman mobile which is providing mobile services since eighties. The market share of Nawras went up from 18.3% in December 2005 to 31.5% by end of the year 2006. As a result, Oman mobile's market share went down from 81.7% to 68.5% in the same period, however, its subscriber base went up to 40 % from 887,027 in March 2005 to 1,246,089 in December 2006 and still is the market leader of mobile services in the Sultanate.

Fixed Telephone Line:

Omantel is sole operator in the basic public fixed line market and internet services. Fixed lines showed a positive trend during year 2006 with total of ٢٧٨,286 lines comparing with 258,467 lines in December 2005, an increase of 7.6%. The table 1 shows a quarterly trend of the fixed telephone lines: postpaid, pre paid (Sahl) and Public pay phones.

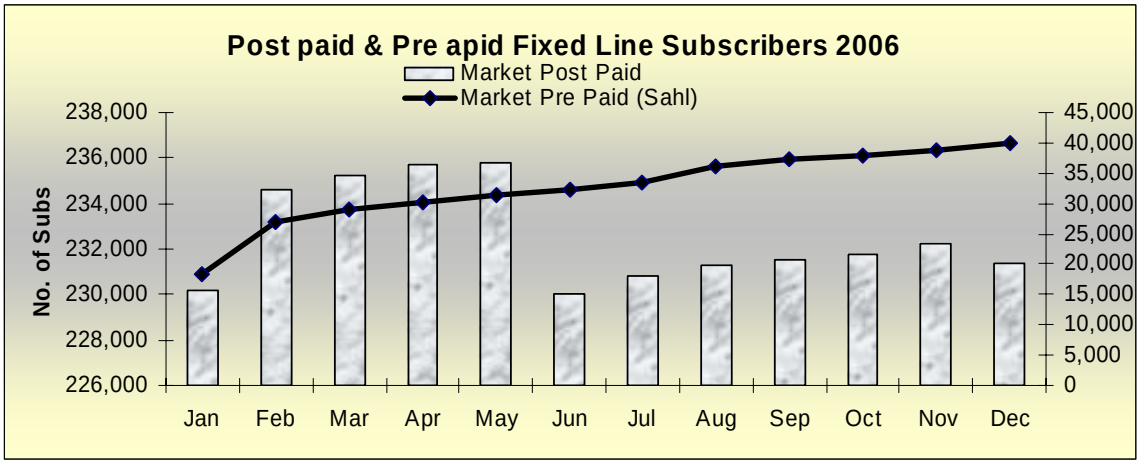
Table.1: Fixed Telephone Lines in 2006

Fixed Telephone Lines during 2006 in Category wise						
Quarterly Trend:	***Q4***	***Q3***	***Q2***	***Q1***	***2005***	***%change (2005/2006)***
- Fixed Post Paid Subscribers	231,395	231,515	229,999	235,273	233,045	(0.7%)↓
- Fixed Prepaid (Sahl) Subscribers	40,061	37,183	32,279	28,912	25,422	57.6%↑
- Public Telephone – Payphones	6,830	6,822	6,812	6,846	6,770	0.8%↑
1) Total Fixed Telephone Lines	**٢٧٨,286**	**275,520**	**269,090**	**271,031**	**258,467**	**7.6%↑**

Source: Omantel

It is evident from the table that pre paid fixed subscribers increased significantly. Its share in total mix subscribers reached at 14.4 % in 2006 from 9.8 % in 2005. In comparison to the previous year, the pre paid fixed (Sahl) recorded high growth rate of 57.6% which refers to the shift of many subscribers from using (post paid) to pre paid (Sahl). Contrary to this, post paid subscribers fell substantially on average rate of 1,375 subscribers per month. Figure.2 shows the trend of fixed post paid and pre paid subscribers during year 2006. There was net addition of 60 public payphones during the year 2006.

