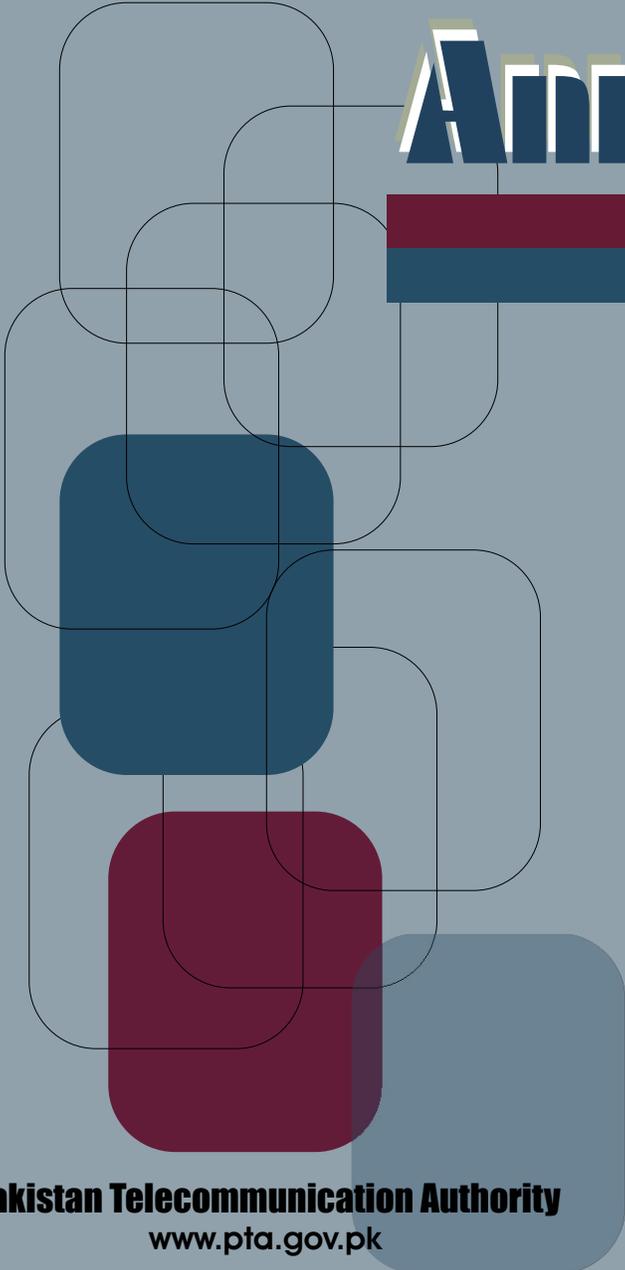


Annual Report

2005





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This Report was prepared by Economic Affairs team headed by Mr. Muhammad Arif Sargana. The team included Ms. Malahat Rab, Ms. Nabiha Mahmood and Mr. Abdul Rehman. The team was supported by Mr. Shahbaz Nasir, Ms. Hina Javed, and Muhammad Riaz. Special thanks go to Mr. Tariq Sultan who provided valuable input.

Annual Report 2004-05

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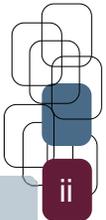
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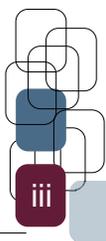
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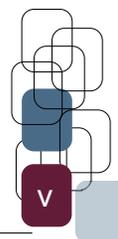
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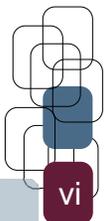
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ACRONYMS

ARPU	Annual Revenue per User
CED	Central Excise Duty
CVALS	Class Value Added License Service
DNOPs	Datacommunication Network Operators
DSL	Digital Subscriber Line
EIS	Electronic Information System
EoI	Expression of Interest
FBS	Federal Bureau of Statistics
FDI	Foreign Direct Investment
FLL	Fixed Line License
FY	Fiscal Year
GDP	Gross Domestic Product
GMPCS	Global Mobile Personal Communication System
GSM	Global Mobile System
GST	General Sales Tax
HF	High Frequency
HFC	Hybrid Fiber Coaxial
ISPs	Internet Service Providers
IT	Information Technology
ITP	Internet Transport Protocol
ITU	International Telecommunication Union
LDI	Long Distance and International
LL	Local Loop
MOU	Minutes of Use
NAs	Northern Areas
NTC	National Telecommunication Corporation
NVCNS	Non-Voice Communication Network Services
NWD	Nation Wide Dialing
PCO	Public Call Office
PRI	Primary Rate Interface
PRSP	Poverty Reduction Strategy Paper
PSD	Public Sector Development Program
PTA	Pakistan Telecommunication Authority
PTCL	Pakistan Telecommunication Company Limited
QoS	Quality of Service
SCO	Special Communication Organization
SMP	Significant Market Power
SMS	Short Messaging Services
TRS	Trunk Radio Services
UHF	Ultra High Frequency
US	United States
VAS	Value Added Services
VHF	Very High Frequency
WAP	Wireless Access Protocol
WCL	World Call Limited
WLL	Wireless Local Loop



CHAIRMAN'S NOTE

It is with great pleasure that I present the annual report of Pakistan Telecommunication Authority for FY 2004-05.

This year has been a landmark year in terms of Authority's achievements that present an ideal prologue to the deregulation policy of the telecom sector of last year. Keeping up to its mission and commitment, PTA as a sole regulator of the sector has been successfully able to conclude the first phase of deregulation policy. This deregulation has brought into its fold an array of telecom players providing not only a valuable source of FDI for the country but also a reasonable range of choice of telecom services for the general public.

Owing to the government's sound economic reform agenda and the Authority's investor friendly policies, today I am proud to say that we have been able to attract 32% of the total FDI through investment in the telecom sector which is in fact fifty times more than the investment witnessed in the previous year. This year also saw country's tele-density reaching up to 13.67% showing a growth of 105% since last year. I would like to specially mention here that the number of total mobile subscribers in the country has reached 15.5 million with a growth pattern of 181.6% since the previous year. In the month of July alone, 1.4 million new mobile subscribers were added to the current subscriber base. This trend proved as a catalyst for a fast paced growth in the telecom sector. It also had a spillover effect for the general economic indicators of the country in terms of increased economic activity and employment generation for both the telecom professionals as well as the skilled labor.

As part of the next phase of the deregulation policy, we have opened up the arena for award of further licenses in the local loop (LL) area and LDI. For that we have received exciting response from the private sector including that from foreign consortiums. Moreover, we have expressions of interest coming up for the award of licenses to infrastructure providers in which we also believe that a lot of potential exists in terms of acquiring much needed upgraded telecom infrastructure in the country. This year has also been a special one for the reason that the Authority's role was instrumental in ensuring a number of incentives to the telecom players all of which has led to affordable telecom services to the consumers at competitive rates. At every government forum, the Authority advocated the need of providing further relief to the private sector thus encouraging the investment friendly environment for a sustained sector growth. I am grateful that the present government responded very positively to the call of the Authority.

As a regulator, I want to assure you that the Authority would continue with its endeavors to sustain a level playing field for all telecom investors. The Authority also reiterates its commitment to encourage healthy competition with an aim of introducing cutting edge telecom related technologies in the country. We also stand by our goal of protecting consumer interests and directing the fruits of a thriving telecom industry to the people of Pakistan. In the end, I am pleased to acknowledge the hard work done by Economic Affairs Department to compile this report. I am also grateful to all operators for providing valuable data for this report.



Major General (R) Shahzada Alam Malik
Chairman

EXECUTIVE SUMMARY

Year 2004-05 ended with remarkable achievements by the Authority. The sector hit new records and competition penetrated in every segment of the sector. The year under report was the first year after liberalization of telecom sector and all eyes were on the reaction of the stakeholders including investors, operators, and consumers. Performance of telecom sector over shadowed all other service sectors.

While turning liberalization into a reality, PTA was faced with a number of challenges. The Authority was fully prepared to successfully pass this transitional phase. PTA has taken various steps to enhance competition after the implementation of deregulation policies. New entrants in every segment of the liberalized market were facilitated at every step whereby incumbent operators' reaction remained positive during all this time. Conducive environment thus created, has resulted in expanded access of telecommunications in unserved and underserved areas, reduced prices of telecom services and better quality of services. Although the focus of all service providers remained on metropolitan areas, services like WLL continued to be popular in areas with no telecom access.

Sectoral Review

The Government of Pakistan has accorded highest priority to the development of telecom sector in Pakistan and declared telecom as a priority area for provision of employment and reduction in poverty. Due to vibrant growth and enormous developments over the last few years as well as keeping in view the huge untapped potential in future, PTA proposed to the Government of Pakistan, to award "Industry" status to the telecom sector. The Government acceded to PTA's proposals and the sector was declared as an "Industry" in 2005. This award of Industry status will further help the telecom market go a long way as there are certain benefits allied with this status, such as borrowing of foreign companies from local market, no minimum investment requirement for manufacturing, subsidized utilities etc. The role thus played by the telecom sector in revitalization of the economy is known to all. Teledensity of Pakistan jumped to 13.67% breaking a record of percentage growth of 105% in just one year. Telecom revenues reached Rs. 161.4 billion in 2005 whereas they were only Rs. 129.4 billion last year. Similarly, the total investment made in the telecom sector after liberalization is estimated to be US\$ 1.02 billion in 2004-05. Foreign Direct Investment attracted by the telecom sector in 2004-05 reached US\$ 494.4 million which is highest among all economic groups. In 2004-05, telecom sector remained one of the major contributors in government revenues and the government collected

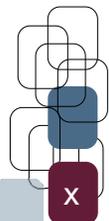
Rs. 20.4 billion as GST/CED from this sector while PTA deposited Rs. 17.7 billion to the national exchequer in 2004-05. Similarly, almost 436,213 employment opportunities were created during the year. Gross Value Addition made by the telecom sector in overall GDP of the country has reached 115 billion or close to 2% of GDP while telecom share in GDP reached 1.9%.

With two new players joining mobile cellular sector of Pakistan, mobile subscribers reached 15.5 million by July 2005, whereby total mobile penetration reached 10.1% as of August 2005. The mobile sector thus grew by 181.6% in one year which is the highest ever annual growth in the history of Pakistan's mobile sector. Currently, Mobilink has the maximum market share of 56.5% and more than 352 cities all across are covered by mobile operators. Average Revenue Per User (ARPU) of Mobile Sector decreased by 30% and stands at US\$ 6 per month (June 2005). The new players launched their services during the year and received an enthusiastic response from the telecom users. Telenor has initially restricted its services to metropolitan areas only. Warid launched its services in 28 cities simultaneously with its commercial launch.

The new segment, LDI which was liberalized a year before and 12 companies were awarded licenses, performed unexpectedly well in 2004-05. Ten companies started their operations by end of June 2005. However, their focus remained on international incoming traffic. Major operators shifted their calling business on their own networks thus reducing tariffs of international calls. All companies remained busy in rolling out their networks. WorldCall has 40 Points of Presence (PoPs) across Pakistan. PTCL, the incumbent operator was privatized during the year and Etisalat, a UAE based telecom firm bought 26% of its share worth US\$ 2.59 billion (approx. Rs. 150 billion @Rs.58/US\$).

The local loop segment which was being liberalized with the telecom deregulation did not show much progress during the year. Out of 34 companies only 3 companies could start their operations. Total Access Lines in Service in 2004-05, reached 5.2 million taking teledensity to a mere 3.4% showing a growth of 16% only in one year. The new operators started services in their designated telecom regions with very little subscriber base. WLL services however, became very popular after their launch in various cities. WLL subscribers reached 267,363 with three main players including WorldCall, TeleCard and PTCL. Total cities covered by these operators are more than 155 across Pakistan.

Profile of Value Added Services sector remained low during the reported year, whereby card payphone sector and EIS sector showed a little improvement. At the end of 2004-05, there were a total of 227,420 fixed line PCOs and 51,900 wireless payphones in the country. Broadband became very popular in Pakistan this year and 100% growth was witnessed. All this was possible when PTA



allowed the ISPs to provide DSL services. Total DSL subscribers in Pakistan have reached 14,600 whereas total broadband subscribers (DSL, wireless, cable and satellite) crossed 30,000.

Regulatory Review

2004-05 was an eventful year from regulatory point of view, since PTA remained busy in resolving issues of new operators.

A total of 12 LDI, 79 LL, and 92 WLL licenses were awarded till the end of 2004-05. Similarly 105 licenses have been awarded to Value Added Services out of which 83 licenses were awarded to payphone operators. The Authority has decided to award infrastructure licenses to companies which are only interested in investing in infrastructure and providing it to existing telecom companies on lease or rent basis. In this regard, Expression of Intrests (EoIs) have already been invited. The Authority issued commencement of services certificates to a number of LDI and LL operators. License of PTCL has also been modified whereby clauses on USF, APC and R&D have been incorporated. The authority also devised mechanism for monitoring of LDI operators' performance.

There were a number of post liberalization regulatory measures taken by the authority for the growth of telecom sector. PTCL submitted its Reference Interconnect Offer (RIO) for interconnection with LDI and LL operators, the Authority approved PTCL's RIO. PTA also declared SMP operators for 2004-05 wherein Mobilink in mobile segment, PTCL in LL and LDI segments and SCO in AJK& NAs were declared Significant Market Power. PTA has also laid down terms and conditions for co-location of LDI and LL operators with PTCL. PTA issued a determination on carrier pre selection and call by call selection for payphone operators. PTA also issued a determination on limited mobility under which all WLL operators have to implement single cell mobility. Similarly, PTA plans to implement Mobile Number Portability (MNP) by November 2005. Furthermore, PTA took some regulatory measures including reduction in international settlement rates and reduction in mobile termination rates. PTA also took notice of illegal or gray traffic and unearthed a number of cases.

PTA issued show cause notices to Mobilink and Ufone for providing low quality service to their consumers. In addition, 16 more show cause notices were issued to a number of telecom operators on different issues.

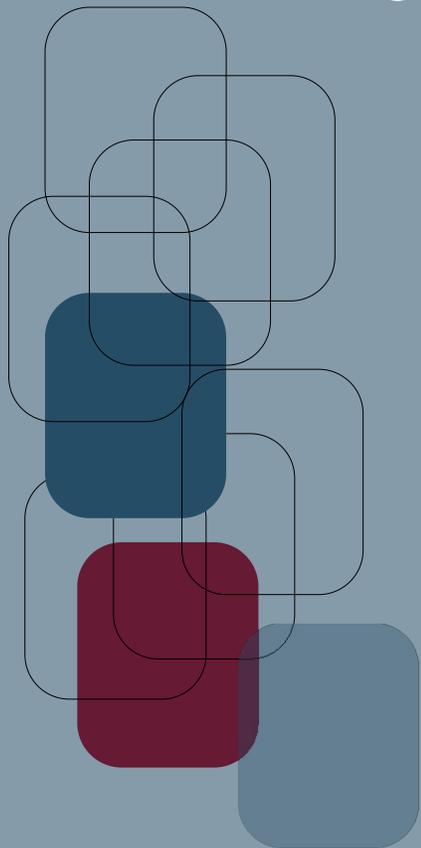
PTA has played an important role in creating awareness among telecom users and a number of steps have been carried out during 2004-05. A consumer awareness bulletin was prepared and advertised across Pakistan through press regarding charging of mobile operators in different call scenarios. The authority this year received and disposed off 12,137 complaints through its complaint redressal

mechanism at the headquarter and zonal offices. These complaints were received against all operators in fixed, mobile and value added segments. Similarly, 952 inspections and 214 surveys were also carried out.

During 2004-05, PTA continued to provide incentives to telecom operators as well as consumers to facilitate growth of industry. The annual royalty was decreased from 1.5% to 0.5% of annual gross revenue minus inter operator payments for new entrants. Keeping in view the importance of Payphone industry, initial license fee of card payphone operators was further reduced from Rs.100,000 to Rs. 50,000. An initial license fee of ISPs is also reduced to Rs. 50,000 per telecom region. Moreover, due to persistent efforts of the Authority, activation tax on new mobile connections was further reduced to Rs.500 while 10% withholding tax on prepaid calling cards by payphone operators has been withdrawn by the government of Pakistan. In addition, the Authority is pursuing local governments and other civic bodies to withdraw extra taxes levied on installation of BTS towers by mobile companies. A new mechanism called Access Promotion Charges (APC) is formulated through which a specific portion of LDI operators share of international incoming traffic will be paid to LL operators while excess of settlement rates over LDI operators' share will be contributed to USF.

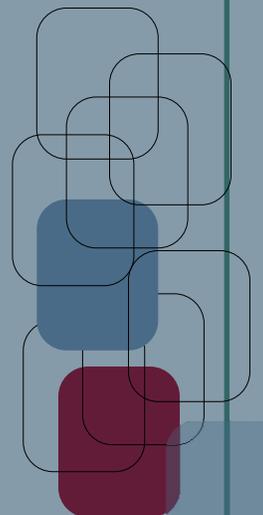
Part - 1

Regulatory Review





Post Liberalization Regulatory Measures



POST LIBERALIZATION REGULATORY MEASURES

Introduction

2004-05 can well be considered as a landmark in the history of Pakistan telecommunications. Smooth and swift implementation of telecom deregulation and mobile policies has resulted in the successful conclusion of the first phase of Telecom liberalization in Pakistan. However, bringing the vision of deregulation into reality meant that there would be a number of challenges involved and new issues would be cropping up.

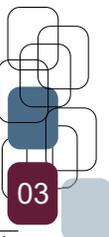
The Authority was very well aware of these challenges, and geared itself very well through this crucial transition period. Issues like Significant Market Power, Reference Interconnect Offer, Co-location and Carrier Pre-selection were prime concerns of PTA after liberalization. Similarly, WLL and Mobile segments were faced with issues like Mobile Number Portability, Mobile Termination Rates, Limited Mobility and Code of Commercial Practices which require PTA's special attention.

Reference Interconnect Offer (RIO)

With the deregulation in place, all licensees have the right to interconnect with PTCL and other licensed operators in order to be able to provide their services to their customers and to provide connectivity to their own subscribers from landline and cellular subscribers of other licensees. In order to accelerate the process of interconnection and finalization of agreements, PTCL was required to provide a standard agreement, which shall be treated as a reference.

PTCL submitted its RIO to PTA for approval in April 2004. The RIO contained the terms and conditions, including charges, on which PTCL would provide interconnection services to new Local Loop (LL) and Long Distance & International (LDI) operators. A number of meetings with PTCL and new operators were held to resolve various interconnection related issues. An open forum was also arranged by PTA to discuss PTCL's RIO.

The Authority approved PTCL's RIO on 6th December 2004. Various issues including charges, security deposit, forecasting procedure, physical and virtual interconnection etc. were resolved, which were previously not mutually agreed by the parties. Now, PTA is in the process of determining Mobilink's RIO.



Significant Market Power (SMP)

Under Pakistan Telecommunication (Re-organization) Act, 1996 ("The Act"), the Authority was required to undertake regular review of the relevant markets to identify operators who have SMP status, so that additional regulatory obligations can be imposed on such operators to avoid anti-competitive behaviour.

On the basis of market share analysis, a defined criteria, the Authority issued a determination on 25th August 2004 and declared the SMP operators in their respective telecom market categories as given in Table -1.

**Table - 1
SMP Operators**

Relevant Markets		SMP Operators
Product/ Service Market	Geographical Market	
Local Loop Fixed Line Telecommunications	All Telecom Regions	PTCL
Local Loop Fixed Line Telecommunications	AJK & NAs	SCO
LDI Fixed-Line Telecommunications	Pakistan	PTCL
LDI Fixed-Line Telecommunications	AJK & NAs	SCO
Leased Lines	Pakistan	PTCL
Mobile Cellular Telecommunications	Pakistan	PMCL (Mobilink)
Mobile Cellular Telecommunication	AJK & NAs	SCO
National Interconnection	Pakistan	PTCL and PMCL

Co-Location

The co-location framework is part of the Telecom Deregulation Policy, 2004. Its formulation involved a comprehensive process of deliberations on the part of the Authority aimed at facilitating the new entrants while also significantly reducing the amount of space and power charges.

PTA through its Co-location framework has laid out terms and conditions under which PTCL will provide the LL & LDI operators with co-location space and physical access at PTCL's sites with prior approval of the Authority. The site locations may consist of an exchange building for point of interconnect, satellite earth station and a submarine cable landing station. All parties are to ensure that the co-location equipment does not cause any interference with other parties equipment, facilities, networks and the equipment of other occupying operators in the co-location space. The operators must comply with PTCL's Standard Operating Procedures (SOP) for utilizing the co-location space. Moreover, the operators are not allowed to assign the lease or sub-let the co-location space at the co-location site to any third party without the written consent of the original lessor.

Carrier Pre-Selection to Payphone Operators

The Authority was approached by PTCL requesting a clarification on payphone operators reselling PTCL services through interconnect, to be treated as PTCL customer. PTCL was of the view that PCOs, who are providing services on behalf of CPP operators are their interconnect partners and carrier selection does not apply to them.

After due deliberation and consultation process and in accordance with the clause of the Telecom De-regulation Policy, the Authority issued a determination that all payphone operators, including incumbent's customers can enter into interconnect agreement with any LDI licensee and shall have the right to carrier pre-selection and call by call selection.

The Authority directed PTCL to make all necessary arrangements to allow automatic insertion of access code before the numbers dialed by customers of LDI licensees. The LDI licensees shall also have the right to non geographic numbering ranges and will be allocated and issued a four digit access code to allow indirect access, call by call and carrier selection by incumbent's customers.

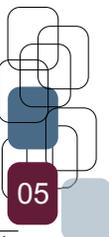
Limited Mobility

The WLL operators under the terms and conditions of the license and provisions of the Policy are allowed to provide telecommunication services with limited mobility within a single predefined cell. However, after the grant of license, WLL operators raised the QoS issue in WLL networks due to limited mobility restrictions imposed on them.

In order to deal with this complex issue, the PTA embarked on a multi-pronged strategy by involving all essential players who could help to resolve the issue. The PTA dedicated a team of experts in order to carry out the study, understand the problem, analyze the arguments in detail, probe all those avenues through which QoS of WLL could be improved. The PTA team consulted the issue with neutral and notable industry experts from Pakistan and abroad. After thorough deliberations and consultation, the PTA reached at techno-regulatory solution that addresses the QoS issues raised by the operators.

Under the PTA solution, Soft-Handoff was allowed for improvement in the QoS in WLL networks. Soft-Handoff was defined by PTA for the WLL limited mobility implementation. It was defined as an event in WLL radio network's Home-Cell during which the Terminal Equipment may superimpose other signals belonging to the single allocated frequency band over the home-cell signal while a call in progress to improve QoS within the home-cell. Similarly, Cell was defined for the WLL limited mobility implementation. Cell means the geographical area covered by a predefined radio base station consisting of one or up to three sectors of the single allocated frequency band.

The Authority after a thorough study and lengthy consultation, has issued determination for implementation of limited mobility in WLL networks. The Operators were directed to implement solution developed through the consultation process within 45 days and accordingly, submit compliance report to the Authority.