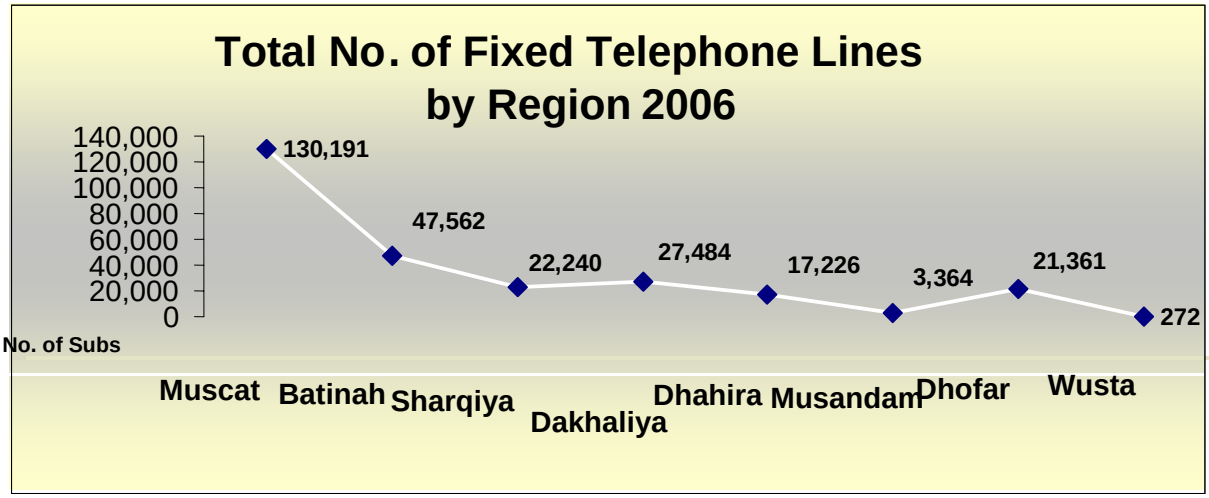
Figure.2: Pre paid & Post paid fixed subscribers



Source: Omantel

Region wise analysis of all the three types of fixed telephone services (post paid, pre paid and pay phone) showed that the Muscat Region had the highest number of lines in all categories whereas Wusta had the lowest. Region wise data is given at figure 3 below:

Figure 3: Regions wise Total Fixed Telephone Lines.



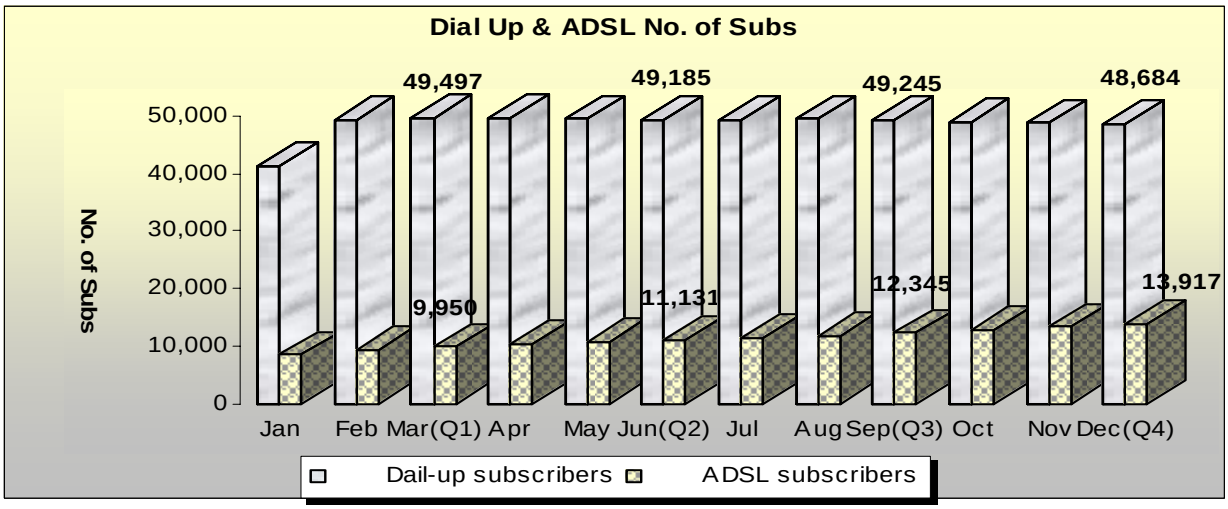
Source: Omantel

Internet Services

Both internet and broadband services are offered by Omantel. According to the statistics provided by Omantel there was sequential growth in ADSL during the year 2006. By December 2006, the internet subscribers reached a total of 63,843 (2.5% penetration)

compared to 49,425 subscribers in 2005, recording a percentage growth of 29.17 % of the total, the bulk continued to derive from dial up customers which accounted for 76.25 % of the total while ADSL subscribers made up 21.8%, leased line 0.4 % and other broadband 1.55%. Figure.4 representing the major two components of the internet subscribers: Dial up & ADSL.

Figure.4: Internet Dial up & ADSL Subscribers, 2006



Source: Omantel

The huge demand of internet prepaid cards (AL-Ufuq) is also one of the major sources of internet use. Although it is difficult to estimate the number of AL –Ufuq users, the rise in number of cards sold reflected a substantial increase in the use of these cards. By end of the year, Omantel sold about total of 3,640,800 internet hours in the whole year which were 12.28% higher than the previous year.