Mobile Number Portability (MNP)

MNP is a system that enables a mobile phone subscriber to retain his/her number while changing the cellular mobile operator. The facility will act as a pressure on the mobile operators to maintain QoS in order to retain their customers. PTA has formed a supervisory board of all the six cellular mobile operators. This board is chaired by Mr. Tore Johnson (Telenor), PTA also has a representation in the board. The board is an independent legal entity where all CMTOs shall collectively own, fund and supervise the centralized database operation to be known as the Central Database Administration (CDBA). The board will bear full financial accountability for the creation and ongoing operation of the CDBA. It will also ensure good governance by undertaking full responsibility for the overall governance and financing of the CDBA on behalf of all operators and subscribers. PTA has been trying to implement the MNP by year 2006.

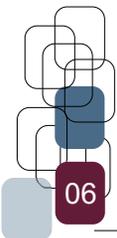
Mobile/Fixed Termination Rates (MTR)

Under the Cellular Mobile Policy, PTA was required to determine mobile and fixed termination rates (MTR). The Authority provided the guiding principles and costing methodologies for calculation of cost based MTR to all existing mobile operators. After detailed analysis of the cost models of mobile operators by the Authority, mobile termination rates were reduced from the current Rs. 2 per minute to Rs. 1.60 per minute for 2005 and Rs. 1.25 per minute for 2006.

The fixed termination rate for calls terminated on fixed networks from mobile networks was reduced from the current rate of Rs. 0.80 per minute to Rs. 0.52 per minute for 2005-06, with the exception of international incoming traffic which shall continue to be accounted for and settled on per second basis. Next year, settlement of interconnection traffic will be done on per second basis for all types of calls including local, long distance or international whether terminating on fixed networks or mobile networks.

Code of Commercial Practice

As per license conditions, all LL, LDI and cellular mobile operators are required to submit Code of Commercial Practice for approval of the Authority. The Authority examines clauses related to security deposit, pricing mechanism, refunds/rebates, over-billing, payment terms, and customers' and licensees' right of termination. While evaluating code of commercial practice and standard contract of service, it is ensured that the contracts submitted by the operators do not belittle the interests of the consumers. Moreover, any discrepancies observed in their code are conveyed to concerned operator for revision. So far, the Authority has evaluated 15 Codes of Commercial Practice and contracts of LL, LDI and Cellular Mobile Licensees.



International Settlement Rates

Under the deregulation policy, the principle of One-Country One-Rate is specified in order to protect the APC share of LL operators which would otherwise be difficult to implement as every LDI operator would have different settlement rates with a given country and hence different APC might emerge. Although higher settlement rates provide financial support to the LL operators on the one hand, the same may result in illegal call termination within the country if not aligned with prevailing international trends of settlement rates.

Keeping in view the significance of this issue, the Authority decided to reduce the international settlement rates significantly to narrow the financial incentive for illegal call termination in Pakistan. The new rates are applicable from July 01, 2005.

**Table - 2
Settlement Rates**

	Old Rates	New Rates	Reduction %
Settlement Rates	16.29	13.50	17
APC	10.29	7.50	27

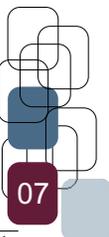
It is envisaged that the reduction in settlement rates would help curtail illegal call termination in Pakistan. The bargaining ability of the new LDI operators with the foreign operators would improve resulting in increased volume of incoming international traffic and it would help LDI operators to reduce their tariffs being charged to the end consumers.

Illegal Call Termination (Grey Traffic)

A large majority of overseas Pakistanis use calling cards to call their family and friends in Pakistan. It is an obvious choice for callers because calling card rates are much cheaper compared to local phone providers in foreign countries like, AT&T (USA), Qwest (USA), Primus (Australia) etc. Voice over IP (VoIP) has been in use since 1998. Despite the fact that with the introduction of LDI services, the cost of calling cards declined significantly, it was observed by the Authority that illegal call termination routes were still being exploited which required prompt action.

The illegal call termination commonly known as 'Grey Traffic' bypasses PTCL network, terminating it on exchanges owned by unlicensed individuals and companies.

The Authority educated the general public about this issue through an effective media campaign and called for their cooperation to control this menace. Through advertisements in a large number of national and local newspapers the consumers were encouraged to call the Authority's toll free number to inform about any international call that appeared local on their CLI.



Through a very crucial role played by the Authority and aided by law enforcement agencies, 'illegal exchanges' were busted in different cities, which were responsible for billions of rupees of loss to the national exchequer.

Class Value Added License Service

In order to simplify the process of value added services' licensing procedures, PTA has proposed a new concept of simplified "Class Value Added License Service" (CVALs). Through CVALs, previously issued VAS licenses will be converted into only four new simplified CVALs. Many services have been identified as "Registration only" and all voice related value added services have been converted into just one "Type-C" voice only license. All data services have been converted into just two types of data services i.e. below 128kbps and those equal to or greater than 128Kbps. The important features of simplified CVALs are that licensees will get their "Service Level Agreements" approved by PTA with nominal initial license fee. The licensee will be charged a minimum annual fee and the tariff will not be regulated for non-significant market power operators. PTA will monitor Quality of Service, update requirements with time & technology and will make the results available on its website.

Vigilance on Quality of Service (QoS)

PTA is aware of the need of a strong and fair foundation of Telecom regulations. At the same time the Authority is also vigilant that the laws/regulations of the Authority and the rules of the award of licenses are followed in letter and spirit, in case of failure, legal actions be initiated against the licensees.

Keeping in view this objective, the Authority took a number of legal steps during the course of the Year under review which are give below:

Show Cause Notices

This is the first step taken against a licensee under section 23 of "The Act". This being a legal document describes violations committed by a licensee under the provision of the Act, rules, regulations or terms and conditions of the award of the license.

In 2004-05, the Authority issued 18 notices to various licensees including the leading mobile operators Mobilink and Ufone for poor quality of services to their consumers. A hearing was held on 9th of June, 2005 with reference to the charges imposed in the show cause notice on Mobilink. After hearing Mobilink's position and at their plea to give them some time to improve their services, the Authority decided to allow them time and that it will conduct a second QoS survey in the first week of August this year.

The Authority also issued a show cause notice to Ufone, which in turn gave a presentation to the Authority. Again at the request of Ufone, the Authority agreed to grant a period of 4 weeks to Ufone to improve its services before a second QoS survey is conducted.

New Regulations

With the announcement of Deregulation and Mobile Policies, PTA was given the mandate to implement the said policies. The implementation of these policies in an effective manner require the promulgation of new regulations.

PTA made the following Regulations during 2005:

- (1) *Cellular Mobile Telephony Regulations, 2005,*
- (2) *Fixed-line Telecom Regulations, 2005,*
- (3) *Mobile Number Portability Regulations, 2005,*
- (4) *Access Promotion Regulations, 2005, and*
- (5) *Number Allocation and Administration Regulations, 2005.*

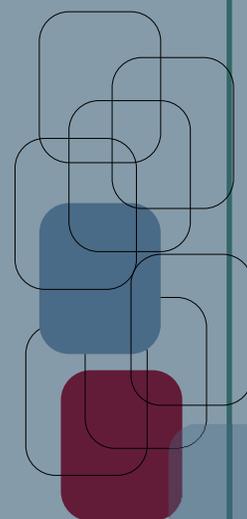
Conclusion

Law & regulation is the edifice upon which the Authority builds its regulatory structure and defines the rules of business for all the industry's players. The objective is to provide a level playing field for all stakeholders of the sector and to prevent any exploitation of the consumers while ensuring provision of good quality telecom services. PTA has been very active in sensing the need to bring the above-mentioned issues to their logical conclusion. The Authority has always welcomed every stakeholder to provide their view point. It is through this unbiased, balanced and future-oriented approach that the Authority has successfully regulated today's booming telecom industry.



Consumer

Safeguard



CONSUMER SAFEGUARD

Introduction

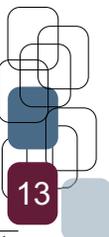
PTA as a regulator of the telecom industry has a very crucial role to play in terms of creating awareness among the consumers about their rights. The Authority remained vigilant to ensure that the consumers get high quality services, low tariffs to enable affordable services at competitive prices and a reasonable range of choice.

For accomplishing its tasks, the Authority conducts surveys and inspections to evaluate the Quality of Service (QoS) provided by the operators. It pursues, guides and facilitates all service providers to a capacity with a view to ensure efficient and constant effective services to the end users and also prepares service providers to meet future challenges. PTA does not only act as a facilitator in the event of non-compliance or failure on part of service providers to uplift their QoS, it also proceeds against them under Sections 23 of the Pakistan Telecommunication (Re-organization) Act, 1996 if any operator violates license conditions. In addition, the Authority plays its due role in facilitating the Law Enforcing agencies in identification of any illegal telecommunication activities being committed by unscrupulous elements that might be responsible for causing losses to the government exchequer.

In 2004-05, the Authority carried out following steps that would go a long way in safeguarding the interests of the consumers.

Public Awareness Campaign

One of the key objectives of PTA is to create an informed community by providing regular information to the consumers about matters relating to the telecommunication industry. Therefore, public awareness campaigns regarding tariffs of various telecom services are carried out by the Authority on a regular basis. In order to promote consumer awareness on cellular tariffs, the Authority prepared a Consumer Awareness Bulletin and advertised it in various newspapers besides making it available on PTA's website for ready access. The objective was to inform general public about the charges of cellular mobile operators in different call scenarios to help them make an informed decision about their choice of cellular company and minimize their complaints. Comparisons of prepaid as well as postpaid mobile cellular tariffs were published in the newspapers. It was appreciated by all and an encouraging feedback was received from all stakeholders. The Consumer Awareness Bulletin placed on PTA's website is updated regularly. As a result of this bulletin, the cellular mobile operators have also started providing more information about their charges. (See Annex -1 for Pre-paid and Post Paid Cellular Mobile Tariffs as of August, 2005).

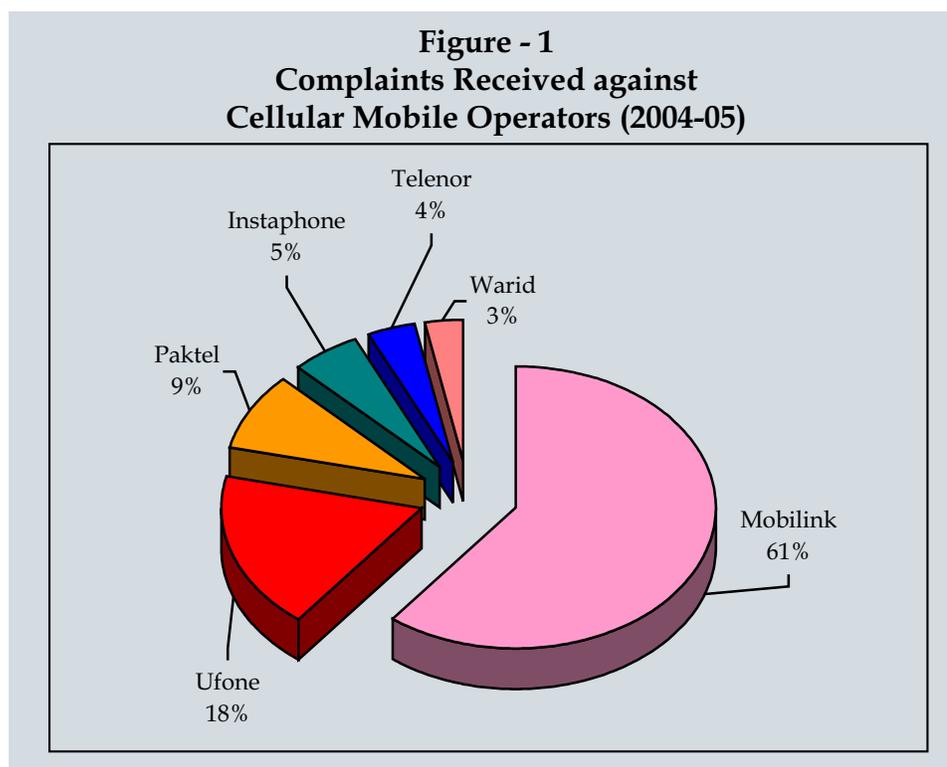


Complaint Analysis

In the present environment of openness and transparency in the government functioning, accountability in relation to public satisfaction and responsive delivery of service to its citizens are very essential. For this purpose, the authority has set up a Consumer Complaint Centre, which looks into the matters concerning consumers of various telecom services including fixed line, cellular mobile and other value added services.

In 2004-05, PTA's Complaint Cell received and disposed 9,492 complaints from consumers of telecom services.

In fixed line segment, maximum number of public complaints were received against PTCL that were registered at 92.5% of total complaints. The complaints were mostly related to out of order connections, incorrect billing etc. Other services including WLL, card payphones and value added services accounted for a minimal share of complaints of only 4.8% of total complaints. Similarly, 10% of the total complaints were against mobile operators. Figure-1 shows the breakdown of complaints received by PTA's Complaint Cell against each cellular operator.



Complaints are generally proportionate with the market share of respective operators.

Surveys/Inspections

PTA facilitates and pursues all telecom service providers to provide efficient, trouble free and affordable services to their subscribers. For achieving this, PTA's Enforcement Division through its Zonal offices at Lahore, Karachi, Rawalpindi, Quetta, Peshawar, and Regional offices at Hyderabad,

Faisalabad, and Multan conducts periodic surveys of all major service providers including fixed line, mobile, WLL, LDI, LL and internet service providers throughout the year.

In 2004-05, a total of 952 inspections were carried out and 2,645 complaints were dealt with. 214 surveys were carried out and 17 show cause notices were issued. The details of investigations carried out during the year are shown in Table - 3.

Table - 3
Investigations Report

Service	PTCL	CMT ¹	LL ²	WLL ³	LDI ⁴	ISP ⁵	CPP ⁶ Operators	CPP (PCOs)	Others	Total
Commencement Inspections	-	21	02	26	111	-	-	-	-	160
Surveys	44	61	-	-	15	41	48	-	05	214
Inspections	32	04	-	-	-	20	29	865	02	952
Complaints	1,651	150	-	-	38	76	690	-	40	2,645
Complaints Resolved	1,375	128	-	-	33	55	532	-	38	2,161
Show Cause Notices	-	-	-	-	-	-07	08	-	02	17
Court Cases	01	-	-	-	-	01	01	-	11	14
Hearings	02	01	-	-	-	04	01	-	-	08
Fines Imposed	-	-	-	-	-	-	269	496	-	496
Determinations	01	-	-	-	-	-	-	-	-	01
Raids	01	-	-	-	-	-	-	-	11	12

A total of 865 payphone outlets were inspected during the year while 496 companies were imposed fines for various reasons.

Conclusion

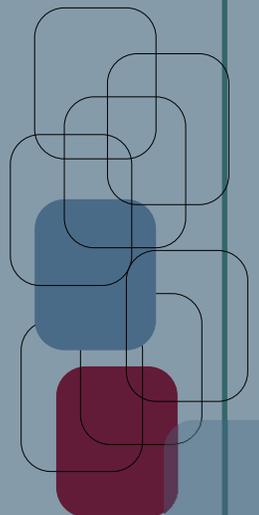
Ensuring consumer safeguards and enforcing the relevant regulations of the telecom regulatory structure are undoubtedly one of the prime functions of any regulator and the Authority is fully conscious of its role in this regard. Year 2004-05 has been unprecedented in terms of efforts by the Authority in evaluating the QoS standards of operators. The exercise will continue till the performance/QoS is improved to the satisfaction of end users and international benchmarks.

The message to all the stakeholders is loud and clear that the authority while providing fair and even playing field to all operators would not compromise on the quality of service to the consumers. At the same time the Authority believes that its work with respect to Consumer Safeguards would be further strengthened if the consumers themselves are made aware of their rights and help out in pointing out illegal elements hurting the telecom industry. Therefore, a strong vigilance on the performance of the operators coupled with a conscious involvement of the general public can be a hallmark of the Authority to ensure high quality and improved telecom services across the country.

¹CMT Cellular Mobile Telephony
²LL Local Loop
³WLL Wireless Local Loop
⁴LDI Long Distance & International
⁵ISP Internet Service Providers
⁶CPP Card Payphone



Incentives to the Industry



INCENTIVES TO THE INDUSTRY

Introduction

With the deregulation of telecom sector, PTA has been assigned the role of facilitator for the growth of telecom sector. Keeping in view the expectations, PTA's hallmark has been to provide attractive environment coupled with regular incentive schemes for telecom operators, so that the consumers as well as the operators will benefit accordingly. PTA always considers that incentives in terms of reduction in regulatory charges and taxes to the telecom sector play a vital role to make services affordable to common man and achieve sustained growth of the sector. In 2004-05, PTA took several measures for the relief of telecom sector.

Reduction in Regulatory Charges

PTA annually charges regulatory fees from its licensees. In 2004-05, PTA has given maximum incentives to telecom operators in terms of reduction in annual license fees of telecom services including mobile telephony, fixed line and other value added services which will help them expand their services across the country by providing service at cheaper rates. (For Fee Schedule for Value Added Services, see Annex - 2)

Cellular Mobile

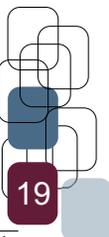
During 2004-05, annual royalty has been further reduced from 1.5% to 0.5% of annual gross revenue minus inter operator payments for new entrants. The same will be applicable to the existing operators when they renew their licenses.

Card Payphone

Card Payphone services are an important source of providing access to general public across the country. Keeping in view its importance, PTA has been providing incentives to this sector in terms of reduction in royalty and license fees over the years. Initially, PTA was charging annual royalty @ 4% of annual gross revenue or 50% of Initial License Fee (ILF) whichever was higher, and annual renewal fee @ 25% of initial license fee. In 2002 annual royalty was replaced with annual license fee @ 2% of gross revenue or 50% of initial license fee whichever was higher. In 2004-05, Initial License Fee of card pay phone operators was reduced from Rs. 100,000/- per telecom region to Rs. 50,000/- per telecom region.

Internet Service Providers (ISPs)

To promote telecom system and services in the country PTA endeavors to provide incentives to all sub-sectors. In 2004-05, the Initial License Fee of Internet Service Providers was reduced from Rs.



100,000/- per telecom region to Rs. 50,000/-. The license category and the license fee of Electronic Information System (EIS) service was modified as follows:

- | | |
|----------------|---------------|
| a. PTCL region | Rs.50,000/- |
| b. National | Rs. 300,000/- |

Existing licenses of district/provincial level have been upgraded to regional and national level.

Reduction in Taxes

In order to generate revenues, the Government of Pakistan imposes various taxes on telecom services including fixed line, cellular mobile and other value added services. As a regulator, PTA analyzes these taxes and monitors its impact on telecom service providers as well as on customers. The Authority proposes to the Government to withdraw any tax which is considered a burden or impediment in the growth of the sector. In 2004-05, major steps initiated by the Authority to reduce taxes are described below:

Activation Tax

Initially, Government of Pakistan levied activation tax of Rs. 2,000 on new mobile connections, which was considered to be a big hurdle for the growth of cellular mobile sector. PTA took up this issue with the Government to withdraw the activation tax. In 2004-05, activation tax on new mobile connections was reduced from Rs. 2,000 to Rs. 1,000. PTA pursued the government to further reduce the activation tax, to provide a relief to the customers. The government reduced the activation tax to Rs. 500 in the federal budget of 2005-06. This will further help boost mobile subscriber base in the country.

Taxes by Civic Authorities

In 2004-05, local governments, authorities and Cantonment Boards levied exorbitant fees for providing NOC to install BTS towers by mobile companies in addition to rent paid to property owners. These taxes are ultimately transferred to customers and make the services expensive for them. PTA took serious note of this practice, considering it an impediment for the growth of mobile sector. Chairman PTA requested Chief Minister and Governors of all provincial governments to direct civic bodies to avoid levying undue charges on mobile operators. PTA also took up this issue with all major civic bodies including DHA, CDA, LDA and Cantonment Boards for the removal of these taxes. Resultantly, Government of Punjab has directed all civic bodies under its jurisdiction to charge a flat rate of Rs. 2,000 annually for installation of BTS towers from all the mobile operators against administrative charges (NOC fee) which will provide a relief to mobile operators.

Taxes on Card Payphone Industry

Public Pay Phones are a convenient and affordable source of phone access for people with low income groups who do not have fixed line phones. In addition to the existing Central Excise Duty (CED), 10% withholding tax was levied on prepaid calling cards services in the 2005-06 budget. Since calling cards are mostly used by lower income groups, the imposition of withholding tax would have increased call rates which would have made it burdensome for the consumers to make even the local calls. PTA pursued the matter with CBR to consider the withdrawal of 10% withholding tax on telecom services. The tax was finally withdrawn in the final Finance Bill of fiscal year 2005-06.

Access Promotion Contribution (APC)

The concept of Access Promotion Contribution was introduced by the Government of Pakistan in the de-regulation policy to foster the infrastructure development in Pakistan. APC constitutes the share of premium on international incoming calls to Local Loop (LL) operators. The Long Distance & International (LDI) operators' share on international incoming traffic has been set at a maximum of 6 US cents per minute, while the remainder of the per minute settlement rates i.e. APC is to be paid to LL operators. However, cellular mobile operators are not entitled to receive APC. The excess of settlement rates over LDI operators' share of 6 US cents per minute and the mobile termination charges is contributed to Universal Service Fund (USF). Subsequent to issuance of Access Promotion Rules, 2004 (APC Rules) in January 2005, the APC Regulations have been developed keeping in view the technical and legal aspects involved in the practical implementation of APC regime. The same have been forwarded for gazette notification.

Provision of Fixed Short Messaging Services

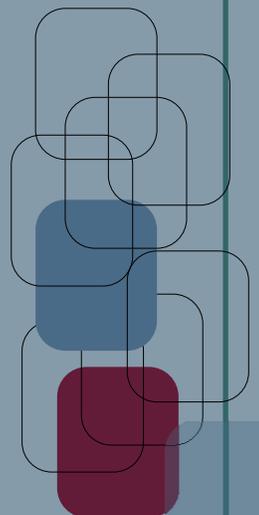
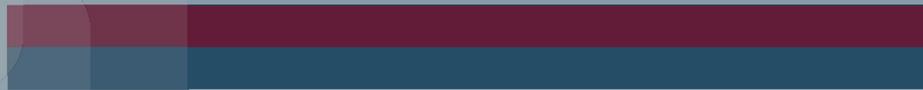
PTA has allowed PTCL for provision of fixed short messaging services in order to promote new services to end users. Previously this service was only being provided by the cellular operators.

Conclusion

2004-05 has been a landmark year in terms of PTA's contribution towards facilitating the telecom sector. Realizing that an additional amount of taxes and comparatively high fee structure upon various telecom companies would ultimately burden the consumers, the Authority's role has been instrumental in advocating the need for reducing the scale of the charged fees by mobile operators and ISPs and more specifically in the case of abolition of 10% withholding tax on CPP industry.