Beside number of internet subscribers and number of AL-Ufuq cards sold, the growth in number of Cyber cafés in the Sultanate during year 2006 also reflected higher use of internet. Comparing the year 2006 to year 2004 and 2005, the number of cyber cafes showed a growth of 47.6% and 55% respectively. The international bandwidth also increased from 358 Mb/Sec to 442 Mb/Sec (23%) during the year under review.

Fixed Line Teledensity

Fixed Line penetration is still low compared to the regional countries. The year 2006 recorded a penetration rate of 11.1% for fixed line as compared to 11% in December 2005

SPECTRUM MANAGEMENT AND PLANNING

Wireless technologies and devices are delivering an ever increasing range of services around the world from cities to rural and remote areas. Demand for high speed internet access which can deliver substantial economic and social benefits is one of the key drivers for improving broadband access. This caused an increasing demand for radio frequency bandwidth to facilitate new bandwidth dependent applications such as Wi-Fi, Wi-max, IMT 2000 and VoIP. Wireless plays an increasingly significant role in providing for economic broadband delivery, being able to provide high data rates over greater distances and in some circumstances, is more rapidly deployed than current wire line local access technologies. These features make wireless particularly attractive for rural areas. While many frequency bands already support various categories of wireless access service, spectrum demand and planning of wireless services remains an important and challenging issue.

National Frequency Allocation Plan

During the year 2006, TRA published National Frequency Allocation and Assignment Plan after the approval from the Frequency Spectrum Allocation Committee which was constituted by the decision of Council of Ministers and Chaired by H.E. Minister of Transport and Communications. The plan ensures the efficient management and use of radio spectrum. The new plan will support a large number of communications services, particularly for aviation, shipping, defense, public safety and mobile telephony. The plan is prepared according to International Radio Regulations and in line with the international practices.

Radio Licensing

The use of radio equipment in the Sultanate of Oman requires radio license from TRA under Telecom Act 30/2002. The Radio Licensing department processes all such applications/ requests and ensures that licenses are maintained in a manner which maximizes the efficient use of available spectrum. As of December 31, 2006, the total number of radio licenses issued was 9663 of these 7907 renewed and 1756 new licenses issued.

Re-registering and updating the Frequency Database

TRA advertised in all local newspapers and called all users to re-registers frequencies used by them free for charge. This action was taken to update the data base for avoiding any interference for licensed frequency holders.

Frequency Monitoring Systems

In granting radio frequencies, the TRA verifies applicants planned location of radio equipment before installation and controls the authorized equipment for proper application in conformity with the licensing conditions. The TRA installed the project to monitor frequency systems. The project has completed its first phase and most of the TRA staff got training to equip with the new system.

The department of monitoring and inspection has started the process of tendering the second and third phase of monitoring stations. Furthermore, the department has monitored the compliance of GSM operators according to the agreement between GCC countries regarding the signal strength in the border regions. In the process of achieving the national allocation plan and the re-registration process involved, the department has done the necessary follow-up with spectrum users failed to re-register their frequencies and licenses.

TOWARDS COMPETITIVE MARKET

Mobile Number Portability (MNP)

Number portability improves opportunities for competition within the industry by enabling customer to keep his number when changing to new service provider. MNP would provide mobile service users a choice to transfer from one mobile operator to another without facing the consequences of changing their numbers. In September 2006, TRA implemented number portability in mobile sector in the Sultanate of Oman taking a leading role in the GCC countries. The Authority believes that MNP will encourage competition and stimulate operators' enthusiasm to maintain their customers. In doing so, operators might introduce competitive tariffs or enhance the quality of service which may also include introduction of new services.

Equipment Certification

Telecommunications Regulatory Authority is responsible to ensure that the telecommunication's equipment available in the local market are complying with the approved technical, health and safety standards thus protecting users and guarantee interoperability with telecom public networks. Based on the importance of equipment certification process and its positive impact on the telecom market, the TRA upgraded its type approval mechanism and updated its data base.

The tables summarize total granted approvals and total registered dealers during the year 2006.

Table 2: Granted Approvals

Type of Telecommunications Equipment	Charges per Approval (R.O.)	Number of Granted Approvals	Total Income Received (R.O.)
GSM	100	99	9,900
Other Terminal	100	48	4,800
Radio Equipments and Devices	100	156	15,600
Total Number of Granted Approvals and Associated Income Received		**303**	**30,300**

Table 3: Registered Dealers

Charge per Dealer (R.O.)	Total Number of Registered Dealers	Total Income Received from Dealers (RO)
10	535	5,350

Table 4: Other Applications

No	Applications Type	Total Income in R.O
1	Importation registration	16,560
2	User Registration	130
3	Equipment Storing	1,975
4	Equipment Import & Re-Export	35
5	Total	18,700

The total income collected by Type Approval and Pricing Department during 2006 was found to be **R.O 56,770**

Table 5: Imported Telecommunications Equipment

Type of Telecommunications Equipment	GSM	Other Terminal	Radio Equipment	Total Number of Imported Equipment During the Year 2006
Total Number of Imported Equipment per Type During the Year 2006	4,253	31,328	2,230	37,811

Quality of Service

Quality of service is broad term used to describe the overall experience a user will receive over a network. It is the responsibility of regulator to protect the interest of consumer and ensure that the quality of telecom services is globally competitive. The TRA placed QoS parameters as an obligation in the respective licenses of the service providers. The service providers are required to measure, collect and report quality of service indicators to TRA in line with the license obligations. TRA carried out drive tests to monitor the quality of service of mobile operators. The analysis of quality parameters of all service providers are undertaken in quarterly reports.

Interconnection

Interconnection is the heart of the telecommunications. It provides an opportunity to the end users to seamlessly access all available telecom services in the market irrespective of the service provider with whom they are connected. It is an engine that paves the way for new entrants to offer their innovative services that lead to growth of the sector. It also allows the incumbent to compensate any potential loss of revenue by offering a new set of services depending upon new propositions and needs and hence become more efficient.

The Nawras is operating under Interim Interconnection Agreement. TRA has also engaged an international consultancy on number of interconnect pricing issues. On the bases of their

findings the Authority will issue determinations on pending issues in dispute between Nawras, Omantel and Oman mobile.

Tariff

After introduction of competition, a number of competitive offers were introduced by the operators. Major focus of the operators remained on attracting the new customers and increasing the customer base. Most of the offers were of promotional nature restricted for a limited period. The Authority had examined and approved the different tariff proposals submitted by all three operators on different occasion such as Khareef Festival. Muscat Festival etc.

Table 6: Type and Number of Tariff Proposals received from Mobile Operators

Type of Tariff Proposals	No of Approved Proposals
New service	20
Promotion	37
Revision	8
Extension	7

Table 7: Type and Number of Tariff Proposals received from Omantel

Type of Tariff Proposals	No of Approved Proposals
New service	1
Promotion	6
Revision	1

Telecom Services Licensing

In the course of liberalization and open market reform, licensing process is generally regarded as one of the most important regulatory processes undertaken by the Authority. The TRA is responsible for the preparation of licenses, qualification criteria, and analysis of the requests

for licenses and to monitor the obligations of the service providers. TRA is also in the process of formulating regulations and procedures for issuance of class II and class III licenses.

PUBLIC AWARENESS AND TRANSPARENCY

TRA is transparent and open in its decision making procedures. It consults on regulatory issues with all the stake holders, share with them all background information by various means including print media and placing the consultation papers on its website. The media is provided all developments taking place in telecommunication in the Sultanate for public awareness.

Consumer Protection

Protection of consumer's rights is a primary responsibility of the regulator. In the field of telecommunications, consumers are not fully aware of their rights. Awareness is the primary role of Telecommunications Regulatory Authority as per Telecom Act. TRA is in the process of finalization of advisory committee with a mandate to protect consumer rights, recommend non-monopolistic policies to promote competition. TRA prepared procedures for complaints handling and resolving mechanism against service providers. During the year 2006, TRA received 13 complaints against operators out of which 11 were resolved. Complaints received from operators and resolved are given below in the Table:

Table: 8 Number of Complaints Received and Resolved

Complaints against Operator	**No. of Complaints Received**	**No. of Complaints Resolved**
Omantel	4	3
Oman mobile	5	4
Nawras	4	4

Consultations

The TRA uses consultation process and put forward consultations papers on all major regulatory issues. All the stakeholders are given opportunity to comment. Responses are taken into account before reaching any final decision.

The following consultations were made during 2006:

1. Signaling Point Codes Regulations
2. Marketing Code of Practices
3. Premium Rate Services Numbering
4. Class II licenses
5. MVNO

TRA Website

TRA website www.tra.gov.om is a main source of communication with consumers, service providers, and potential investors in telecom, researchers and others who have interest in Oman's telecommunications. The website provide the information including Telecom Act, regulations, guidelines, telecom statistics, publications, business information, telecom regulatory news, public consultations papers and determinations of TRA on various issues.