Licensing



LICENSING

Introduction

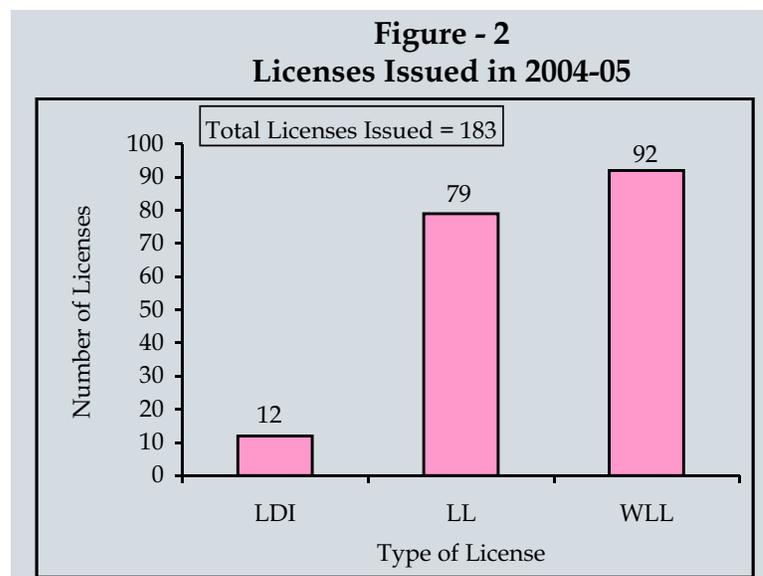
Pakistan Telecom Authority is empowered to grant and renew licenses for telecommunication systems and services including fixed line wireless, value added and cellular services across the country. Authority is also empowered to cancel any license for which the license requirements have not been met. The companies which have been issued license of different types of value added services are required to be operational within one year. During 2004-05, the authority cancelled 26 licenses. The cancellation of licenses was carried out on the conditions including; (i) non operation and non payment of outstanding dues; (ii) Confirmation of non-operational status through Zonal Offices and PTCL field reports (iii) failure to reply to show cause and; (iv) on the request of operators to cancel their license. Being a regulatory body, PTA has initiated a number of activities, aimed at improving and simplifying licensing processes and promoting new services for expansion of telecom services.

Issuance of Licenses

After successful completion of Phase-I of the deregulation process, PTA invited applications from Pakistani and foreign companies/consortiums for grant of technology neutral Local Loop (LL) and Long Distance & International (LDI) licenses for all telecom regions excluding Azad Jammu & Kashmir and Northern Areas on an open and unrestricted basis. For Wireless Local Loop (WLL) licenses, applications would be invited on availability of frequencies and preparation of spectrum plan by Frequency Allocation Board (FAB). Companies interested in getting a license and meeting the required conditions will be eligible for a license on payment of prescribed fees.

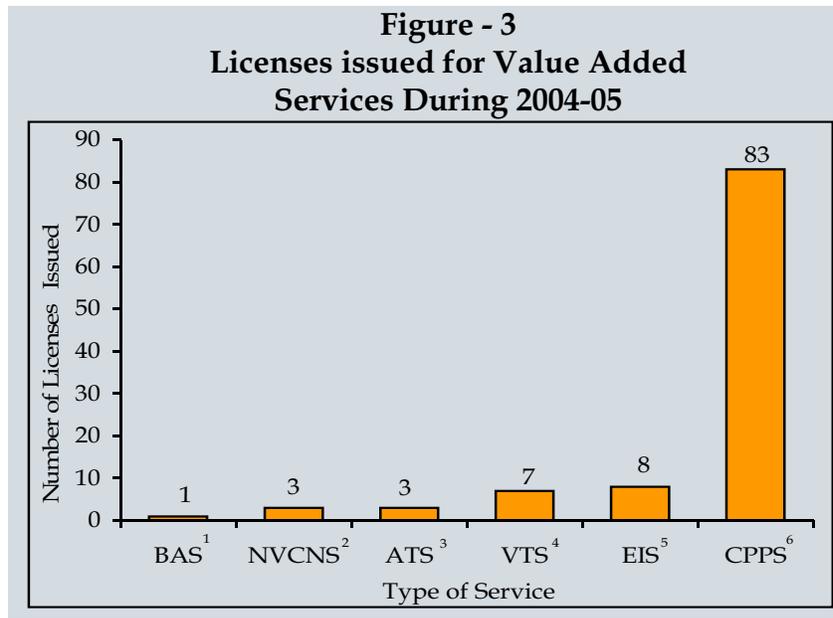
Local Loop & Long Distance International

In 2004-05, Authority received 23 applications for LDI and 95 for Local Loop licenses. Out of 95 LL applicants, 12 Companies had applied for all 14 Telecom regions, 38 companies had applied for single LL regions whereas remaining 22 companies applied for different regions. The breakdown of total licenses issued in 2004-05 is shown in Figure - 2 (For total licenses issued by PTA, see Annex - 3).



Value Added Services

Authority received 136 applications for award of licenses of various value added services including Card Pay Phone Services (CPPS), Electronic Information Services (EIS), Audiotex Services (ATS) etc. A total of 105 licenses have been issued whereas remaining 31 applications are still under process.



Infrastructure Licenses

In 2004-05, some investors showed interest in laying telecom's basic infrastructure and requested PTA to give them permission. They did not want to get LDI license for this purpose due to the Performance Bond of US\$ 10 million. PTA, therefore, decided to issue a separate Infrastructure License. Moreover, as per existing commercial practice and business trends, the telecom companies are outsourcing the laying of fiber optic cables and other infrastructure under the umbrella of PTA's Licensees.

PTA consulted Ministry of Information Technology & Telecommunication and Cabinet Division for Policy directives to issue infrastructure license. The Expression of Interest (EOI) for infrastructure license was issued through print media as well as PTA's website. The draft Infrastructure License, Guidelines for Lease / Rental / Sale of Infrastructure and Checklist of Documents to be submitted with the application were placed on PTA's website for interested investors/applicants. The license is open to all and will be issued to companies, which meet the requirements.

Important Issues

A brief description of some of the important decisions carried out by the Authority during the year, is given below.

Issuance of Commencement Certificate

The Authority has granted permission to LDI operators to commence their services on the basis of

- ¹BAS Burglar Alarm Service
- ²NVCNS Non-Voice Communication Network Service
- ³ATS Audio Tracking Service
- ⁴VTS Vehicle Tracking Service
- ⁵EIS Electronic Information Service
- ⁶CPPS Card Payphone Service

information provided by LDI companies and inspection report of the installation site. However, LDI operators were required to establish a complaint centre to redress the customer complaints and prepare billing format including call details for approval from the Authority. They were also required to prepare a code of commercial practice as per a license clause and get the Authority's approval. Moreover, they were also required to fulfil the roll out obligations and meet the standards as per the license conditions.

Amendment in PTCL's License

In preparation of privatization of PTCL, the Authority amended PTCL's license to incorporate all relevant developments in the Telecom Sector. Provisions related to USF, R&D, APC, national security and other relevant clauses were incorporated in the license with a view to harmonize it with the existing licensing regime of LL and LDI for the successful privatization of PTCL.

Intelligent Network Services for NTC's Designated Customers

The Authority approved the request of NTC to launch CPPS and prepaid calling card services for its designated customers in the light of its license conditions.

Code of Commercial Practice/Billing Format/Standard Form of Contract

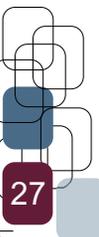
LDI operators provided Code of Commercial Practice and other relevant documents for approval to the Authority. After detailed review and analysis, a draft specimen standard contract of services was prepared by the Authority and given to LDI companies.

LDI Monitoring

The Authority has devised a mechanism of monitoring LDI operation on a quarterly basis to keep track of progress of these operators and to ensure compliance with roll out obligations. A report template was designed as a part of this mechanism and circulated to all LDI licensees. This report covered detailed information on the infrastructure deployed, transmission capacity and POPs established by the licensees.

Transfer of Lines by Licensees

The Authority has approved the recommendations regarding the transfer of lines of payphone licensees. However, transfer of complete network, change in management, change in License status or any other request by CPP operators relating to force majeure changes shall continue to be processed by PTA on a case to case basis as per current procedure. Requests for partial change in lines/ PCOs by CPPS licensees due to non viability of business or other reasons will be processed and executed by PTCL at their end.



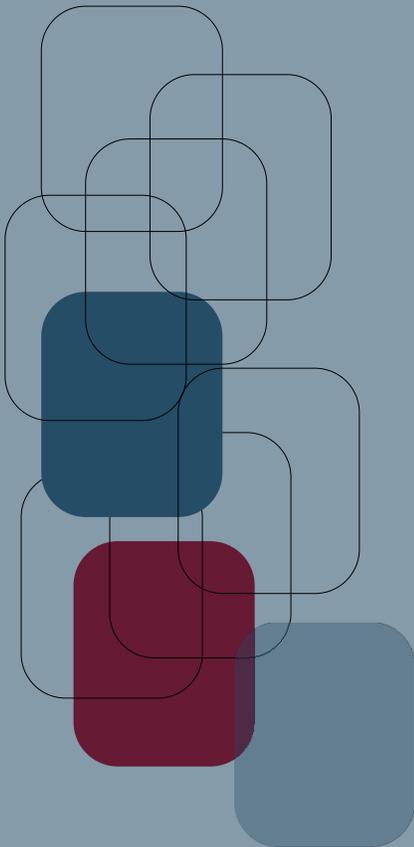
Conclusion

PTA invited Expression of Interest (EoI) for LL & LDI licenses in the second phase of deregulation. Recently, EoI was invited for infrastructure license as well, on an open and unrestricted basis. It is expected that new investors will enter this field and more licenses will be issued in near future.

Part - 11

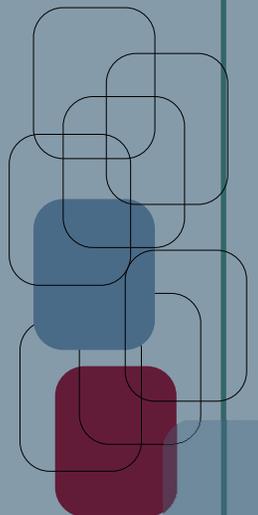
Telecom Sector

Review





Telecom Economy of Pakistan



TELECOM ECONOMY OF PAKISTAN

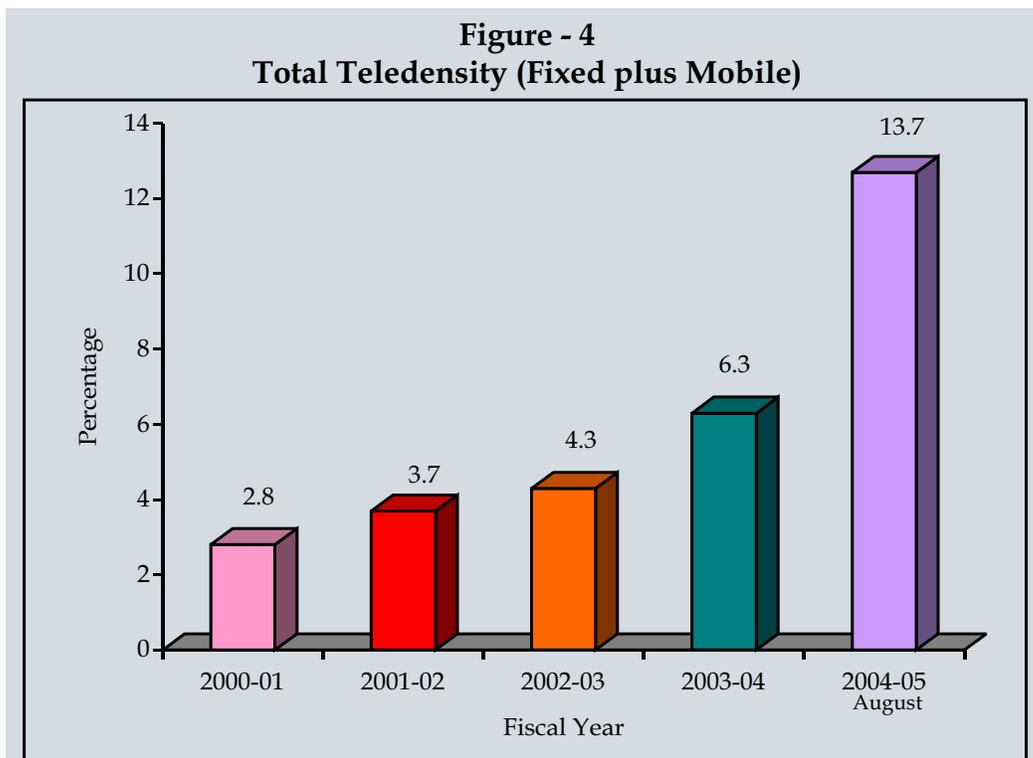
Introduction

In the last quarter of twentieth century, telecommunications became the central nervous system of any economy. Just as the railroads once promoted economic growth and development, telecommunications is now globalizing markets, reducing transactions costs, expanding productivity, and directly increasing economic well-being.

The present Government of Pakistan (GOP) has accorded a very high priority to the development of telecom sector in Pakistan and declared telecom as a priority area for the provision of employment and reduction in poverty. Government decided to deregulate and introduce competition in the sector two years back, which resulted in massive licensing.

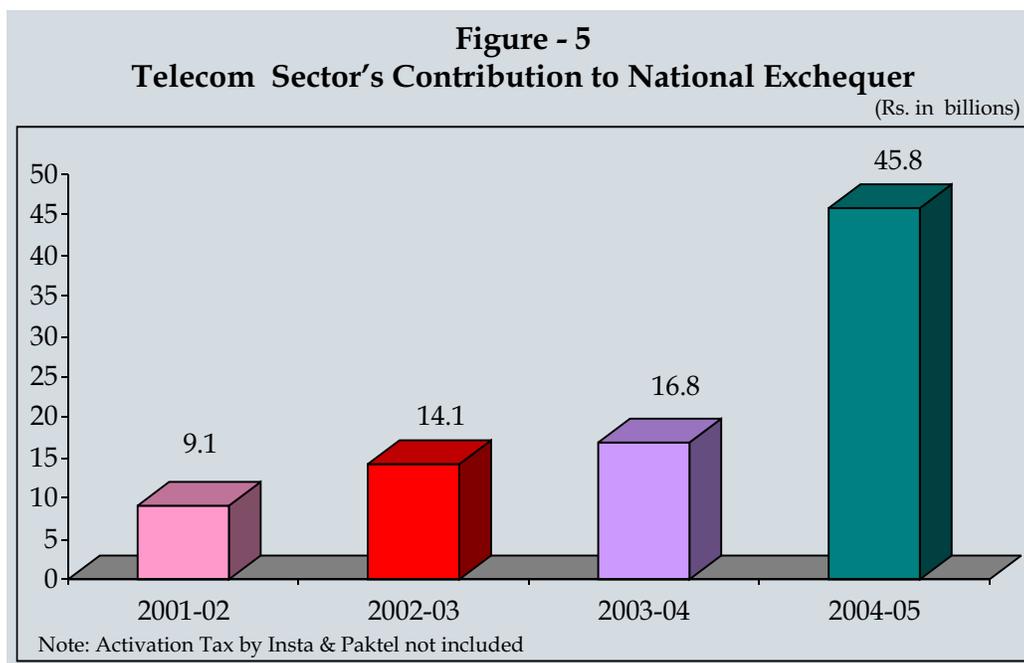
Teledensity

Teledensity in Pakistan has improved many folds with opening up of telecom sector for private investment in the country. Figure - 4 shows the growth of Teledensity in Pakistan over the last 5 years. The total teledensity of the country reached 13.7% which is 3% higher than India even though it opened its market much earlier than Pakistan. For details on teledensity by service (i.e. Fixed, Cellular and WLL), see Annex - 4.



Telecom Contribution in National Exchequer

Telecom sector has contributed over Rs. 45 billion to national exchequer through taxes (GST and Activation Tax) and regulatory charges by PTA in 2004-05, Activation tax by Insta & Paktel are not included. (See Annex - 5 for the contributions through GST, Activation Tax and Funds deposited by PTA in the last 4 years). This contribution comprises 17% of the total Public Sector Development Program (PSDP) for 2004-05.



In addition, Telecom sector also contributes through income taxes, and customs duties on the imported telecom equipment.

GST collected

The sector is also a major contributor in generating revenues for the Government from General Sales Tax (GST). Total GST collected from the telecom sector rose from Rs. 8.9 billion in 2002 to Rs. 20.5 billion in 2005. It is expected that this contribution

would grow exponentially in the coming years. (See Table - 4 for the GST collected from Mobile, Basic Telephony and other sub sectors in the last 4 years).

Table - 4
GST/CED Collected from Telecom Sector
(Rs. in billions)

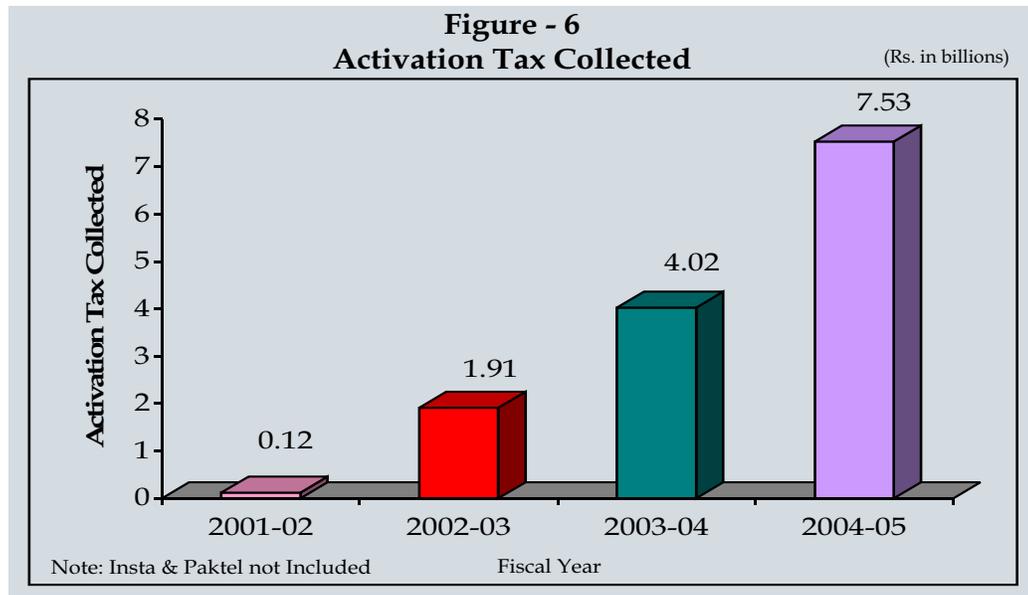
	2001-02	2002-03	2003-04	2004-05
Mobile	2.0	3.3	5.2	9.9
Basic Telephony	6.9	8.2	6.9	9.7
Other	0.0	0.0	0.0	0.9
Total	8.9	11.5	12.1	20.5

Note: Basic telephony by PTCL & NTC only

Activation Tax Collected

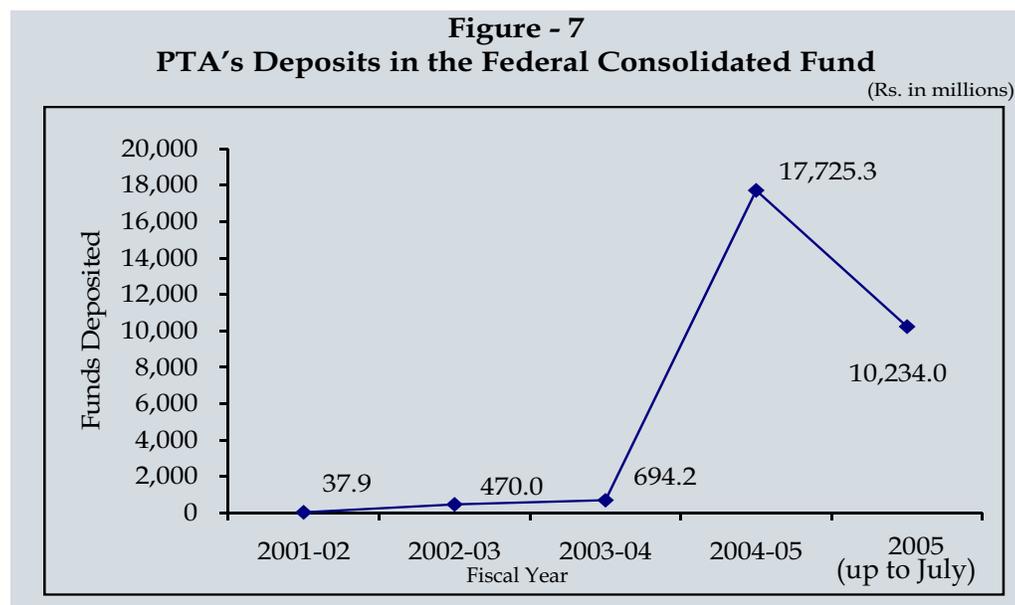
The Government of Pakistan charges activation tax from cellular mobile operators in lieu of customs duty on import of mobile hand sets. Initially, this tax was charged @ Rs. 2,000 for every new

connection, which has been reduced to Rs. 500 in the budget of 2005-06. Government of Pakistan has collected over Rs. 7.5 billion against this head in 2004-05 (excluding Instaphone & Paktel). Figure - 6 shows the growth in Activation Tax Collected since 2001-02.



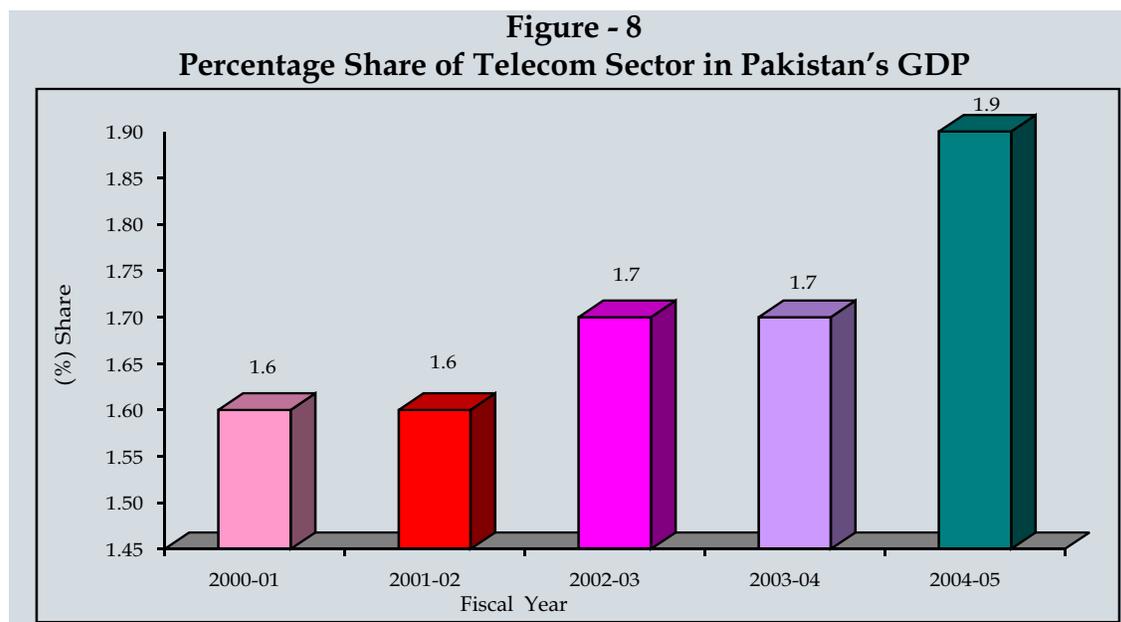
PTA's Deposits to Government of Pakistan

PTA receives Initial License Fees and Annual License Fees from its licensees throughout the year. As per the Act (s12.3), PTA deposits any surplus of receipts over expenditure in a year to the Federal Consolidated Fund. PTA has deposited Rs.29.5 billion with the Government since 1999. Figure-7 shows the details of the amounts remitted by years. (For details on PTA's receipts and expenditures see the annual audited accounts in Annex - 6.