Snap of TRA website

Dispute Settlements

The Telecommunications Regulatory Authority is responsible for handling disputes and complaints raised by the telecom service providers. TRA finalized a draft for dispute resolution mechanism that best fits Oman's telecom environment. After the issuance of second Public Mobile license to Nawras, TRA received complaints from the operators and held hearings in many cases before reaching any determination.

Determinations

During the year 2006 following two complaints were filed by Nawars with TRA for determination. TRA provided opportunities to all parties concerned to speak on the issues in a hearing before taking any decision.

International Outbound Calls Charges

The Omani Qatari Telecommunications Company "Nawras" made a submission to the Authority on 4 January 2006 regarding its dispute with Omantel pertaining to the rates being charged by Omantel for International Outbound Calls. Nawras and Omantel were given sufficient opportunities to present their written pleadings. Finally, the hearing was held on 1st May 2006 in the Authority's premises and the parties were once again given the opportunity to present their arguments and counter arguments through their authorized representatives. Having considered the written submissions made by the parties, their oral presentations during the hearing the TRA issued determination on the issues raised by Nawras in October 2006. Thereafter, Nawras submitted a review application on TRA determination in November 2006 which is in process to issue the determination.

Asymmetric Interconnection Charges

Nawras submitted a formal request for determination on 25th of February, 2006. The dispute in question relates to asymmetric interconnection rates in favor of Nawras. Nawras takes the view that they as a startup business need some kind of protection against the SMP in the market, Oman Mobile and Omantel. The Authority has issued determination taking into consideration all the arguments and submissions made by the parties and referred the relevant provisions of the Act, the licenses and also sought assistance of the consultant carrying out Study for Interconnection and Roaming charges. The Nawaras submitted review petition against the determination on 7th November for review. TRA has initiated the process of review.

Launching of TRA's Logo

The logo symbolizes the Authority as a recent dated organization that keeps abreast with advancement by introducing modern telecommunications technology to the world. While the abstract, shape and light colours reflect its trend towards progress.

The Telecommunications Regulatory Authority held an inauguration ceremony to mark the inauguration of its logo on the 26th of November 2006, at Shangri-La Barr Jissah Resort (Barr Jissah Hall). The Occasion was held inline with the Sultanate's celebrations of its 36th National day anniversary, through which Oman has attained vast achievements in various fields, including the Telecommunications sector.

The event was held under the auspices of His Excellency Mohamed bin Nasser Al Khosebi, Secretary General of the Ministry of National Economy, and attended by members of State Council and Shura, a number of government officials, heads of the telecommunications industry in the Sultanate and the region.

TRA at COMEX 2006

TRA was awarded as the most interactive stand at its first presence at the four-day Comex 2006 Exhibition which was held from 26 to 30 April 2006 at the Oman Exhibition Center in Seeb. COMEX 2006, is considered to be one of the most important exhibitions in the region that provides unparalleled promotional and marketing platform for IT and telecom sectors. Thus, TRA participated at the esteemed exhibition to expand and strengthen its public relations and enhance awareness of its role, activities and services.

Khareef Salalah Festival

The Annual Khareef Salalah Festival is considered to be one of the most important exhibitions in the Gulf region that provides unparalleled promotional and marketing platform for all. Accordingly, in year 2006 and for the first time, TRA participated at the festival's exhibition to expand and strengthen its public relations and enhance awareness of its role, activities and services.TRA provided information through a constant presence of its officers at the festival's location. The officers attended public queries on various issues of their concern.

INTERNATIONAL MATTERS

Understanding the implications of global telecommunications trends and developments helps foster an effective regulatory environment. Consistent with its approach to international activities, TRA has engaged with key regional and international stakeholders to ensure that Omani telecom industry and consumers can benefit from the ever increasing range of communications products and services. The TRA participated in the following major international events:

ITU Plenipotentiary Conference (PP-06)

6 November - 24 November 2006, Antalya, Turkey

The Plenipotentiary Conference is the top policy-making body of the International Telecommunication Union (ITU), held every four years. The Conference sets the Union's general policies, adopts four-year strategic and financial plans and elects the senior management team of the organization, the members of Council and the members of the Radio Regulations Board.

Sultanate of Oman delegation was headed by His Excellency Saud Bin Suleman Bin Hemyar Al Nabhani, Under Secretary Ministry of Transport and Communications. TRA was among the delegation.

Oman, in conjunction with other Gulf and Arab States, submitted several proposals, many of which were passed and adopted into resolutions.

ITU World Telecommunication Development Conference (WTDC-06)

7 - 15 March 2006, Doha, Qatar

The objective of the Conference was to agree on development priorities in view of the high-level recognition of the Digital Divide created by the rapid but uneven expansion of Information and Communication Technologies (ICTs). Another objective of the Conference was to promote international cooperation and partnerships that can sustain and strengthen

telecommunication infrastructure and institutions in developing countries. The Conference adopted the Doha Declaration and the Doha Action Plan. Participation was of the highest level, attended by TRA members, managers and other TRA employees. Specific contributions by TRA on the following issues:

- Sustainability of the Arab Centre of Excellence
- Call for regulatory best practices framework to develop national regulation on site-sharing (Co-Location)
- Combating SPAM internationally

ITU Regional Radio- communication Conference (RRC-06)

15 May - 16 June 2006, Geneva, Switzerland

The final Act RRC -06 contain the Regional Agreement G E 06, adopted by RRC-06, which governs the use of frequencies by the broadcasting services and other primary terrestrial services in the frequency band 174-230 MHZ and 470-862 MHZ. They also contain frequency assignment and frequency allotment plans for digital broadcasting services (Television and sound), the analogue televisions plan applicable in the transitional period, the coordinated list of assignments to other terrestrial primary services in these bands and resolution adopted by RRC-06. TRA delegation attended the Conference.

5th World Telecommunication/ICT Indicators Meeting

11-13 October 2006 Geneva, Switzerland,

The Fifth World Telecommunication/ICT Indicators Meeting – organized by the Telecommunication Development Bureau (BDT)/ITU – took place in Geneva, Switzerland, from 11-13 October 2006. The purpose of the meeting was to review the state of telecommunications /ICT statistics, definitions, collection, methodology and dissemination. The meeting was divided into three broad thematic areas (overview, best practices and definitions). TRA participated in the meeting along with the representatives of Ministry of National Economy and Information Technology Authority. TRA gave a presentation on telecom data collection - country best practice– as a case study of Sultanate of Oman.

International Telecommunication Union's Development Sector Study Groups 1 & 2

Study groups constituted having representation of experts from regulators, operators and policy makers who can carry out the technical work of the ITU, preparing the detailed studies that led to authoritative ITU recommendations.

The ITU –D Study Groups meeting for the fourth study period was held 4-9 September in Geneva. The meeting was attended by TRA members, seniors and other TRA employees. TRA member Engineer Naashiah Al-Kharusi is elected Vice Chairman of Study Group 1 for the second consecutive term.

Other International Events

TRA's employees participated in the following meetings, seminars, workshops and conferences during the year 2006.

Table 9: Number of Events and Participants

Events	Number of Events	Number of Participants
Meetings	31	51
Seminars	6	12
Workshops	9	19
Conferences	9	26

Major Events Hosted by TRA:

First Regional Meeting for the Coordination of FM Channels

16-18 September 2006

The TRA hosted the first regional meeting for the coordination of FM channels which attended by the GCC countries, delegates from Iraq, Iran and Yemen from 16-18 September 2006 to co-coordinate FM channels and expedites the process of including these channels in GE 84.

The licensing process of TV and broadcasting services is carried out through the specialized committee of TV and Radio Special Establishment, while TRA purview is confide to the

assignment of frequencies. It is well-known that the special establishment committee has granted primary licenses to several bodies to operate broadcasting channels. 22 FM channels successfully coordinated. TRA awarded the available frequencies to Broadcasting Committee to distribute among the companies seeking licenses.

Meeting of Technical Committee of GCC Secretariat Council

(19th – 20th September 2006) Muscat

The Telecommunications Regulatory Authority (TRA) hosted the 26th meeting of the Technical Committee of the Telecommunications Bureau Office of the AGCC Countries. A number of senior officials of the administrations, telecommunications regulatory authorities, broadcasters in the AGCC countries took part in the meeting and discussed number of issues; namely the study of the final report of the preminal measures for the propagation study of the gulf region.

ITU/BDT Arab Regional Workshop on Developing the Legislative Aspects for Combating Electronic Crime

(2nd – 4th April 2006), Muscat

In line with the ITU's Arab CoE strategy to pursue long-term continuity and enhance knowledge in the Arab region, the TRA hosted an international workshop on "Developing the Legislative Aspects for Combating Cyber Crimes. The workshop held under the auspices of the ITU's Arab Center of Excellence (Arab/CoE). The regulators, telecommunications operators, ITU members and telecommunications agencies around the region took part in the workshop.

The following topics were discussed in the workshop:

- Types of cyber crimes.
- The effect of cyber crimes on commercial transactions particularly those dependent on e-business.
- Legislative vacuum with regards to addressing cyber crimes.
- Legislation on commercial transactions and e-business.
- Examples of legislation in various countries for combating cyber crimes.
- Methods to train the concerned bodies in handing matters related to cyber crimes (all aspects including technical and legislative).
- Case studies of actual e-crimes committed.