Telecom Share in GDP

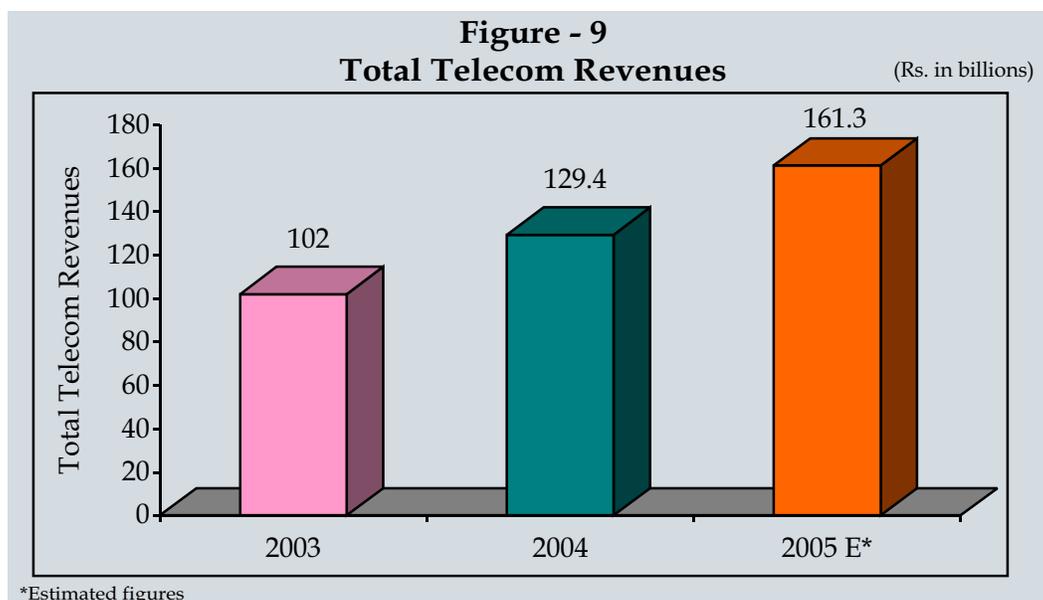
Telecommunication as a part of service sector has a noticeable contribution in the GDP of the country. The share of telecom sector in GDP has increased from 1.5% in 1999-00 to 1.9% in 2004-05. It is expected that the total share of telecom industry in GDP will further rise in the coming years and could reach 3% in the next 3 to 5 years.



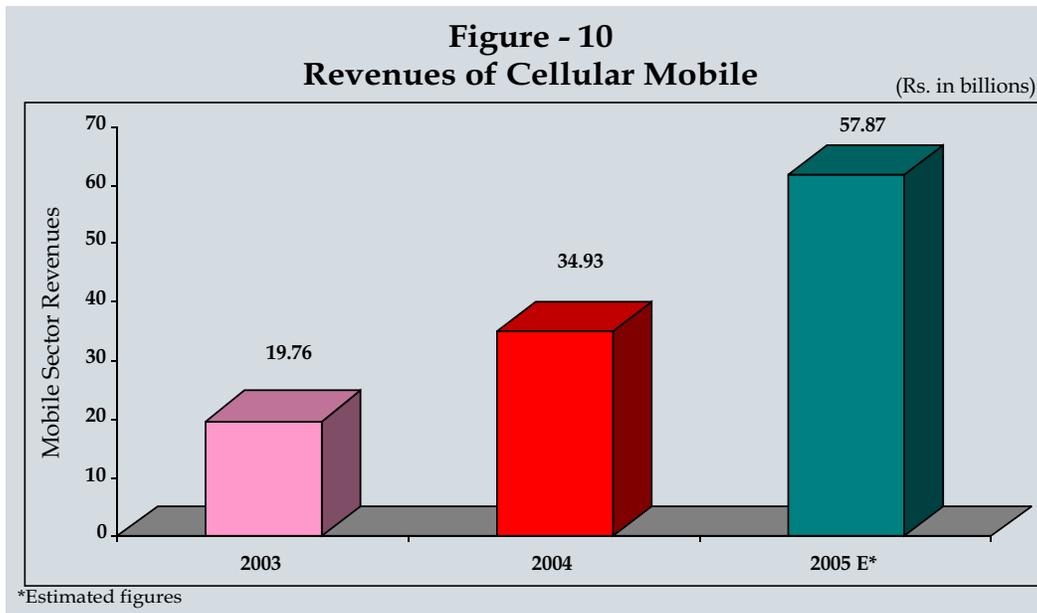
The Federal Bureau of Statistics has estimated that the value added by Pakistan's telecom industry was over Rs. 115 billion, or close to 2 percent of GDP in 2004-05. According to estimates, telecom sector exhibited 27.7% increase in value addition in 2004-05.

Telecom Revenues

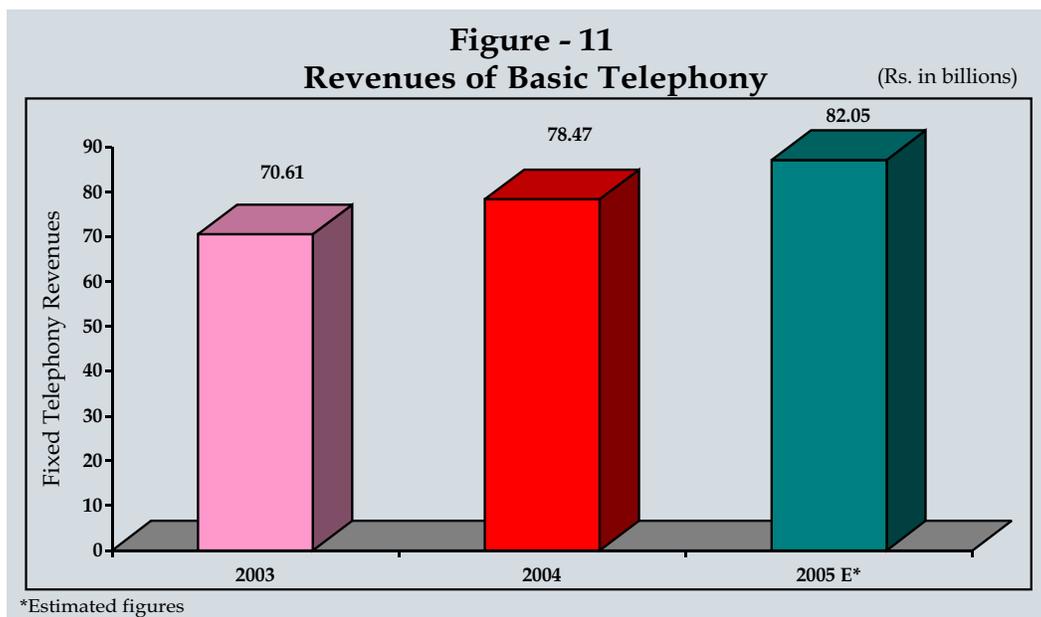
Revenues of telecom sector grew by about 25% in the year 2004-05. The breakdown by service is given in Annex - 7.



The cellular Mobile sector showed a higher growth trend in its revenues (61%) in line with the higher number of subscribers compared to the fixed line, as shown in Figure - 10 below.



The basic telephony segment also showed continued growth in its revenues as shown in Figure - 11.



Investment in Telecom Sector

Both new and existing investors in the liberalized telecom market invested heavy amounts to get the licenses and spectrum auctioned by PTA. PTA generated over Rs. 12 billion as regulatory charges and license fees in 2004-05 from cellular and fixed line companies (including WLL). Total investment made

in the telecom sector after liberalization is estimated to be US\$ 1.5 billion by the end of 2005.

More investment will be coming in the cellular mobile sector of Pakistan as these companies further expand their networks across the country. New cellular mobile operators (Warid and Telenor) have invested over US\$ 350 million in their initial network rollout in 2004-05. WLL operators have invested over US\$ 88 million in infrastructure in 2004-05.

Table - 5
Investment Plan by Telecom Operators

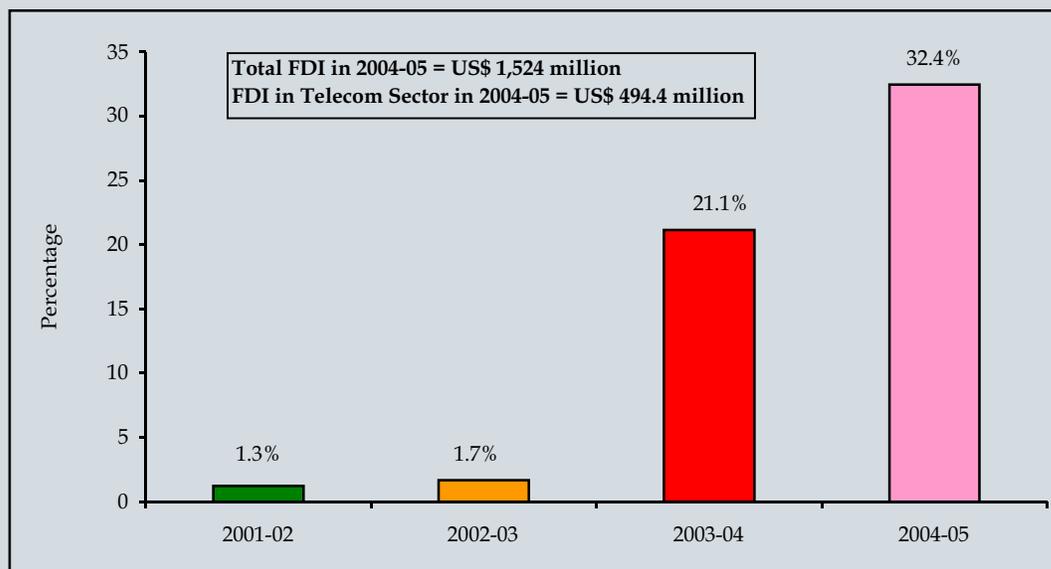
(US\$ in millions)

Service	Investment in 2004-05	Future Investment Plan		
		2005-06	2006-07	2007-08
Cellular Mobile	883	1,113	1,083	1,159
WLL	89	61	56	49
LDI	54	53	46	-
Total	1,026	1,228	1,184	1,208

Foreign Direct Investment (FDI)

The Foreign Direct Investment in telecom sector till the end of June 2004 was US\$ 207 million (32.4% of the country's total FDI). This investment was basically made in acquisition of licenses and frequencies. While rolling out their networks the operators are making huge investments in the infrastructure. In 2004-05 Telecom sector attracted US\$ 494.4 million FDI in Pakistan (32.4% of total FDI in Pakistan), which is mainly for infrastructure rollout. According to an estimate, it is expected that next year US\$ 1.5 billion FDI would come to the telecom sector. Mobilink is negotiating with a foreign consortium to get foreign exchange to the tune of US\$ 500 million for its network expansion. Similarly, the Board of Directors of Millicom (Instaphone) in their first ever Board meeting held in Pakistan, indicated their plans of further investment to the tune of US\$ 1 billion in Pakistan in the next 2 to 3 years.

Figure - 12
Share of Telecom in Total FDI



Increased Employment Opportunities

By issuing new licenses in the telecom sector, approximately 202,947 direct and 233,266 indirect employment opportunities were created in 2004-05. An addition of about 94,000 Payphones have resulted in massive employment. In addition franchises, vendors and distributors of the telecom companies have also provided a number of employment opportunities in the country. See Annex - 8 for direct and indirect employment generated by various players in the telecom market.

Development of Rural Areas

Keeping in mind the need for development of rural areas as a key objective, private sector is working hand in hand with the Government. In this regard, telecom operators are encouraged to provide services in rural areas. Mobilink's village phone is one such example. Similarly PTCL's reduced tariff for rural areas and provision of WLL services in the areas where landline is not available, are some of the steps taken by the incumbent operator i.e. PTCL. Also, PTA has approved the use of mobile phone as a PCO in rural areas where landline is not available.

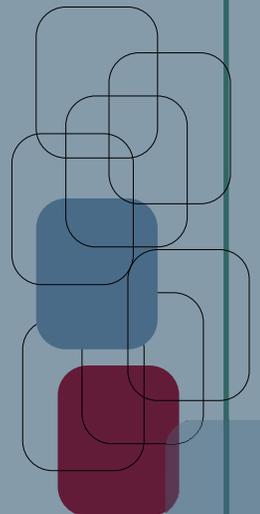
Conclusion

Telecommunications is an important and influential sector of Pakistan's economy. PTA is making utmost efforts at the macro level for the promotion of telecom sector that are in line with Poverty Reduction Strategy Paper (PRSP) issued by the Government of Pakistan.



Mobile Cellular

Services



MOBILE CELLULAR SERVICES

Introduction

Pakistan's telecom sector in general and Cellular Mobile business in particular has been going through a wave of liberalization for the last few years. The competition is still in its infancy stages. Mobile cellular segment is growing at a disproportionately higher pace in relation to the rest of telecom services. Growing demand of cellular services has created a number of openings on the economic front in terms of employment generation and increased business activity. It has also made a widespread impact on social life in the country, whereby it is not only facilitating common man's communication needs but is also providing access to areas which were never connected before. This overwhelming growth of cellular phones in a developing country like Pakistan is also creating a win-win situation for investors in this sector inspite of the fact that cellular penetration in metropolitan cities has reached its maximum.

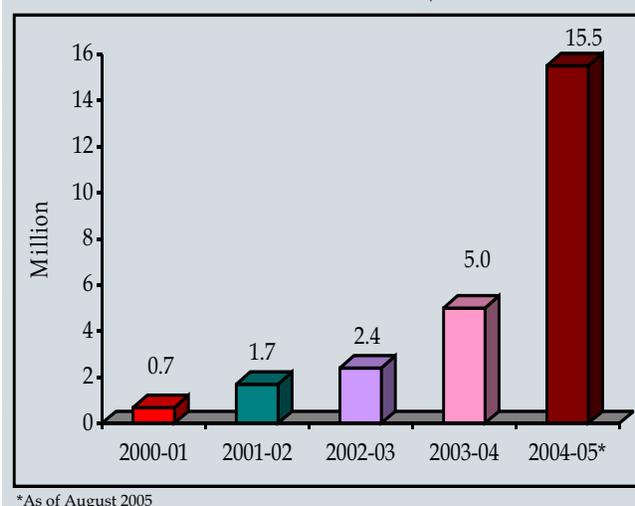
Currently, there are six mobile companies operating across the country of which Instaphone, Paktel, Mobilink and Ufone are relatively mature players and Telenor and Warid Telecom have just started their operations. The year 2004-05 started with intense competition among existing mobile companies. A number of price cuts and value added services were offered by these operators including bundled offers of handset and connection. Similarly, Telenor started its service in March 2005 and Warid in May 2005, thus giving major boost to the current subscriber base.

Total Subscribers

There were a total of 5.0 million subscribers in June 2004. By August 2005, these increased to 15.5 million showing a growth rate of 181.6% (July, 2005) in one year. Figure - 13 shows the growth trend in cell phone users for the last 5 years. On the average 0.9 million subscribers were added to existing subscriber base every month during 2004-05. The highest addition made was in the month of July when 1.4 million people subscribed to cellular mobile networks. With such gleaming figures, this year is undoubtedly a historic year in the history of telecommunications in Pakistan. For breakdown of subscribers by the 6 mobile companies and the growth in their subscribers in the last 10 years, see Annex - 9.

Figure - 13
Total Cellular Subscribers (2000-05)

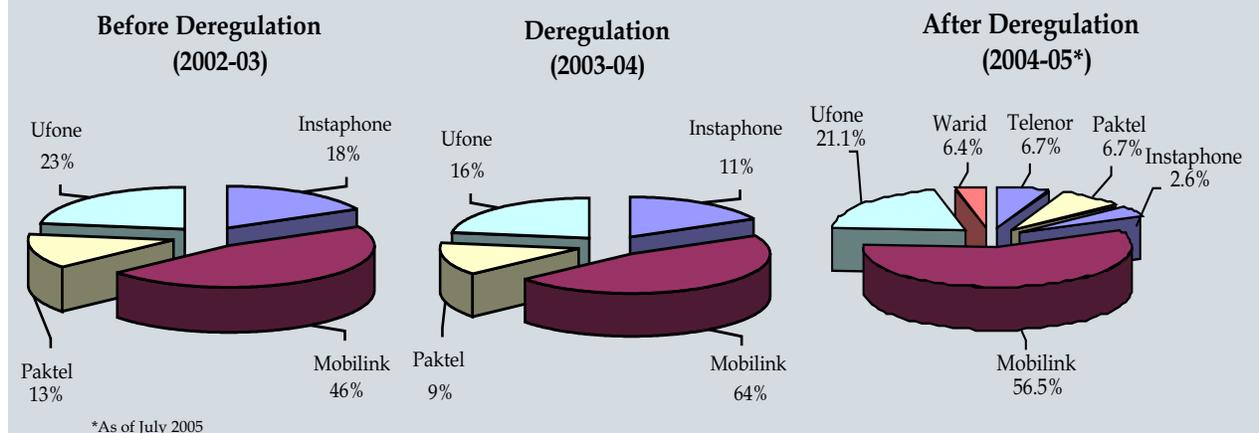
(Subscribers in millions)



Market Share

With 56.5% market share Mobilink continued to be the market leader this year having subscriber base of over 7 million. The market share of both Instaphone and Paktel has decreased over the last ten years, primarily due to old technology. However, with the launch of GSM services, Paktel's subscriber base has started increasing.

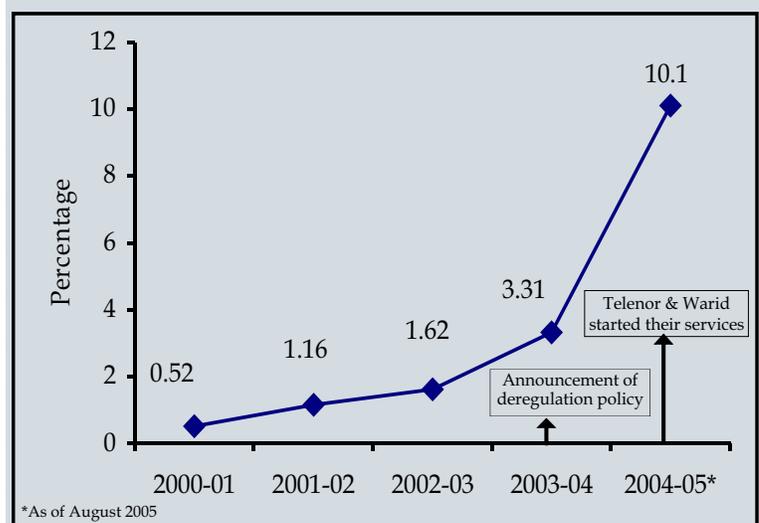
Figure - 14
Market Shares of Cellular Companies Before and After Deregulation



Mobile Penetration

Mobile penetration surpassed fixed line penetration in April 2004, when the process of deregulation started. This growing mobile penetration became one of the key reasons of awarding new licenses. At the end of 2003-04, mobile penetration stood at 3.3%. In a year's time it crossed 10.1%. The province wise analysis of mobile penetration shows that Sindh has the highest penetration at 11.4% followed by Punjab at 8.2%, Sindh 11.4%, NWFP at 5.6% and Balochistan being the lowest at 3.4% (by June 2005).

Figure - 15
Cellular Mobile Penetration Trend (2000-05)



Annex - 10 exhibits the service comparison of subscribers by province. It also gives the estimated breakdown of teledensity by province.

Geographical Coverage

Over the last year Mobilink expanded exceptionally by adding 50 more cities to its network area. Similarly, with the launch of Paktel GSM, 227 cities are now covered by Paktel network whereby only 186 cities were covered by Paktel previously. Ufone also expanded its area of coverage and added 9 more cities to its network. Instaphone coverage remained the same this year. New operators also started their services with a good number of cities covered by their networks for start. Telenor started operation in 9 cities while Warid Telecom launched services in 28 cities simultaneously.

Table - 6
Province wise coverage by Mobile Operators
(Cities Covered 2005)

Company	Punjab	Sindh	NWFP	Balochistan	Total
Paktel	135	54	34	4	227
Instaphone	110	44	28	4	186
Mobilink	190	104	51	7	352
Ufone	88	25	18	5	136
Telenor	7	2			9
Warid	21	3	3	1	28

Coverage by Cell Sites

Similarly, cell sites have also increased proportionally with the increase in the number of cities covered. However, taxes on installation of cell sites by various civic bodies across the country is a cause of concern for cellular companies. PTA is helping the operators minimize the effect of taxes as much as possible. The detail of cell sites by cellular companies is given in Table - 7.

Table - 7
Company-wise Cell Sites

Company	Total
Paktel	800
Instaphone	500
Mobilink	2,357
Ufone	734
Telenor	403
Warid	472

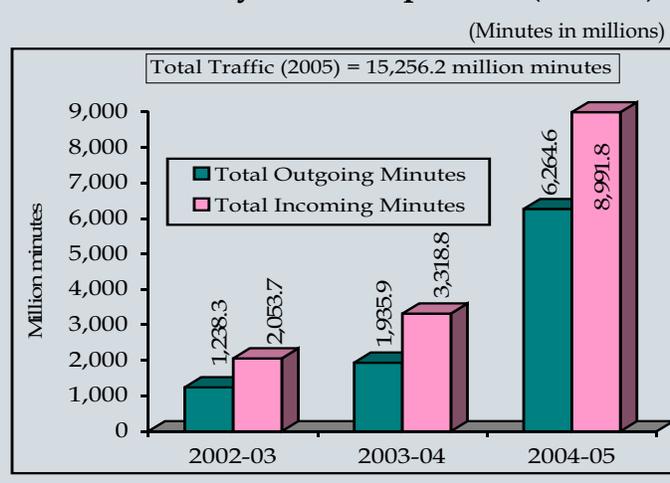
Mobile Cellular Traffic

Traffic generated by mobile operators showed proportionate increase in 2003-04. However, exponential growth has been witnessed during 2004-05. One of the major reasons of this increase was the increased competition, that led operators to reduce prices considerably. Figure - 16 shows this dramatic increase over the last 3 years.

Total Minutes

Total minutes including international & domestic incoming and outgoing minutes for

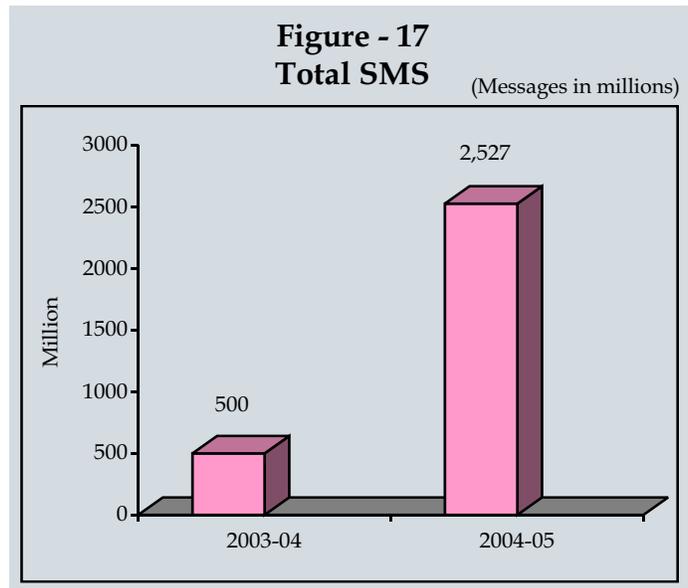
Figure - 16
Total Traffic by Mobile Operators (2003-05)



2004-05 are 15.3 billion minutes. Total international traffic for 2004-05 (Incoming & Outgoing) was 2.7 billion minutes as against last year's total international traffic of less than 1 billion minutes. Similarly, total domestic traffic is 12 billion minutes during 2004-05.