ITU/BDT Human Resources Management Meeting

(16th – 18 December 006), Muscat

Telecommunications Regulatory Authority hosted 14th meeting of the Arab HRD Network in Muscat followed by 9th Steering Committee Meeting of the Arab centre of Excellence from 19-20 December 2006. The meeting objective was to assess the methods and means for serving the purpose of assisting the organizations in the field of human resources management and development and to explore new trends in the HRM/D field along with possible regional cooperation. The theme for the year was human resources management and development in a competitive market.

ITU CoE Steering Committee Meeting

(19th – 20 December 006), Muscat

Arab Center of Excellence organized the 9th Steering Committee Meeting from 19th to 20th December 2006 in Muscat – Sultanate of Oman.

The main Objectives of the Meeting were:

1) Assessment of the activities of the Center of Excellence during 2006.
2) Approval of the Operational Plan and the financial budget for 2007.
3) Discussion on CoE Sustainability strategy.

All the seven steering committee members (Oman, Jordan, Saudi Arabia, Syria, Egypt, Sudan and Tunisia) along with ITU attended the meeting .The Yemen, Kuwait and Libya also participated. The Steering committee approved the progress report, CoE Action plan and the estimated budget for the year 2007.

Visits and Visitors

The TRA maintained its relationship with other regulators around the world to learn from their experiences. Manager Fundamental Planning, TRA visited the Federal Communications Commission (FCC), Washington D.C., USA in May 2006 to keep abreast with the rapid changes taking place in the field of telecommunications around the world. The TRA maintained the links with Arab countries and its three member delegation from Frequency department visited Sudatel,,Sudan telecom carrier and discussed the issues relating to frequency management and monitoring. The manager Frequency Allocation and Management department, TRA visited Bahrain in August 2006 to discuss the issues of mutual interest.

Two member delegation of licensing department TRA visited TRC, Jordan in December 2006 to explore the opportunities for further cooperation and collaboration with the Jordanian regulator. These visits turned out to be very fruitful and mutually beneficial.

International Delegations visited TRA

The TRA also welcomed high level delegations from ITU, Mr. Hamadoun Toure, Director of the International Telecommunications Union's Development Sector. He discussed issues relating to the development of telecommunication sector in the Sultanate.

Mr. Mario Maniewicz, Acting Head of the Implementation and Operations Support Department of BDT, International Telecommunications Union's Development Sector also visited TRA.

Delegation from Telecommunications Regulatory Authority, United Arab Emirates visited the TRA's office and discussed the process of liberalization that the Sultanate of Oman has gone through and challenges that were faced.

The delegations from Kuwait and Republic of Yemen also visited the TRA and discussed certain regulatory issues with the members on different occasions.

TRENDS AND ISSUES

TRA is well aware of the technological developments taking place around the world. Future challenges for the Sultanate of Oman include the provision of wide range of telecom services with its innovative applications for users and new sources of revenues for operators to make dramatic changes in telecom environment in the next couple of years. TRA has geared up its resources to meet these challenges.

Next Generation Network (NGN)

Next Generation Networks (NGN) are single platform over which operators may provide all their services. NGN is a global initiative, coordinated primarily by the ITU. It plays a vital role in ICT revolution. It provides the fundamental resource for transforming into broadband information infrastructure capable of supporting next generation converged services. Countries with modern telecom infrastructure providing abundance of services due to convergence of networks have much stronger foundations than those countries with limited and spread out telecom networks.

Most of NGN standards work currently being undertaken is associated with architecture and protocols, end- to- end quality of service and security. Significant work on these areas is being undertaken by Japan, Korea, and USA. The standards bodies aim to promote globally consistent standards and allow a migration path from existing networks services.

Third Generation (3G)

3G technologies, which promise wide range innovative applications for users and a new source of revenues for operators, are unlikely to make dramatic change for the developing countries. There is an increasing demand for additional network capacity and bandwidth with the widespread growth of MMS, imaging and other data services. Challenges faced by 3G are competition from other high speed wireless technologies, especially mobile Wi-Max, and ability to roam between different kinds of wireless networks. The majority of low income countries have not yet deployed Third Generation (3G) services. Given the nascent state and

low revenues of 3G services in most developed countries, operators are unsure about the potential and opportunities of 3 G in developing markets.

Wi-Max

It is evident that broadband services are becoming very popular across the world. Wireless technologies due to rapid developments and cost effectiveness are replacing the copper and fiber. Wi- Max provides fixed, nomadic, portable and mobile wireless broadband connectivity upto 40 Mbps per channel without the need for line-of- sight with a base station. Users around the world have access broadband services such as video telephony, video conferencing, and video on demand and IPTV due to revolutionary development in Wi-Max. 4G wireless broadband network will use newer version of mobile Wi-Max IEEE 802.16e technology standard. Viable last mile broadband technologies, such as Wi-fi have been used to offer public broadband access (hotspot) at airports, hotels, restaurants and other public places.

Universal Service Obligation (USO)

Access to information and communication technologies continues to grow and the digital divide – in terms of fixed and internet users and mobile subscribers are getting smaller. At the same time, the world continues to be separated by major differences and disparities in terms of ICT levels. Sultanate of Oman is also facing the problem of digital divide due to its difficult terrain of the country. USO is simply a mechanism for providing ICT services to all citizens/ classes of the society regardless of the area of their inhibition. USO is a welfare responsibility of the state and it is driven by public policy objectives. Therefore, it is prime responsibility of TRA to ensure of access of ICT services to all citizens at affordable prices and reduce the gap in digital divide. The Authority has floated tenders to address this issue through a consultant by identifying and formulating the basic requirements for telecom services in the Sultanate.

VoIP

Deployment of VoIP services are increasing across the world. Most service providers offer on-net calls and very low price national and international calls in developed countries. Many of these providers promote themselves as supplying fixed line replacement services. The

impact of VoIP technology is greatest on routes into developing markets, where continuing high international settlement costs make VoIP an attractive alternative. VoIP will be an area of high priority for TRA and developing and articulating a longer term view of VoIP and increased liberalization in light of global developments.

Annex.1: Major Telecom Indicators' Trend

Indicators	Jan	Feb	Mar (Q1)	Apr	May	Jun (Q2)	Jul	Aug	Sep (Q3)	Oct	Nov	Dec (Q4)	2005	% change 05 /06
Fixed Services:														
Total Fixed Telephone Lines	255,099	268,270	271,031	272,713	273,999	269,090	271,063	274,247	275,520	276,436	277,999	278,286	**258,467**	7.66%
- Post Paid Fixed	230,210	234,603	235,273	235,722	235,806	229,999	230,820	231,251	231515	231,750	232,233	231,395	**233,045**	(0.7%) ↓
-Prepaid Fixed (Sahl)	18,303	26,869	28,912	30,167	31,359	32,279	33,428	36,185	37,183	37,861	38,924	40,061	**25,422**	57.58 %↑
- Public Telephone (Payphone)	6,586	6,798	6,846	6,824	6,834	6,812	6,815	6,811	6,822	6,825	6,842	6,830	**6,770**	0.88% ↑
Teledensity (%)	10.2%	10.7%	10.8%	10.9%	10.9%	10.7%	10.8%	10.9%	11.0%	11.0%	11.1%	11.1%	**11%**	-
Mobile Services:														
Total Mobile Subscribers:	1,371,582	1,412,020	1,461,642	1,519,560	1,533,939	1,563,893	1,608,667	1,654,559	1,696,053	1,742,401	1,783,886	1,818,024	**1,333,225**	36.36 %↑
- Postpaid	254,785	257,002	256,092	249,658	246,304	240,707	241,939	242,536	243,607	244,923	247,053	246,117	**253,112**	(2.7) ↓%
- Prepaid	1,116,797	1,155,018	1,205,550	1,269,902	1,287,635	1,323,186	1,366,728	1,412,023	1,452,446	1,497,478	1,536,833	1,571,907	**1,080,113**	45.5% ↑

Teledensity (%):	54.7	56.3	58.3	60.6	61.2	62.4	64.1	66.0	67.6	69.5	71.1	72.5	**56.4**	28.5% ↑

Internet Services:														
Total Internet Subscribers:	*50,110*	*58,943*	*60,503*	*61,014*	*61,367*	*61,433*	*61,674*	*62,495*	*62,735*	*62,926*	*63,332*	*63,843*	**49,425**	29.17 %↑
-Internet Subscribers (Dial-up)	41,389	49,352	49,497	49,554	49,430	49,185	49,162	49,444	49,245	48,846	48,770	48,684	**41,086**	↑18.5 %↑
-Broadband Internet (ADSL)	8,506	9,373	9,950	10,390	10,857	11,131	11,393	11,920	12345	12,900	13,360	13,917	**8,125**	71.28 %↑
-Other Broadband (Leased Line)	215	218	226	231	235	242	235	242	240	248	246	246	**215**	14.95 %↑
-Other Internet: (web/E-mail hosting cyber café, etc.,)	-	-	830	839	845	875	884	889	905	932	956	996	**-**	-
Teledensity (%)	2.0	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	**2.5%**	-