Short Messaging Service (SMS)

Though it is a comparatively new service in Pakistan offered by some of the mobile companies, it is very popular among mobile users. One of the main reasons for its popularity is very low tariff compared to the call charges, specially for sending messages overseas. SMS service is also a very good solution to call connectivity issues, as the customers can send and receive messages, if they are not able to communicate by placing a call. A total of 2.5 billion messages were sent in 2004-05. Figure - 17 shows the increase in SMS in 2004-05 over the last year.



Minutes of Use (MOU)

With the reduction in tariff followed by increased traffic, average minute per user has also increased. Average minute of use per subscriber per month was approximately 140 minutes in 2004-05.

Average Revenue Per User (ARPU)

In 2004-05 ARPU was US\$ 6 per month showing a decrease of more than 30% from last year. This decrease could be due to the reduction in tariffs. However, the overall revenue of mobile phone companies has invariably gone up due to the huge increase in their subscribers.

Financial Performance of Mobile Sector

Investment

Mobile sector remained the hub for investment in telecom sector during 2004-05. Existing operators kept on investing in expanding their networks. They also invested in the renewal of mobile cellular licenses. Similarly, new cellular mobile operators (Warid and Telenor) invested over US\$ 350 millions in their network expansion in 2004-05. Both of these

Table - 8
Investment Plan by Cellular Mobile Operators
(US \$ Million)

Operators	Investment in 2004-05	Future Investment Plan		
		2005-06	2006-07	2007-08
Paktel	58.3	130.7	141.6	149.3
Instaphone	29.3	88.7	90.6	120.9
Mobilink	412.0	290.4	202.3	178.8
Ufone	25.7	103.5	93.1	89.7
Telenor	219.5	210.0	130.0	120.0
Warid Telecom	138.0	290.0	425.0	500.0
Total	882.9	1,113.3	1,082.6	1,158.6

operators also paid US\$ 291 million for licenses. Detail of investment plan is given in Table - 8.

Revenues

Mobile industry revenues maintained an increasing trend in 2004-05. Though it was expected that there could be some degree of reduction in the existing mobile companies' profits due to introduction of 2 new companies who would divide the market share at-least in metro areas the unexpected increase in the number of subscribers to the extent achieved helped the existing companies retain and in some cases even increase their market shares and profits. The revenues of all existing companies increased over the last 3 years as shown in Table - 9. In Future, however, whether the 4 companies can retain their market shares revenues and profits or not will largely depend on their value proposition and Quality of Service to their customers.

Table - 9
Annual Gross Revenue of Cellular Mobile Companies

S.#	Name of Operators	2003	2004	2005 (Estimated)
1	Paktel	1,929.4	2,024.9	2,125.0
2	Instaphone (Pakcom)	2,946.8	3,195.8	3,465.7
3	Mobilink (PMCL)	12,171.9	25,333.7	43,680.0
4	U-fone (PTML)	2,709.8	4,374.0	8,600.0
5	Telenor	-	-	145.7
6	Warid	-	-	9.0
Total		19,757.9	34,928.3	57,870.7

Account of all mobile companies are as on December except U-fone which closes its financial year in June.

Estimated data for 2005 is based on historic trend of individual company and other factors related to the above sector.

Telenor and Warid's Net Profits are estimated as 10% of their Revenues for 2005.

Estimates based on figures provided by Telenor upto June 30, 2005. Telenor's year end is December.

Estimates of Warid are based on first month's revenue of Telenor which is Rs 9.0 million. Warid's year end is June.

Company-wise Analysis

Paktel Limited

Paktel GSM is the pioneer in the field of mobile telephony in Pakistan and has one of

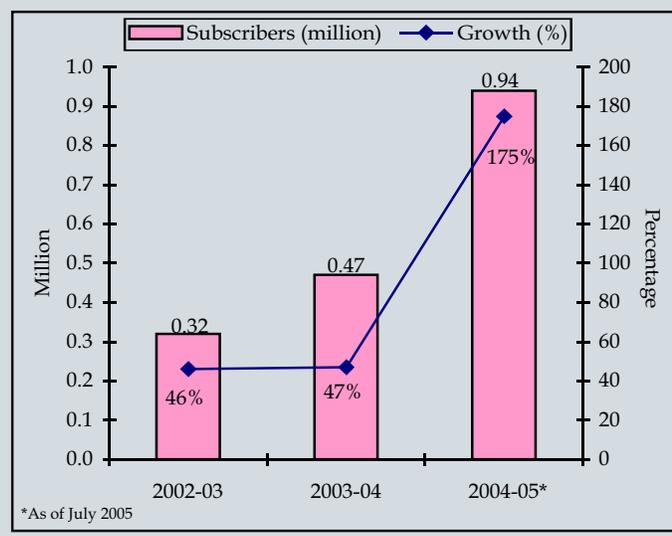
Paktel's Stats	
Description	2004-05
Subscribers	943,904*
Cities covered	227
Franchises	204
Employees	262

*As of July 2005

the widest network coverage spanning 227 cities. Its subscriber base is 943,904. It

operated on AMPS network till 2003. The Company got the approval to move from AMPS to EGSM band in 2004. It is now offering services in GSM technology.

Figure - 18
Paktel Subscribers and Growth



Paktel has taken a number of initiatives including elimination of distance-based tariffs by making all calls “local calls”. Consequently, as compared to other companies, Paktel GSM is 35% lower in price to other operators during peak hours and 82% lower in prices during off-peak hours. Similarly, Paktel recently introduced a reimbursement of 25 paisas per minute on incoming calls i.e. transferring of balance at the rate of 25 paisa per minute to their accounts, for both its prepaid and post paid subscribers.

Instaphone

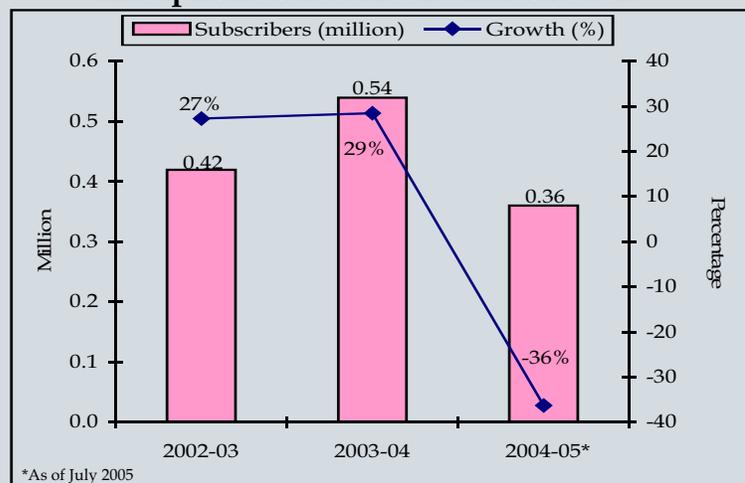
Launched in 1991 as one of the first mobile cellular operators, Instaphone today is serving more than 360,117 customers in 186 cities across Pakistan. Instaphone offered attractive packages to its customers such as Insta-Xcite prepaid and Insta-one prepaid which attracted even more customers to its network. The company is still operating on

Description	2004-05
Subscribers	360,117*
Cities covered	186
Franchises	222
Employees	262

*As of July 2005

TDMA, an old digital technology, due to which the company did not grow as much as it was growing in its early years of operations. Instaphone is the first mobile operator in Pakistan whose license was renewed for 15 years after completion of its full tenure of operations. The company plans to introduce CDMA technology in near future.

Figure - 19
Instaphone Subscribers and Growth



Mobilink

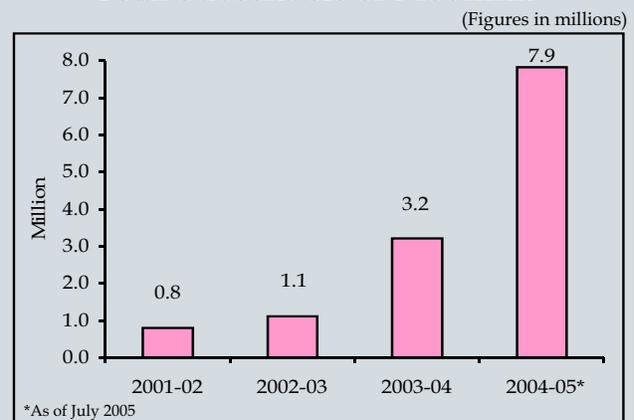
Mobilink began its operations in 1993. Today it has over 7 million subscribers all across Pakistan.

Description	2004-05
Subscribers	7,976,020*
Cities covered	352
Franchises	254
Employees	2,044

*As of July 2005

The company is the market leader and was declared a Significant Market Power Operator by PTA based on its market size. Mobilink is continually adding infrastructure across the country. Close to US\$ 1

Figure - 20
Total Subscribers of Mobilink



billion have already been invested and more than US\$ 550 million would be invested in 2005 alone. As of June 2005 more than 2,357 cell sites, connected by 15 switches, carried close to a billion minutes of traffic a month.

The company is expanding fast and is forecast to reach 500 cities in near future. Similarly, the company is expecting its subscribers to cross 10 million by the end of 2005.

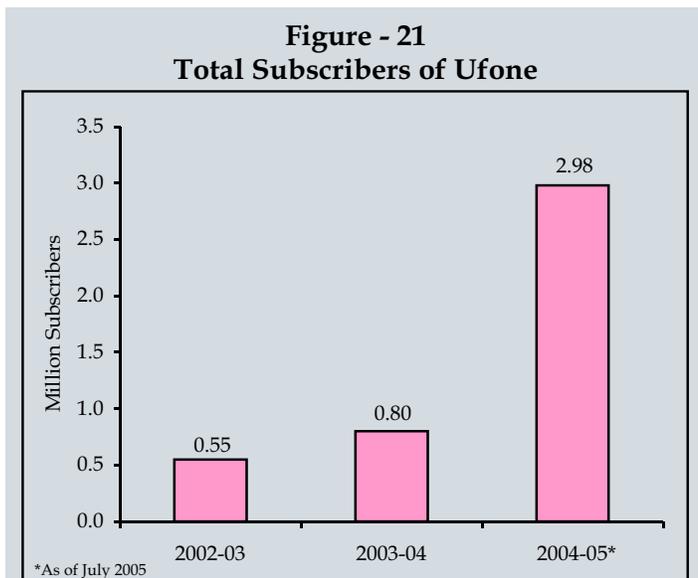
Ufone

Ufone, a subsidiary of PTCL, started its mobile operations in 2001. Today the company has more than 2.98 million subscribers with services in more than 136 main cities. The last 3 year's subscribers growth can be seen from Figure - 21. The company has been offering attractive prepaid packages to its customers thus having the highest prepaid subscribers after Mobilink. The company is offering rates as low as Rs. 1.50 per minute for NWD and Local calls. Similarly, SMS charges are Rs. 1.5 per SMS to other networks and Rs. 1 per SMS on its own network. The company currently has 19 sales and customer care centers across Pakistan.

Ufone is considered to be one of the most active and aggressive competitor in mobile sector of Pakistan. By the end of this year the company forecasts to have 1,000 cell sites in 170 cities across Pakistan.

Description	2004-05
Subscribers	2,981,543*
Cities covered	136
Franchises	150
Employees	942

*As of July 2005



Telenor Pakistan

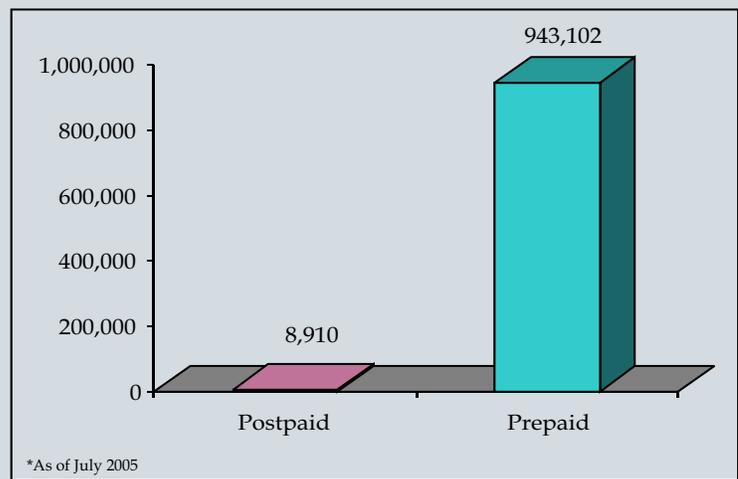
Telenor launched its service commercially in Islamabad, Rawalpindi and Karachi on March 15, 2005. On March 23, 2005 Telenor started its service in Lahore, Faisalabad and Hyderabad. The license terms stipulate that by year 4, Telenor will cover 70% of Pakistan's 297 Administrative Tehsil headquarters. The inset shows some other interesting stats of the company. The company has covered several milestones over the past eleven

Description	2004-05
Subscribers	952,012*
Cities covered	09
Franchise	38
Employees	758

*As of July 2005

months and grown surprisingly well for the first year. Currently, the company has over 0.95 million subscribers and the number is growing every day. For breakdown of subscribers into prepaid and postpaid please refer to Figure - 22. The company is providing very attractive tariffs and is planning to increase the number of cities covered. The company's theme message to its customers is "Expect More".

Figure - 22
Postpaid and Prepaid Subscribers of Telenor in 2004-05*



Warid Telecom

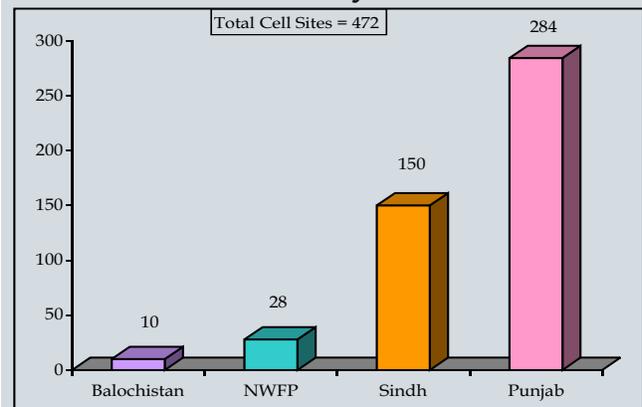
Warid Telecom is also a new entrant in Pakistan's telecom sector. It launched its services in 23rd May 2005 in 28 cities in the 1st phase. The company has an upfront capacity of 1.5 million lines. Its subscriber base reached 0.91 million by July 2005. The figure reached 1 million in just 70 days. Some other facts are given in the inset. Figure - 23 also shows the breakdown by province of the 472 cell sites installed by Warid in such a short span of time. The company's main objective is to provide optimum level of support and care through their highly motivated and skilled team and through maximum coverage and clear connectivity that they have committed to provide.

Warid's Stats

Description	2004-05
Subscribers	905,661*
Cities covered	28
Franchises	121
Employees	1,522

*As of July 2005

Figure - 23
Cell Sites by Warid



Warid Telecom has a fully owned subsidiary, "Wateen Telecom Pvt. Ltd.", which plans to lay a comprehensive telecom infrastructure consisting of 500 km wholly owned optic fiber transmission network, 3.5 GHz wireless access network in selected cities for provision of VOIP telephony, broadband internet etc. The company thus plans to not only excel in mobile cellular services but also to provide LDI and wireless local loop services across the country.

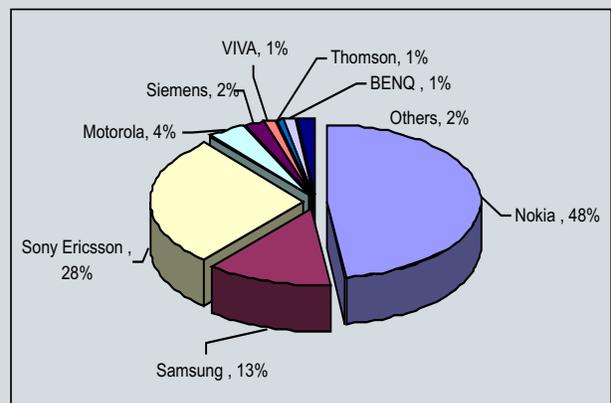
Mobile Handset Market in Pakistan

Handsets play an important role in increasing the mobile density of any country. According to a recent study, a rise of ten mobile phones per 100 people boost GDP growth by 0.6%. Similarly, it is estimated for developing world of Africa and Middle east that reducing price of mobile handsets by US\$ 30 to US\$60 will double the subscribers.

With the liberalization of telecom sector, mobile handset market in Pakistan has broadened in the last 2 to 3 years. Phones of many renowned international companies are being sold in Pakistan now. Figure - 24 shows the market share of various brands of phones in 2005. The most popular phone in Pakistan as elsewhere is Nokia with a 48% share of the pie, followed by Sony Ericsson at 28%. With two new operators in the mobile market, competition has increased and most companies are offering bundled packages of mobile connections with handsets.

Average growth of handset industry according to estimates is 140%, whereby monthly imports have grown from 300,000 to 500,000 units of handsets. Many handsets in Pakistani market are available at much lower prices than other Asian countries, showing keen interest of manufacturers to penetrate this market and attain maximum share. Average price of handset in Pakistan varies between US\$100 to US\$120. Some of Nokia's handsets are available at less than US\$100. Similarly, used handsets are also available in the market at much cheaper prices than new sets. In addition, smuggled handsets get away with import duties and are available at even cheaper rates. Refurbished handsets are another source of low priced range of handsets.

Figure - 24
Market Share of Handsets
Manufacturers 2005



Pakistan is a focused market for all major manufacturers and is estimated to be one of the largest markets by manufacturers like Nokia and Sony Ericsson. The share of Nokia has dropped over the years. However, it is still the handset market leader and preferred choice of all segments of mobile users.

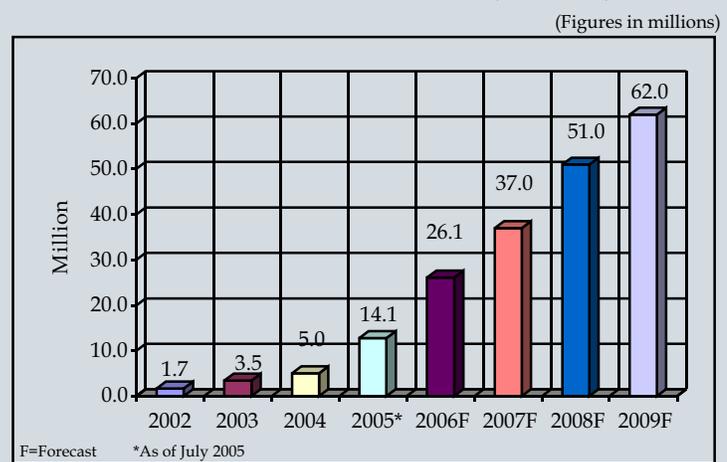
According to a conservative estimate given by Pakistan's largest mobile handset sellers in 2005, domestic market comprised of 5 million handsets and with mobile industry growth rate of 147%, the forecast for imported handset market is that it will cross 6.5 million by 2006.

Forecast

With subscriber numbers increasing every day and mobile penetration increasing every month, mobile cellular sector of Pakistan is likely to cross all estimates. The timely launch of Telenor and Warid, expansion of Mobilink's network on monthly basis, renewal of Instaphone license, Privatization of Ufone's parent company PTCL, launch of Paktel GSM and reduction in government taxes and handset prices are all right ingredients for best possible growth patterns any mobile sector can have.

According to estimates made by BMI¹ research for Pakistan mobile market, there would be more than 16 million mobile subscribers by December, 2005 and it is expected to cross 26 million by 2006.

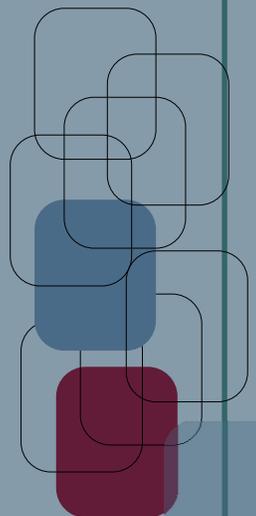
Figure - 25
Pakistan Mobile Forecast (2002-09)



Pakistan Telecommunication Authority is making all efforts for the healthy growth of telecom industry. Special interest is, however, given to mobile segment where attempts are made to create win-win scenario, in which consumers get cheaper access, operators grow their business and government benefits from increased tax revenues. All this would help achieve one of the main objective of regulator i.e. increasing teledensity.



Long Distance and International Services



LONG DISTANCE AND INTERNATIONAL SERVICES

Introduction

After a long history of monopoly structure, liberalization of basic services attracted considerable interest of international and local investors in Pakistan. A total of 12 LDI licenses were awarded to various companies, besides PTCL. Out of 12 new LDI companies 10 companies have commercially launched their services. Some of these companies started their service in the 2nd quarter of 2004-05, whereas most of the companies started their service in the 3rd quarter. Two companies have yet to start their separate commercial services which include Telenor Pakistan and Link Direct International.

Tariff Analysis

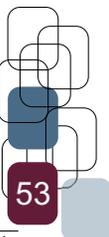
2004-05 has witnessed a series of tariff reductions ranging from free connections and free local calls during off-peak time to reductions in national and international long distance charges.

NWD Tariffs

After deregulation, PTCL reduced its tariffs of national and international long distance. The Authority further reduced national and international long distance tariffs of PTCL by 24% and 10% respectively.

Among the LDI operators, DV Com was the first operator which offered tariff of Rs. 2.50 per minute irrespective of the distance for national long distance service. Other LDI operators followed suit and now the tariffs of LDI range from Rs. 0.87 to Rs. 4.00 per minute. So far, almost all of the LDI operators are offering national and international long distance services in the form of Prepaid Calling Cards except Telecard & WorldCall wireless who are offering these services for their respective local loop subscribers.

When Telecard launched its WLL service, it kept the national and international tariffs at par with PTCL's tariffs. However, due to competition, they have to reduce its national as well as international long distance tariffs significantly. Its national long distance tariffs for on-net calls are Rs. 1.49 in peak hours and Rs. 0.99 in off-peak hours whereas off-net tariffs range between Rs. 1.99 to Rs. 2.99 per minute. WorldCall wireless is offering nation-wide on-net tariff @ Rs. 1.00 to Rs. 2.00 per minute and



off-net tariff of Rs. 1.50 to Rs. 3.00 per minute. Prepaid Calling Card tariffs of major LDI operators are shown in Table - 10.

Table - 10
Prepaid Calling Card Tariffs of Major LDI Operators

(Rs.)

Slabs	PTCL		WorldCall		DV Com	Callmate		Dancom
	Peak	Off-peak	Peak	Off-peak	Peak & Off-peak	Peak	Off-peak	Peak & Off-peak
Zone 1 ¹	3.50	0.87	2.50	1.00	2.50	2.96	2.29	2.49
Zone 2 ²		1.52	2.50	1.00	2.50	2.96	2.29	2.49
Zone 3 ³		2.50	2.50	1.00	2.50	2.96	2.29	2.49

International Long Distance Tariffs

Although the LDI operators are offering very attractive international tariffs yet higher tariffs for international calls terminating on mobile networks is a major area of concern. The LDI operators only advertise lower tariffs without segregating fixed-line and cellular services. In order to create transparency in tariffs and to promote fair competition among the LDI operators, PTA issued a Consumer Awareness Bulletin (tariff comparison) in several newspapers and placed it on PTA's website. This initiative by PTA was appreciated by many. The feedback received from various sources showed that it has resulted in clear understanding of LDI tariffs being charged for different services.

In order to make its tariff more competitive and attractive, Telecard has reduced its international long distance tariffs from Rs. 18.00 to Rs. 4.99 per minute thus matching the tariffs offered by calling card operators. The international long distance tariffs of Worldcall range from Rs. 9.00 to Rs. 15.00 per minute. The long distance tariffs of selected countries offered by some of the LDI operators offering Prepaid Calling Cards are given in Table - 11.

Table - 11
Long Distance Tariffs of Prepaid Calling Cards

Countries	PTCL		WorldCall		DV Com		Callmate		Dancom	
	Fixed	Mob.	Fixed	Mob.	Fixed	Mob.	Fixed	Mob.	Fixed	Mob.
USA	14.99	14.99	4.50	14.50	4.99	4.99	4.55	4.55	5.92	5.92
Canada	17.99	17.99	4.50	4.50	4.99	4.99	4.55	4.55	5.92	5.92
UK	14.99	14.99	4.50	10.00	4.99	7.99	4.55	18.41	5.92	9.43
S. Arabia	14.99	14.99	17.99	17.99	7.99	11.99	10.45	18.41	9.43	13.54
U.A.E.	14.99	14.99	17.99	17.99	11.99	11.99	21.17	18.41	13.54	13.54

¹ Zone 1 Upto -80 km
² Zone 2 80-160 km
³ Zone 3 160 km and above

Traffic by New Operators

Total international traffic generated by new operators during first three quarters of 2004-05 crossed 194 million minutes which includes both incoming and outgoing traffic. However, most of the LDI operators concentrated on terminating international traffic in Pakistan. Figure - 26 shows the international traffic of LDI operators for last 2 quarters of 2004-05 Whereas

companies like TeleCard and WorldCall concentrated more on Wireless Local Loop services.

With ten companies providing LDI services in the country, competition is growing fast.

Progress of New LDI Operators

Almost all of LDI operators are providing LDI service using NGN networks. All LDI operators that have been previously providing calling card services have shifted their calling card business on their own LDI networks. Progress indicators of LDI operators are shown in Table - 12.

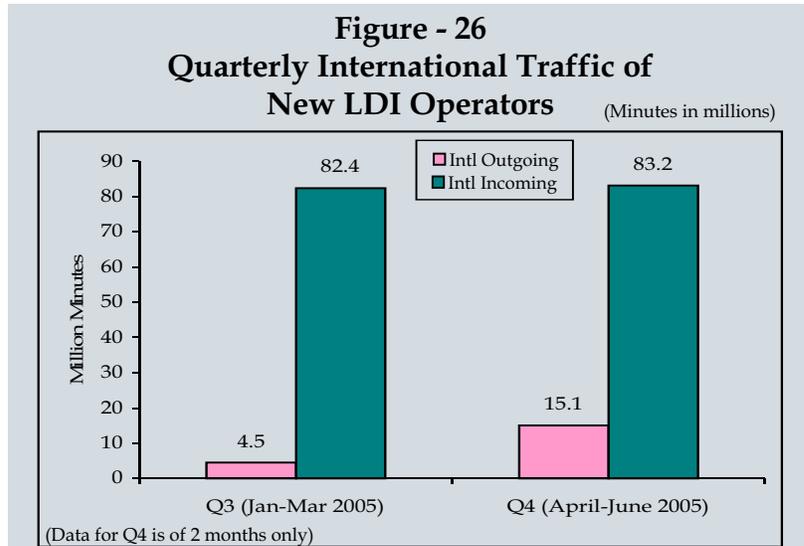


Table - 12
LDI Operators's Statistics

Company	Points of Presence	Int'l Gateway	Circuit Capacity (E1) MB	No. of Employees
World Call	41	8	147	364
Callmate Telips	25	3	6	2855
DV Com	13	8	34	480
Dancom	6	-	-	5,662
REDtone	16	3	183	133
Burraq	26	4	14	106
Telecard	10	2	66	18
Circle Net	3	1	0	125
Wise Com	22	12	258	138

World Call

WorldCall has been operating as a payphone company since 1995. The company has a major share in payphone market with a total of 35,000 payphones working across the country. WorldCall launched its LDI service in all 14 telecom regions of Pakistan. WorldCall Limited has started its VoIP operations. The company is concentrating more on international incoming traffic which accounts for more than 70% of its total traffic. The company has so far terminated 50 million international minutes and carried 16 million NWD minutes throughout Pakistan. Additionally, WorldCall has originated 0.7 million outgoing minutes via prepaid calling card services.

Callmate Telips Telecom Limited

Callmate Telips Telecom Limited is a public limited company listed on Karachi Stock Exchange in 2004. The company has been providing card payphone services since 1991 with current market share of 25%. The company started its LDI business by terminating incoming international traffic only in Pakistan. In the last quarter of 2004-05, international outgoing traffic was also started whereby shift of calling card business to its own network resulted in 34% share of NWD traffic in the total traffic generated by the company.

DV Com

Commencement certificates were issued by PTA to DV Com for Islamabad, Peshawar, Karachi, Lahore, Faisalabad, Hyderabad, Sukkur, Jehlum, Quetta, Sahiwal, Multan, Gujranwala and Abbottabad. The company's major chunk of its traffic is in the form of international incoming minutes i.e. 53 % followed by NWD calls at 29% and international outgoing minutes are 18% of total traffic.

Dancom Pakistan (Pvt.) Ltd.

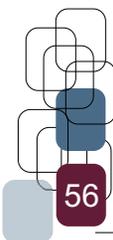
Dancom Pakistan (Pvt.) Ltd has been providing card payphone services under the brand name of "Call Point" since 1997. Similarly the company is also providing prepaid calling cards, DSL services, wireless leased circuits, VPN solution etc. The company has started its LDI operations. 49% of the total traffic generated by Dancom was NWD minutes followed by 32% international incoming and 19% international outgoing traffic.

REDtone

REDtone is incorporated as a wholly owned subsidiary in Pakistan before acquiring LDI license for operating in Pakistan. The company has successfully deployed infrastructure and commenced services in 10 cities of Pakistan. REDtone is using VoIP technology for both its international and national traffic. The company has made Rs. 156 million total investment in its LDI operations in 2004-05. The company is currently relying on international incoming traffic which accounts for 99% of its total traffic.

Burraq Telecom Limited

Burraq Telecom Limited acquired the LDI license in 2004 and started rolling out its network across the country. Target customers of Burraq telecom include payphone operators, calling cards and international operators wanting to terminate their services in Pakistan. The company has made investment of Rs. 141 million in equipment. Currently Burraq's network is only used for incoming international calls. The company plans to launch its calling card service shortly.



TeleCard Limited

TeleCard is one of the oldest and largest telecom operators in the country. Services provided by the company include internet services, wireless prepaid phones and Street side payphones. Currently, the company has presence in 600 cities and towns. With the award of LDI license, TeleCard launched its LDI services commercially. It has enabled the Wireless Local Loop subscribers of TeleCard to access carrier class high quality LDI services at very affordable prices.

The company has started commercial services with the provision of NWD call origination and termination, and international call origination in all five regions. Telecard are using Dense Wave Division Multiplexing (DWDM) technology in their network.

CircleNet

Circle Net has started its commercial services with the provision of International call termination facilities. Circle net is using Synchronous Digital Hierarchy (SDH) in their network.

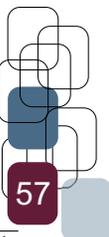
Wise Communication Systems (Pvt.) Ltd.

The company was incorporated in Pakistan on 1st January 2004. It is a joint venture of Wise Communication System (France), ITS (Italy) and a global group of companies in Pakistan. Currently the company is only terminating international calls on its network, whereas origination of international traffic and NWD calls was planned to start after 15th July 2005.

Pakistan Telecommunication Company Limited

PTCL is the leading provider of basic telephone services to the public and private sector in Pakistan with over 5 million telephone lines in service. In 2003-04, PTCL generated Rs. 74 billion revenues while in first 9 months of financial year 2004-05, it has generated a revenue to the tune of Rs. 58 billion whereas estimated revenue for FY 05 is Rs. 77.2 billion. With 9,855 km Fiber Optic Network across Pakistan, global connectivity of 8,000 circuits, one operational international submarine cable and 242 countries on ISD, PTCL has the most modern and vast telecom infrastructure across Pakistan. After deregulation PTCL has been forced to do business on a more level playing field than in the past. It has recently published its first-ever Reference Interconnect Offer (RIO), enabling its competitors to connect with its national backbone on a non-discriminatory basis. This should stimulate growth in the nascent broadband market.

The Government of Pakistan decided to privatize PTCL, by divesting 26% share with management control, in order to increase its efficiency and strengthen it to compete in the deregulated environment. Bidding took place on 18 June 2005. Three international companies participated in



bidding including Etisalat (UAE) Singtel (Singapore) and China Mobile (China). Etisalat, the telecom giant of the United Arab Emirates (UAE) won the bid at offering US\$ 2.598 billion US\$ 1.96 per share for 1.3 million shares comprising 26% of the total outstanding shares of PTCL. The total bid amount was US\$ 2.598 billion equivalent to Pak Rs.

Total NWD traffic of PTCL for 2004-05 was 1.604 billion minutes whereas in 2003-04 it was 1.891 billion. Figure - 27 shows the calls traffic of PTCL for the

last 3 years. The main reason for decrease in the total calls of PTCL is the launch of services by 10 new LDI operators. Out of the total traffic generated by PTCL, 79% calls were local whereas international outgoing traffic was less than 1%.

National Telecommunication Corporation

Providing telecom services in Pakistan for the last nine years, NTC has come a long way by diversifying its areas of operations including provision of Internet, Basic Rate Interface and Primary Rate Interface etc. Today, NTC has a countrywide Multi-Services data network based on state of the art technologies of ATM & PoS (Packet over SONET). The company has its own countrywide optic fiber backbone, SDH network comprising of more than 3,500 km fiber Optic pair and is equipped with about 95 SDH Nodes. NTC owns an independent international gateway exchanges to provide international connectivity to its designated subscribers. The company is currently working on Coastal Communication Optic Fiber Network (between Kaiti Bander and

Figure - 27
Total Calls of PTCL (2002-05)

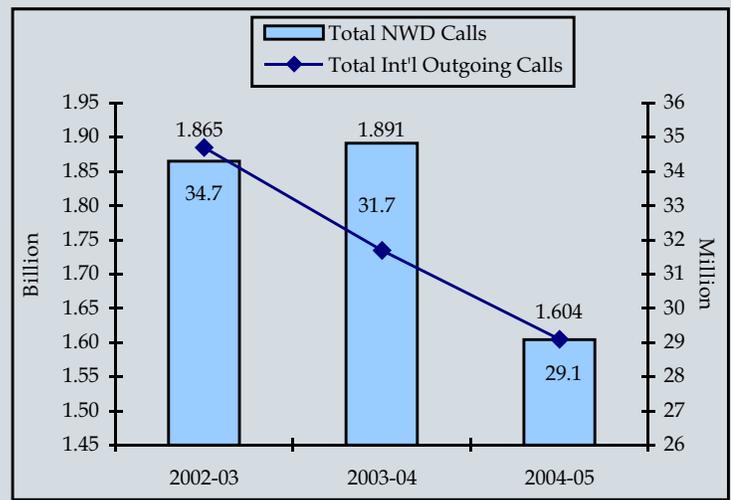
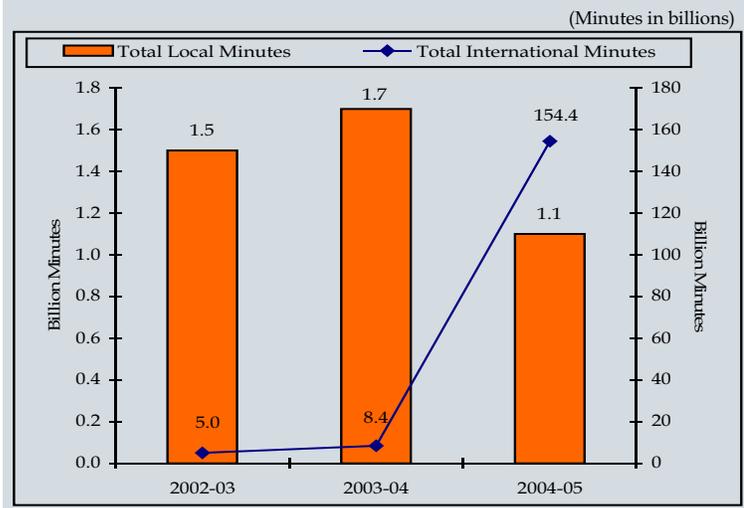


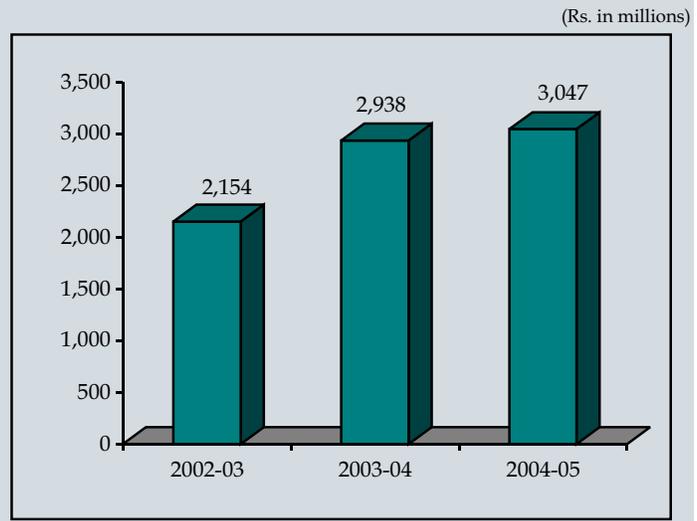
Figure-28
Total Minutes of NTC (2002-05)



Jiwani) and installation of switches at 24 additional sites.

The total traffic of NTC this year stood at 1.3 billion minutes, whereas last year it was more than 1.7 billion minutes. This decrease in traffic of the company is again attributed to competition introduced in LDI market. Consequently, the revenue stream of the company could also not appreciate much in 2005 as compared to increase in revenues of the company in 2004.

Figure - 29
Total Revenue of NTC (2002-05)

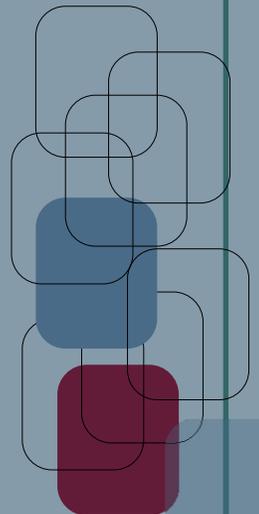


Conclusion

The new LDI operators are in a nascent stage. However, they are already on a very strong footing and responding well to the demands of the customers. The competition induced in the sector is pushing the incumbent operator to respond positively for its own growth. Competition among the operators would ultimately result in benefits to the consumers in terms of choice, quality and price. The government is also positive about the potential increase in penetration with increased choice and global access at lowest rates.



Local Loop and Wireless Local Loop Services



LOCAL LOOP AND WIRELESS

LOCAL LOOP SERVICES

Introduction

Under the telecom deregulation policy, PTA has awarded two types of licenses for provision of local loop services including Fixed Line Local Loop (FLL) services and Wireless Local Loop (WLL) services. These licenses have been issued in addition to PTCL and NTC which are providing services in all 14 telecom regions of Pakistan. A total of 34 companies have been awarded fixed line licenses and 17 companies have been awarded WLL licenses.

Fixed Line Local Loop Services

Currently only 3 companies, out of the 34 companies awarded the fixed line licenses have started services, which are Worldcall Broadband, Worldcall Multimedia and Brain limited. These companies have started their operations in their specified telecom regions in addition to PTCL and NTC. The remaining 31 companies are still in the phase of planning and building their infrastructure. In addition, these companies are also developing interconnect with LDI operators for the provision of services. Hence, to date PTCL is the largest

Table-13
Fixed Line Subscriber 2004-05

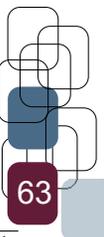
Companies	Punjab	Sindh	NWFP	Balochistan	Total
PTCL	2,978,195	1,416,077	655,643	140,984	5,190,899
NTC	48,787	21,737	7,447	3,056	81,027
WorldCall Broadband	-	4,000	-	-	4,000
WorldCall Multimedia	100	-	-	-	100
Brain Limited	1,520	-	-	-	1,520
Total	3,028,602	1,441,814	663,090	144,040	5,277,546

1. SCO total Subscriber 94,649 as on 30th June, 2005.

Local Loop service provider with 5.2 million subscribers followed by NTC with 81,027 total subscribers. Table - 13 gives Fixed Line Subscribers numbers by province for the operational service providers.

Fixed Line Teledensity

Fixed line teledensity of Pakistan stood at 2.28 % in 2001 whereas in 2004-05 it is 3.43%, showing a growth of 50% in five years. Up till 2001, teledensity has been increasing at a slower rate of change, but some improvement has been witnessed thereafter, as the rate of change has increased comparatively in the later years. Figure - 30 shows the growth in over all teledensity since 2001. Though, teledensity has improved over the years it is still far from the level at which it can be to meet the growing demand



of service. The teledensity of provinces like Balochistan and NWFP has increased only marginally. The low teledensity among provinces is thus causing a natural digital divide between the provinces. The penetration achieved in the provinces in 2005 can be seen from Figure - 31. The main reason, of course, is commercial i.e. smaller market potential due to lower literacy as well as poor standard of living due

to lesser economic opportunities in these two provinces. This situation can improve if the government pays special attention to these and other less or under served pockets of the country by providing support to the industry in the form of contributing to the investment cost, providing income tax exemption or subsidy on revenues from these areas, completely waiving off the activation fee, withholding tax, sales tax and other such government charges which are deterrent for the industry to consider investment in such areas. P T A has been collaborating with the

industry and the Government over the last few years to facilitate growth of telecom services and is fully committed to further support the industry to achieve the government's mandate. It welcomes suggestions/proposals from all stakeholders to help enhance the teledensity and overall telecom services in the unserved and underserved areas in particular and across the country in general.

Figure - 30
Fixed Line Teledensity 2005

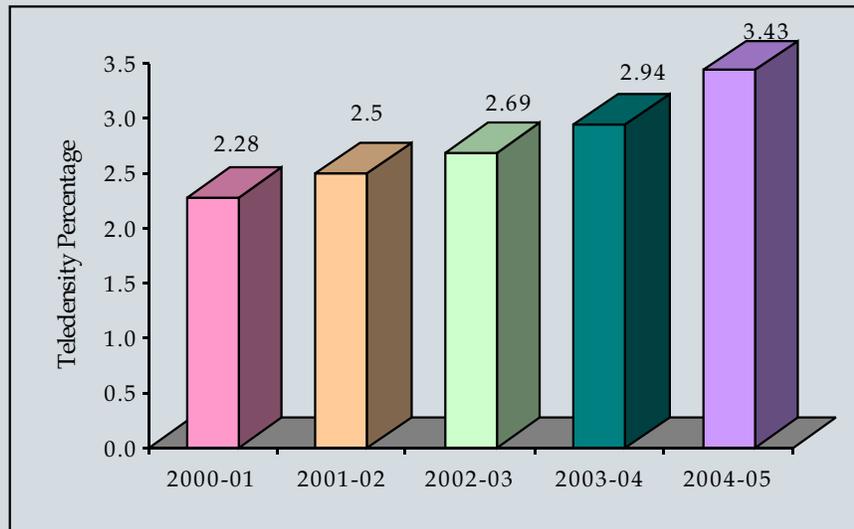
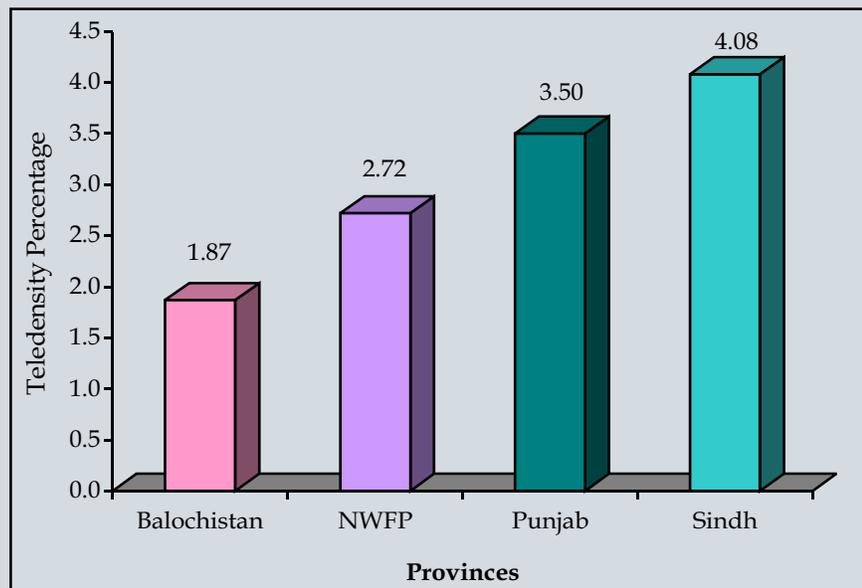


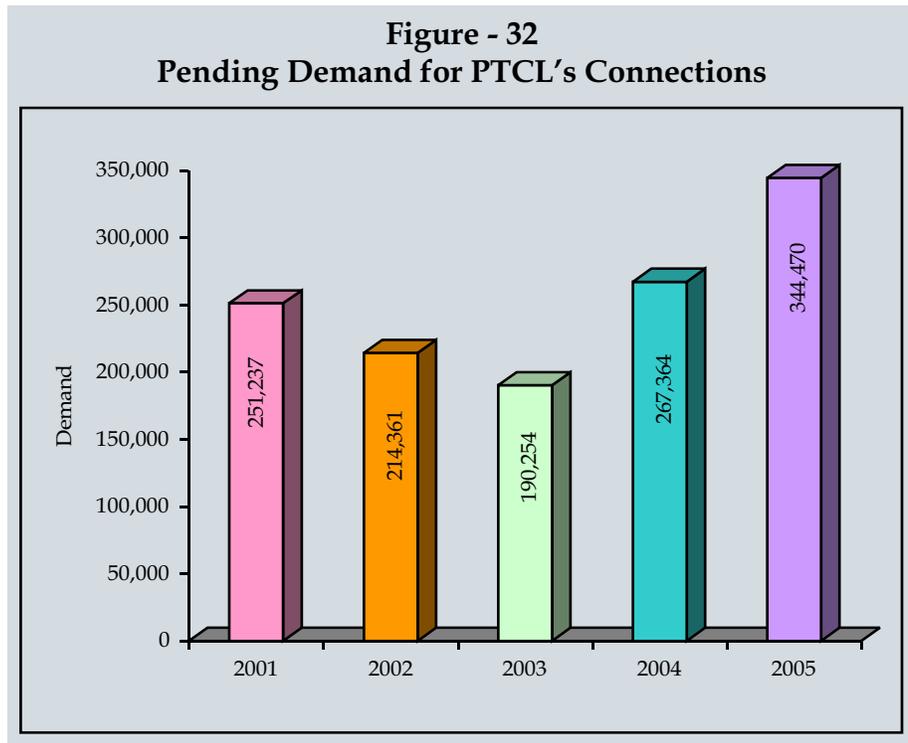
Figure - 31
Fixed Line Teledensity by Province (2005)



Pending Demand

There has been an unmet demand and long waiting list for landline connections from PTCL for the last many years. Figure - 32 shows pending demand for PTCL's service since 2001, which is increasing since 2003. Pending demand increased unprecedently after liberalization in 2004. This reveals the fact that the company cannot meet growing demand for telecommunication services of the country. One of the reasons of

PTCL's inability to meet this demand is the installed capacity. PTCL needs to focus on removing this bottleneck to avail this business and its allied revenues.



Local Loop Services Tariffs

In fixed local loop main provider of the service, PTCL sensed the upcoming competition from both private WLL and FLL companies. PTCL, therefore introduced a number of incentives, which included off-peak and free calls along with reduction in its national and international long distance tariffs. It further reduced its installation charges for urban areas by 44.4% and national and international tariffs by 24% and 25% respectively. Subsequently, in September 2004, PTCL also offered free connections in order to increase its subscriber base.

Tariffs of WLL services have become quite competitive, with three companies providing the service. TeleCard is the first wireless local loop operator which has started its service in Karachi and Balochistan regions. The company is offering line rental ranging from Rs. 149 to

Table - 14
Fixed Line Packages 2004-05

Description	PTCL	WorldCall	Telecard
Free Talk Time	50	200	---
Line Rent	Rs. 174	Rs. 175	Rs. 149
Free On-net Local Calls	0	Unlimited*	Rs. 125
Local Off-net Call Rate	Rs. 2.01 per 5 minute	Rs. 0.85 per minute	Rs. 0.40 per minute

* Limited Time Offer

Rs. 1,999 per month along with free minutes. In addition, TeleCard has introduced per minute charging for on-net calls. PTCL has also commenced wireless local loop service across the country. PTCL is offering free Talk Time of Rs. 50 upon activation of a wireless connection. WorldCall Telecom Limited has also launched WLL service. The company is offering free talk time of Rs. 200 including free on-net & off-net local calls. In addition, their per minute charge for off-net calls is Rs. 0.85 per minute. Their line rental ranges from Rs. 175 to Rs. 500 per month with 500 off-net local calls. Table-14 compares the packages offered by these 3 companies in a tabular form.

Following is a brief analysis of fixed local loop companies

New Operators

Brain Limited is providing local loop services in Lahore with a total of 1,520 Access Lines in Service (ALIS). The company is providing domestic call facility only. The added facilities provided by the company include operator's assistance, directory inquiry services and emergency services.

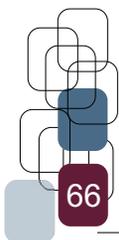
WorldCall Broadband & WorldCall Multimedia Limited are subsidiaries of WorldCall Limited. WorldCall Limited is among the pioneer telecom operators providing payphone services across the country for a very long time. After deregulation the company diversified its operations and is now providing Long Distance and International services and Local Loop services. WorldCall Broadband started its operations in Karachi region and has a total of 4,000 subscribers. The company is providing local loop services on postpaid basis only. WorldCall Multimedia started its operation in Lahore and currently has 100 connections.

Pakistan Telecommunication Company Limited (Incumbent Operator)

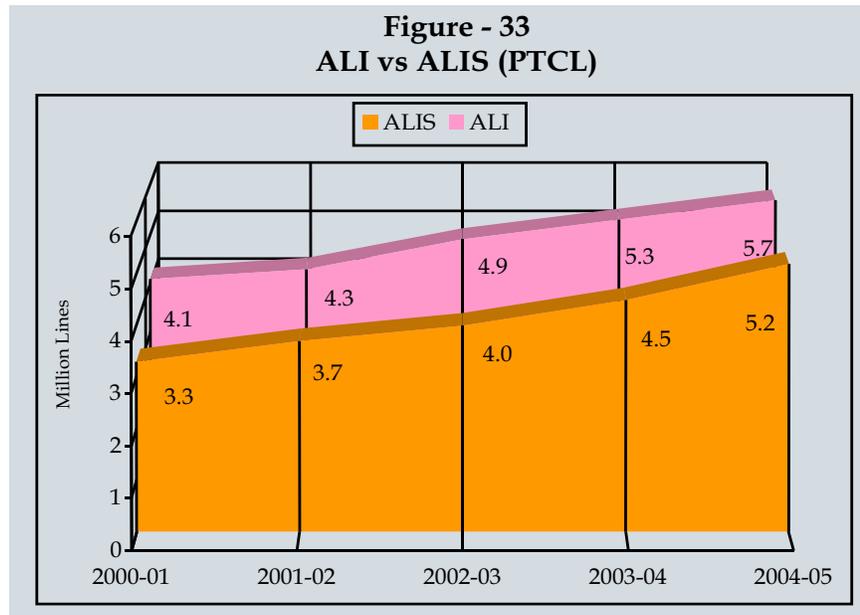
Pakistan Telecommunication Company Limited (PTCL) is the largest telecommunication service provider in Pakistan with an aggregate fixed line customer base of 5.2 million till June 2005. Over the years the performance of PTCL did not improve much and the company could not enhance its infrastructure enough to meet the growing demand. Hence, it was decided by the government that the company may be privatized with 26% share to be sold to private company. Now 26% shares have been divested with Etisalat, a UAE based company along with management control.

PTCL's Network Growth

Over the period of last 50 years, PTCL has been able to provide 5.2 million fixed line connections, which translates into a mere 3.4% fixed line tele-density, which is quite low when compared to other similar economies. Currently there are a total of 3,131 exchanges in Pakistan. In last fiscal year, the company has added about 17.2% working connections called Access Lines in Service (ALIS) and 9.1% installed capacity (ALI) to its network. Last year the total working connections of PTCL were 4.5

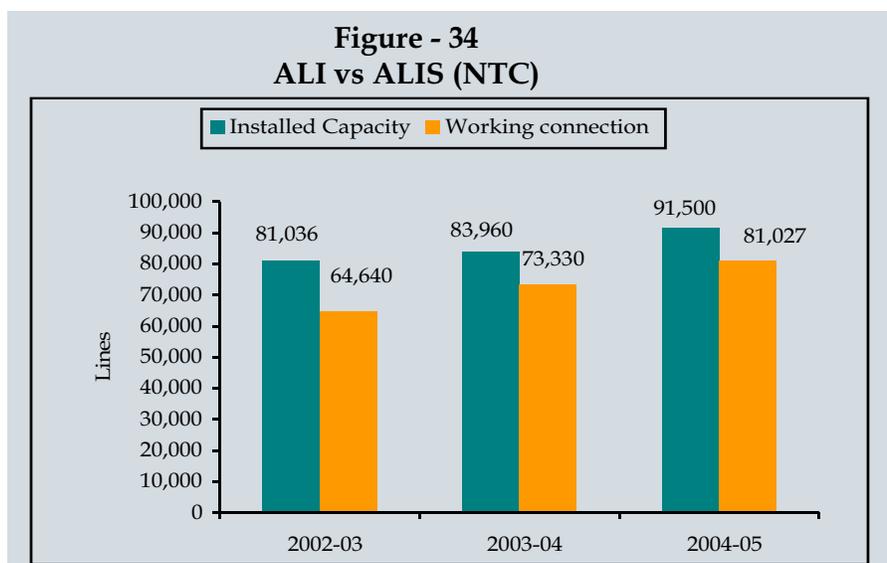


million which increased to 5.2 million at the end of June 2005. Capacity utilization improved from 85% in FY04 to 91% in FY05. Figure - 33 shows the growth in ALI and ALIS since 2001.



National Telecommunication Corporation (NTC)

Created on 1st January 1996, NTC has been providing Local Loop services to a limited market including defence, federal government, provincial government and their attached departments etc. However, today it has become the 2nd largest service provider in the country. NTC has successfully achieved its target of 80,000 telephone lines. The company currently has an installed capacity of 91,500 lines, with 81,027 working connections (89% capacity utilization) to its designated subscribers in federal/ provincial capitals and other cities. The corporation has also set its own data network to support e-government initiatives, ISP setup for the government and educational intranet for universities.



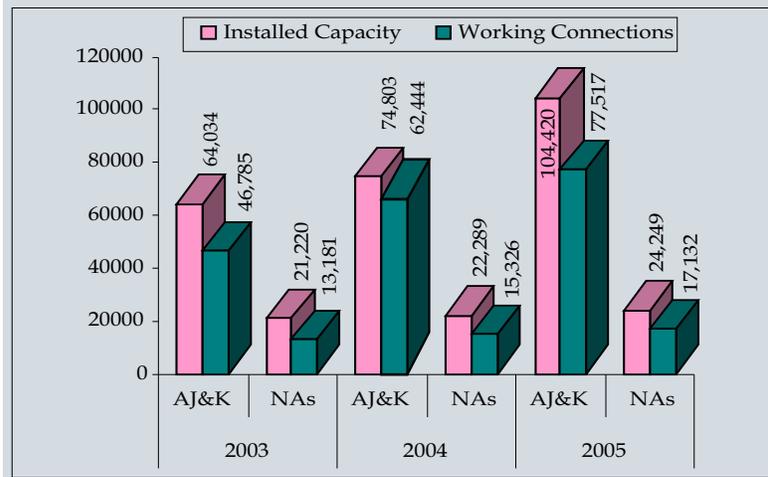
Special Communications Organization (SCO)

SCO has been providing telecommunication facilities in Azad Jammu and Kashmir (AJ&K) and Northern Areas (NAs) since 1976. The company is not only providing fixed line services but is also providing mobile cellular services in addition to PCOs and internet services.

During the year, installed capacity reached 134,000 lines with 100,000 working connections. Teledensity has increased to 2.43 for AJ&K and 1.68 for NAs per 100 inhabitants. During the year, 43,100 pairs (900 km)

were added in OSP network to provide local lines to approximately 53,000 new digital lines. For media connectivity over 270 km Optic Fiber Cable (OFC) was laid in addition to the installation of new microwave links and up gradation of existing microwave links. Figure - 35 shows the company's installed capacity and working connections for the last 3 years.

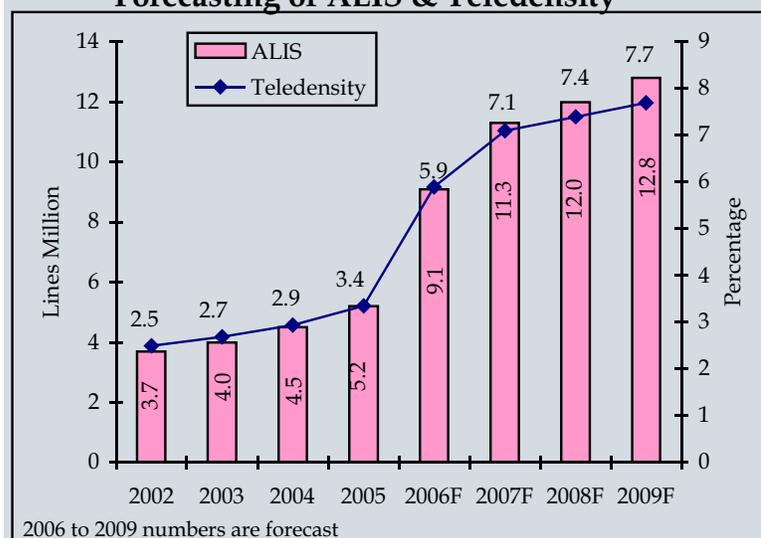
Figure - 35
Installed Capacity vs Working Connections by SCO



Forecast

According to estimates made by BMI research, a UK based research firm, the Access Line in Service would cross 9.1 million and the teledensity would reach 5.9% by 2006. With 34 companies starting their business by next year, the fixed line connections may increase to the forecast of 9.1 million. However, considering the still low GDP per capita of US\$ 736 and slow network growth of fixed line capacity, this ambitious forecast may be hard to achieve. Figure - 36 shows a projection of installed capacity and teledensity upto 2009.

Figure - 36
Forecasting of ALIS & Teledensity

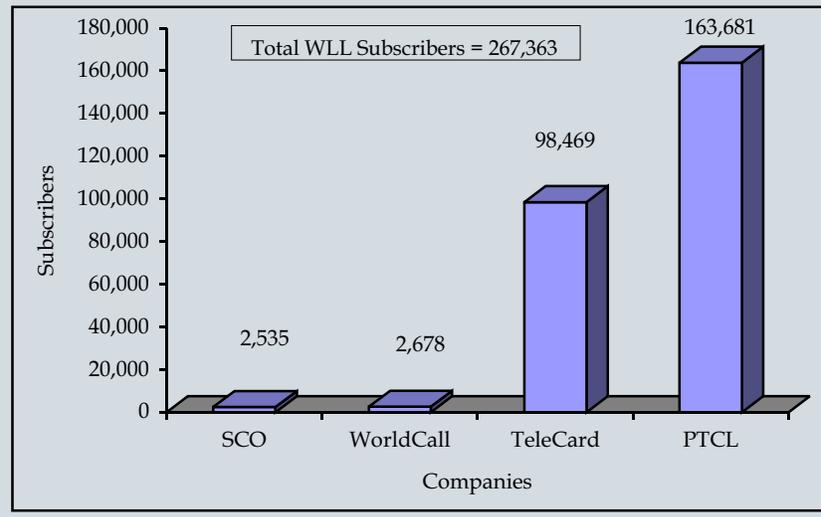


Wireless Local Loop Services

Out of the 17 companies awarded license for operation of Wireless Local Loop (WLL) services, only 2 started their commercial operations in 2004-05. In addition, PTCL also started its commercial operations for provision of WLL services. There are a total of 267,363 WLL subscribers of incumbent and new operators.

The total teledensity of wireless service is still very low. However, the wireless teledensity of 0.17% achieved in a few months only is very encouraging. The total number of cities covered by WLL networks including PTCL, SCO and the new operators has crossed 155 cities.

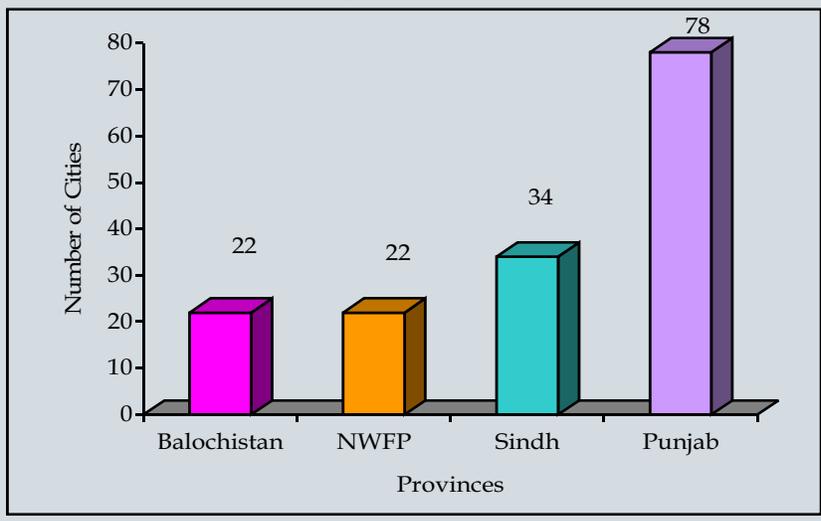
Figure - 37
Company-wise WLL Connections (2005)



PTCL is providing WLL services based on CDMA technology. PTCL started its WLL operations in rural areas and is now moving towards metropolitan areas. Today the company covers more than 155 cities across the country. Services provided by the company are on prepaid basis and scratch cards are available throughout the country. Current subscriber base of the company is 163,681. PTCL has a total of 176 cell sites for WLL operations across the country.

SCO is also providing WLL connections in NAs and AJ&K. In 2004, the total WLL connections provided by SCO were 2,364 which grew to 2,535 in 2005. SCO has 62 Micro Wave stations out of which 49 are in AJ&K.

Figure - 38
PTCL WLL Coverage (No. of Cities by Province)



TeleCard started its WLL service on 12 January 2005 in Karachi and on 14 April 2005 in Balochistan. TeleCard was the second WLL company besides PTCL to launch its commercial operations in two provinces of the country. Current subscriber base of the company is 98,469. Today more than 80 cities are covered by TeleCard. TeleCard WLL system utilizes the state of the art CDMA technology. TeleCard has customized the technology to run a prepaid wireless phone service.

Worldcall Telecom Limited (WTL) launched its WLL service in Lahore on 8th June 2005. Worldcall Group was awarded WLL licenses in all 14 telecom regions of Pakistan. The technology used by the company is CDMA 2000. The total subscribers of the company are 2,678 out of which 2,340 are prepaid connections. WTL plans to roll out its network for a total of 1.5 million subscribers over the next five years. The current roll out under implementation has a network of around half a million subscribers. The company plans to cover 50 cities.

Conclusion

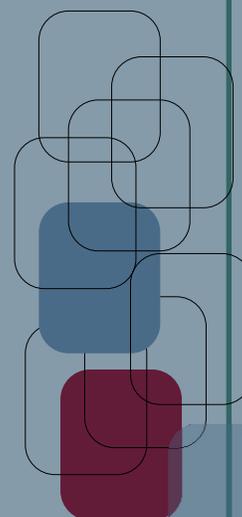
Local Loop services provision by private operators is a new phenomenon in Pakistan. However, there are a lot of expectations from this sector. Obtaining maximum market share, easy deployment and quick returns are some of the attractions which will drive the companies to start services as early as possible. The customers on the other hand, need easy and affordable telecom accessibility.

It is foreseen that fixed and WLL private operators would emerge as competitors to the incumbents in a few years. The incumbent operators do not foresee any threat from these operators in the short run due to their larg network availability across the country. Local Loop sector will thus take some time to grow to the level where it will be a real competitor for the incumbent operators.



Value Added

Services



VALUE ADDED SERVICES

Introduction

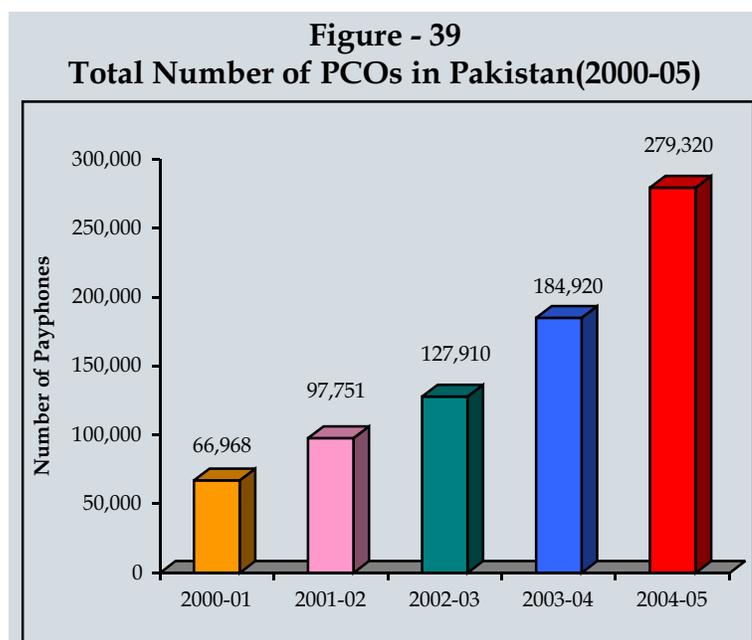
Value Added Services (VAS) segment of telecom sector was opened to private investors in 1990. PTA has adopted an open licensing policy in accordance with instructions from Government of Pakistan and in exercise of its powers conferred by Pakistan Telecommunication (Re-organization) Act, 1996 for all value added services licenses. The Authority welcomes the applications for grant of these licenses to private sector operators. A simple and investor friendly procedure for evaluation of license applications is followed. License applications are processed in 7 days, once all relevant information has been provided to the satisfaction of PTA. Service-wise detail is given in ensuing pages. The number of licenses issued so far are given in Annex-3.

Card Payphones

In order to provide telephone coverage particularly in the rural areas, a need to set up card payphone facilities all over the country was felt in early nineties. The installation of card payphones started in 1992. Card payphones are primarily meant for people who do not have fixed line telephones at home and for people on the go who do not have a call phone. It also provides handy telephone service to people at public places. Payphones are a very convenient means of making phone calls in developed countries.

This segment has shown tremendous growth in the last few years. So far PTA has issued 364 licenses to various operators across the country.

To provide impetus to its growth, PTA abolished the royalty in 2004-05 which reduced the cost and thus created significant market demand for payphone operators. The growth remained slow till 1998 when PCOs were installed as outdoor phone booths. Later payphones were also made available indoors in popular buildings, stores, restaurants and other places. Since then significant growth has been achieved by this segment. Growth trend from 1999 to 2005 is given in Figure - 39. The breakup by provinces can be seen in Annex - 11.



This segment has not only generated substantial employment in the country, but is also contributing significant revenues to national exchequer. The segment is also playing a vital role to provide telephone access in rural areas and it has more than 279,320 locations in the country. It is an important source of providing telephony in far flung areas like Federally Administered Tribal Areas (FATA). WorldCall installed about 139 Card Payphones in different agencies within FATA.

Vehicle Tracking Services (VTS)

Being aware of the growing problem of car crime and the need to introduce fleet management in Pakistan, PTA introduced a license for vehicle tracking services in 1999. Trakker (Pvt.) Ltd. was the first company to be awarded the license in 1999. To-date, PTA has issued 10 licenses for VTS to various companies. During the last 5 years the sector has grown exponentially as the need for availing this service has grown. Vehicle tracking companies have reduced the menace of car theft related crimes. They have introduced the concept of 24 hour customer service.

Currently VTS services are being provided in over 300 cities of Pakistan. PTA continues to ensure standards of service. The value added services from VTS providers include 24 hour online location, online navigation, free recovery of stolen vehicles, detailed movement reports, detailed exception reports, vehicle utility reports and web access for tracking via the internet. In 2004-05, VTS service providers attained a customer base of 20,000 vehicles which is a major achievement. PTA has allowed the use of Global Mobile Personal Communication Service (GMPCS) and Inmarsat satellite to expand the coverage and better services to end-users.

Video Conferencing Services in Pakistan

Video Conferencing is a service through which different technologies and media are used simultaneously for vision and voice. At the interest shown by Minister of IT & Telecom, PTA started licensing for Video Conferencing Service (VCS). ISDN connections, leased lines, local loop etc were made available by PTCL. Universal Service Communication (Pvt.) Ltd. was the first company to be granted Video Conferencing License.

At present Video Conferencing is available at Studios developed by Pakistan Post at the General Post Offices (GPOs) in Islamabad, Karachi and Lahore. These Studios offer state of the art Video Conferencing between the above three studios and also with international locations available through a network of Video Conferencing Public Rooms. The studios are used by business community for their business discussions & negotiations, newspaper and television interviews, and employment & university admission interviews. These are also being used for corporate meetings and events coverage such as:

- ⦿ Medical Presentations between Agha Khan University Hospital in Karachi, Dow Medical University in Karachi and Khyber Medical college in Peshawar.
- ⦿ Health Asia with speakers from 5 different locations including Europe and Australia.
- ⦿ Launching of e-health clinics where Bangalore, India was online and patients at Gambat and Shikarpur were seen by doctors at Karachi, in the presence of Governor, Sindh and a large crowd.
- ⦿ Matrimonial Functions.

Audiotex Services

The purpose of Audiotex or Premium rate service is, to provide information and entertainment via telephone. The service (0900) can be accessed through fax, PC (email, internet, bulletin boards) mobile Short Messaging Services (SMS), Wireless Access Protocol (WAP). The Audiotex services range from sports, voting and business information services to chatting and competition. The fixed line operators are obliged to transport Audiotex calls nation wide at uniform rates for each category. The revenue generated from such calls is shared between the fixed-line operator and the Audiotex service providers, which according to the existing interconnect agreement is divided at 40% and 60% respectively. Since 1997, PTA has issued 17 ATS licenses out of which 16 are operational.

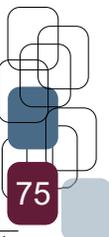
Data Communication Services (DCS)

There is a growing requirement for data communication within Pakistani industrial and commercial sector. This segment was deregulated during 1990s. Companies with manufacturing facilities separated from their head offices, companies engaged in export activities, banks and financial institutions require data connectivity. In view of the increasing electronic interchange of information, it is becoming important for our industrial base to establish effective communication facilities and to remain competitive in the market place. This is the prime motivation of Data Communication Services.

PTA has issued 54 licenses for Data Communication/ Non Voice Communication Network Services (NVCNS). These companies are providing data communication services to over 1,000 national and international commercial companies in the country.

NVCNS licensees are providing data communication facility for following services:

- a. ISDN and digital cross connect facilities
- b. Data communication services using satellite communication using VSAT for domestic data communication within the country
- c. Wireless data communication services in ISM band.



Trunk Radio Service (TRS)

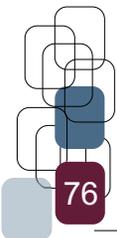
Trunk Radio Service is for the use of radio equipment for voice conversation in the VHF/UHF bands in which a base station supports a number of mobile stations. The base station system may also be linked to the PSTN thus providing a link between mobile radio system and the fixed telephone network of the company through a phone patch.

PTA has issued 4 TRS licenses till now and they are providing services to, Police, Government Security agencies, banks and Oil & Gas Companies in Pakistan.

Conclusion

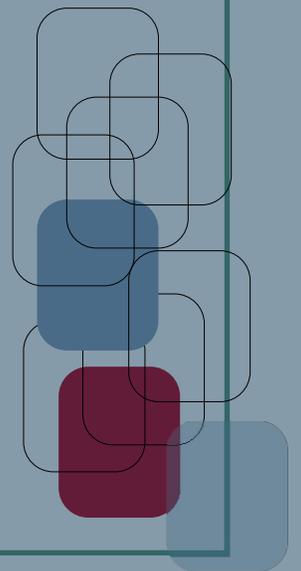
As per Deregulation Policy clause 13.3, an open regime will be followed for companies desirous of providing value added services such as Broadband, pre-paid calling cards, premium rate services and the new value added services. Currently, PTA is in the process of preparing to issue the new Class Value Added Licenses (CVALs). Expression of Interest (EoI) of CVALs will be invited through the print media shortly. The benefit of CVASs license is that instead of applying separately for each service, the Class Value Added License Services provider will be allowed to provide a number of services under one license.

This will streamline and further simplify the licensing process and make it even more convenient for investors.





Broadband in Pakistan



BROADBAND IN PAKISTAN

Introduction

In Internet era, broadband communication is one of the most exciting features of new technology. Broadband leads to increased efficiency and enhanced economic productivity by enabling users to access bandwidth intensive applications in far less time. Unlike other conventional technologies, Pakistan is not a late beginner when it comes to Internet. Despite low literacy and per capita income, Internet has spread pretty fast even in some remote towns and villages across the country. Today over 1,900 cities have internet access across the country and DSL is also spreading fast after PTA allowed all ISPs to provide DSL service.

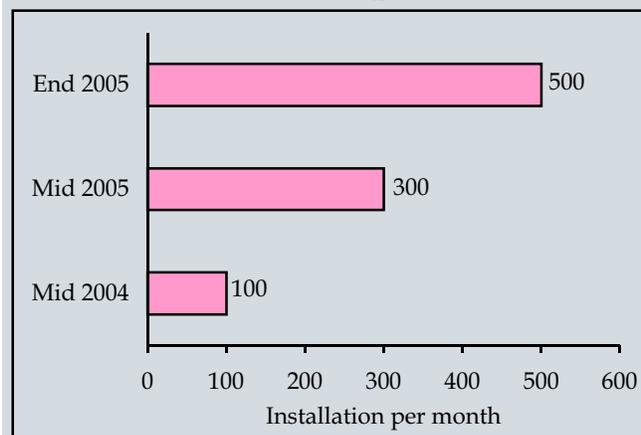
Broadband Penetration in Pakistan

Broadband services comprising mainly of cable and DSL were started in 2002 in Pakistan and are now available in most major cities of Pakistan. In July 2004, 4 companies started broadband DSL services and till the end of 2003 they had 4,000 subscribers only. This low subscription rate was mainly due to the high prices of the service and few service providers. Only corporate customers or high income households could afford the broadband. PTA took cognizance of this lower rate and allowed all ISPs to provide Broadband service in Pakistan. Government of Pakistan announced

Broadband policy in December 2004 with the result that prices of Internet bandwidth were cut by 50%. Initially, PTCL internet bandwidth cost was US\$ 6,000/E1/month which has been brought down to only US\$ 2,000/E1/month in the new policy. These measures worked well and DSL penetration has started to out grow broadband. Figure - 41 shows DSL installations for month for 3 different time periods in 2004 and 2005 to demonstrate the increasing trend.

Since March 2005, broadband operators have reported almost 100% growth in new DSL connections. New operators are also gearing up to launch their services and DSL equipment vendors have booked orders of around 15,000 DSL ports to be deployed till 3rd Quarter of 2005, which is almost 3 times higher than last year. According to current estimates, there are around 30,000 (cable, DSL and Satellite, wireless etc) broadband users in Pakistan.

Figure - 40
DSL Installations per Month



Source: Micronet Broadband

Infrastructure issues however, would still haunt accelerated growth of broadband. Unlike exponential growth of mobile phones and dialup Internet, broadband services require new infrastructure to be physically built for each customer. So time to market is inherently slow. The basic reason of very fast spread of broadband in developed part of the world is that infrastructure to deliver the services was already there in the form of good quality cable and copper network. Both of these networks are available in Pakistan but the quality is still an issue. Cable operators are small entrepreneurs with poor network except for a couple of major players in Lahore and Karachi.

Broadband Policy

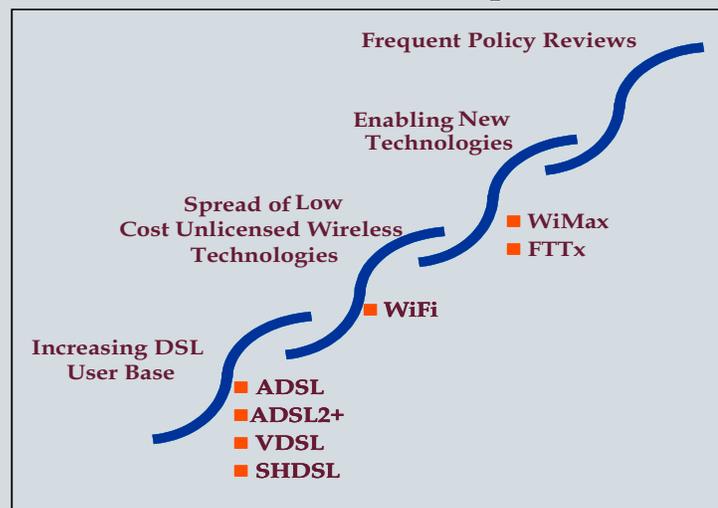
Broadband policy was announced in December 2004 by the government of Pakistan. The main objective of the policy is to spread affordable, high speed internet broadband services in the corporate, commercial and residential sectors. Other important objectives include encouraging the private sector investment in broadband service provision and the development and hosting of local contents so as to reduce reliance on the expensive international bandwidth.

Broadband Policy's results are visible as broadband deployment rate has increased by 100% in the last two months, but it would take some time before broadband reaches a critical mass of home users. PTCL needs to immediately fix its outside plant network in major cities in order to make DSL ready so that operators can deliver the connectivity within a day as compared to 7 or more days delivery time at present. In order to attract more investment to this segment, Government may consider fiscal incentives to broadband operators including income tax holiday for five years and total exemption from sales tax and custom duties on import of the broadband equipment.

**Table - 15
DSL Subscribers**

Company	Subscribers	Cities Covered
Micronet	4,000	Lahore,
Cybernet	3,000	Karachi,
Multinet	3,500	Islamabad,
Dancom	1,800	Multan,
HRI	1,000	Faisalabad,
Others	1,300	Sialkot &
Total	14,600	Peshawar

**Figure - 41
Broadband Road Map**



Government Initiatives

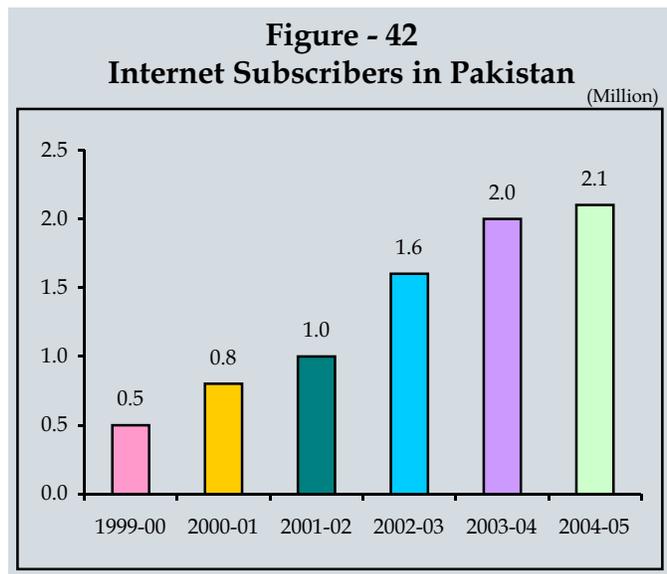
Government of Pakistan is striving hard for spread of IT and broadband across the country. The government has established about 50 IT centers for awareness in 50 villages and 800 centers are forecast to be established by 2006. The government plans to provide 10 computers to each centre.

The government has also established Virtual University for distance learning. Class rooms for this university have been set up all over the country which are interconnected via broadband.

The government is also subsidizing training of Human Resources for the private sector. Besides, government has allocated 200 acres land for internet city in Karachi. An e-government department has been established, which is aiming to make all government departments online. The government has also set a target to train 16,000 employees in computer use over the next two years. The government has also established IT parks in Karachi, Lahore and Islamabad through public private partnership. The government provides optical fiber infrastructure and data connectivity up to the building, and the private sector operators manage the Image Transport Protocol (ITP). The operator pays for the bulk bandwidth and re-distributes the bandwidth within the ITP.

Internet Growth in Pakistan

Over the years Internet penetration in the country has grown manyfolds. In 1995, Pakistan had 1,500 subscribers; today it has more than 2 million subscribers. The growth of internet subscribers for the last 6 years can be seen in Figure - 42. Currently, over 1,900 cities and towns have Internet accessibility in Pakistan. The largest number of Internet subscribers are in Karachi followed by Lahore and Islamabad. These three cities mainly constitute almost 80% of total Internet subscribers. PTA has awarded 132 licenses for Internet service out of which 70 ISPs are operational. Two operators PTCL and FLAG are providing Internet backbone with international bandwidth of 45 Mbps and 155 Mbps respectively.



Various incentives have been provided for the promotion of Internet in Pakistan. Recently, PTA announced that all ISPs can provide broadband service (DSL) in Pakistan in collaboration with Local

Loop and Long Distance & International operators including PTCL. So far twelve companies have signed Operations and Maintenance (O&M) agreements with PTCL and are providing broadband Internet service.

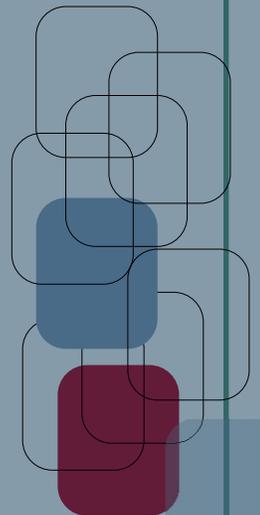
Conclusion

Due importance is now being given to internet and broadband industry. The government and regulator are making all possible efforts for exponential growth of the sector and development of those areas where Internet is still a novelty. Announcement of Broadband Policy, incentives to small ISPs and the move towards class licensing are some of the initiatives towards increasing internet penetration in the country. However, expansion is also likely to remain primarily confined to major cities because of the concentration of economic activity in the cities, low literacy level and less affordability in rural areas.



Issues and

Challenges



ISSUES AND CHALLENGES

Introduction

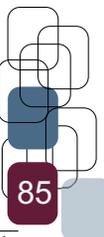
The ongoing process of liberalization of the telecom sector has induced competition in every segment of the telecom sector. Results of this liberalization are encouraging beyond all expectations. Pre-liberalization challenges that were eyed as obstacles are now becoming opportunities for the sector for more growth. Technology is changing with rapid pace and its transfer to local market is even faster due to its availability, and the ability to invest. Telecom like any other sector has its share of issues and challenges. Some are obvious to everyone; others are known to few. Some of the pressing challenges are highlighted below to invite all stakeholders including the Government to be cognizant of these and do every thing in their capacity to make inroads on tackling these challenges.

Rural Telephony

Current teledensity in rural areas is very low at 1.26%. It is the prime concern of government of Pakistan and the Regulator. Even though liberalization is expected to increase this figure, the growth is very slow. Due to unattractive market in rural areas for current operators from Return on Investment point of view, it is a challenge for the regulator as well as the Government. One of the solutions to this problem dealt by countries like Philippines and India is establishment of Telecentres in these areas, since Telecentre are a cheaper and easy short run solution. However, to tackle the challenge at a greater scale, the government needs to provide some support to the industry through instruments such as Universal Services Fund for initial investment and tax breaks/subsidies. However, the industry also needs to be a little more conscientious and fulfill its social obligation to the country by being willing to operate in rural areas at little or no profits or perhaps even at some degree of loss. Together the government and the industry can address this issue to quite an extent.

Grey Traffic

Gray Traffic is another challenge being faced by the telecom sector and the government alike. It is causing loss to national exchequer and the licensed operators. Specifically it is negatively affecting the growth of licensed LDI operators and incumbent. The Authority has appealed to the general public to inform the Authority about any illegal traffic terminating in Pakistan. The Authority also invites other stakeholders, particularly the telecom companies, which could be the biggest affectees, to help the Authority control this single biggest source of revenue loss to them as well as the Government. Together with the help of telecom companies and the general public, PTA is aiming to eradicate such parasites from the society.



Alternate Infrastructure

Pakistan faced the worst ever internet blackout and international disconnection in May 2005 when the Optic Fiber Cable, SEA-MW-WE-3 was damaged. It resulted in billions of rupees of loss to the Government of Pakistan and various companies. The image of Pakistan and its various telecom, IT and callcentre companies operating in International market was also tarnished. Alternative arrangement for international connectivity is crucial for such disaster recovery and for the seamless business continuity when such events happen.

Rollout

Under the telecom deregulation and mobile cellular policies, licensees are required to roll out their networks across Pakistan within stipulated time period. One of the objectives of this obligation is to ensure provision of services in the underserved and unserved rural areas. Under the telecom deregulation policy LDI licensees started rollout by building at least one Point of Interconnect in five of PTCL regions within one year of award of license and in all thirteen PTCL regions within 3 years. The mobile licensees are required to cover at least 70% of Tehsil headquarters in four years with a minimum of 10% Tehsil coverage in all four provinces. Performance bonds by licensees are deposited with PTA, which are released on achievement of coverage targets. Since concentration of all new licensees for business interest lies in metropolitan cities therefore it would be a challenge for the Authority to compel new operators to fulfill roll out obligations under deregulation and mobile policies. In this regard PTA is making utmost efforts in order to ensure timely achievement of coverage targets by all licensees.

Broadband Penetration

Penetration of broadband in Pakistan is very low. Reasons for low penetration include non-availability of appropriate infrastructure, few broadband services providers, high prices and lack of awareness among general public. PTA recognizes the importance of broadband proliferation in the country since it is directly associated with the social and economic uplift of country. The regulator is devising strategy to remove the hurdles in the way of bandwidth price reduction, local content development, and broadband delivery mechanism and user equipment facilitation.

Right of Way

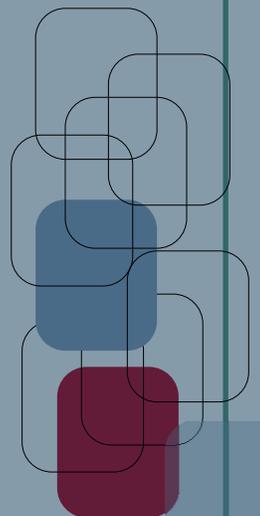
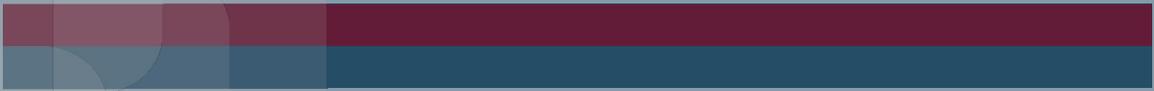
Getting permission from the owners of premises, land or surrounding areas to install infrastructure is one of the reasons of slow growth of telecom's infrastructure development in Pakistan. There is a cumbersome process to get the right of way for infrastructure development as a number of NOCs are required from various agencies. All relevant agencies need to recognize this national cause and are urged to simplify their process to help boost the facilities faster. This will have spiral effects of economic development bringing benefits to all.

Conclusion

Liberalization, with reduced legal, regulatory and commercial constraints in addition to reshaping of sector, was essential for Pakistan to match the growth of telecom facilities elsewhere in the world, and perhaps lead the developing economies towards the Information Society. The future requires a coherent approach to tackle the above mentioned challenges. Meeting these challenges will be of fundamental importance to the future prosperity of the telecom sector of Pakistan in particular and Pakistan economy in general.



Annexes



Cellular Mobile Tariffs (Pre-Paid) As of August, 2005

	Paktel	Instaphone		Mobilink	Ufone		Telenor	Warid	
	Peak & Off-peak	Peak	Off-peak	Peak & Off-peak	Peak	Off-Peak	Peak & Off-Peak	Peak	Off-peak
Local & Long Distance Calls to Same Network (Rs. per min.)									
Airtime	3.75	3.99	0.99	3.50	2.99	1.50	1.73	2.00	1.50
15% GST	0.56	0.60	0.15	0.53	0.45	0.23	0.26	0.30	0.23
Total	4.31	4.59	1.14	4.03	3.44	1.73	1.99*	2.30	1.73
Local & Long Distance Calls to Other Cellular Network (Rs. per min.)									
Airtime	3.75	3.99	0.99	3.50	2.99	2.99	3.45	3.00	2.75
Interconnect	0.00	1.60	1.60	1.60	1.60	1.60	0.00	0.00	0.00
15% GST	0.56	0.84	0.39	0.77	0.69	0.69	0.52	0.45	0.41
Total	4.31	6.43	2.98	5.87	5.28	5.28	3.97	3.45	3.16
Local & Long Distance Calls to Fixed line Network (Rs. per min.)									
Airtime	3.75	3.99	0.99	3.50	2.99	2.99	3.45	3.00	2.75
Interconnect	0.00	0.52	0.52	0.52	0.00	0.00	0.00	0.00	0.00
15% GST	0.56	0.68	0.23	0.60	0.45	0.45	0.52	0.45	0.41
Total	4.31	5.19	1.74	4.62	3.44	3.44	3.97	3.45	3.16
International Calls (Rs. per min.)									
Airtime	3.75	3.99	0.99	3.50	2.99	2.99	3.45	9.00 & 18.00	8.00 & 17.00
Access Charge	2.00	2.00	2.00	3.00	2.00	2.00	0.00	0.00	0.00
Intl Long Dis.	18.00	18.00	18.00	18.00	18.00	18.00	20.00	0.00	0.00
15% GST	3.56	3.60	3.15	3.68	3.45	3.45	3.52	1.35 & 2.70	1.20 & 2.55
Total	27.31	27.59	24.14	28.18	26.44	26.44	26.97	10.35 & 20.70	9.20 & 19.55

Value Added Services

SMS Domestic (Rs.)									
To Same Network	1.50	0.50	1.00	1.00	1.00	0.50			
15% GST	0.23	0.08	0.15	0.15	0.15	0.08			
Total	1.73	0.58	1.15	1.15	1.15	0.58			
To Other Network	1.50	1.50	1.50	1.50	1.00	1.00			
15% GST	0.23	0.23	0.23	0.23	0.15	0.15			
Total	1.73	1.73	1.73	1.73	1.15	1.15			
International Outgoing SMS (Rs.)									
International SMS	5.00	5.00	5.00	5.00	1.50	5.00	5.00		
15% GST	0.75	0.75	0.75	0.75	0.23	0.75	0.75		
Total	5.75	5.75	5.75	5.75	1.73	5.75	5.75		
MMS Activation Charges (Rs.)									
Service Not Available	Service Not Available	Service Not Available	Not Available	75.00	Free	Free			
MMS/GPRS/VAS Charges									
Monthly Subscription (Optional)									50.00
15% GST	Service Not Available	Service Not Available	Not Available	Free	Free				8.00
Total	Service Not Available	Service Not Available	Not Available	Free	Free				58.00
MMS Outgoing (Rs.)									
Same Network					5.00	5.00			3.00
15% GST	Service Not Available	Service Not Available	Not Available		0.75	0.75			0.45
Total	Service Not Available	Service Not Available	Not Available		5.75	5.75			3.45
MMS Incoming (Rs.)									
Same Network					5.00				
15% GST	Service Not Available	Service Not Available	Not Available		0.75				3.00
Total	Service Not Available	Service Not Available	Not Available		5.75	Free			3.45
GPRS Charges									
Usage Charges per MB					15.00	15.00			15.00
15% GST	Service Not Available	Service Not Available	Not Available		2.25	2.25			2.25
Total	Service Not Available	Service Not Available	Not Available		17.25	17.25			17.25
Balance Inquiry (Rs.)									
Balance Inquiry	0.43	0.43			0.50				
15% GST	0.07	0.07			0.08				
Total	0.50	0.50	Free		0.58	Free			Free

Miscellaneous Charges

	Paktel	Instaphone	Mobilink	Ufone	Telenor	Warid
Change of						
Prepaid Number	Not Available	300.00-450.00	100.00	300.00	150.00	250.00
Postpaid Number		460.00	100.00	300.00	150.00	250.00
From prepaid to postpaid	Free	Free	Free	Free	150.00	Free
From postpaid to prepaid	200.00	Free	100.00	250.00	Not Available	150.00
Prepaid number	200.00	Free	50.00	Free	Free**	Free
Postpaid number	200.00	Free	200.00	Free	Free**	Free
Prepaid	100.00	150.00	50.00	200.00	150.00	200.00
Postpaid	100.00	Free	50.00	200.00	150.00	200.00

Note: Instaphone airtime charge for 2nd min onwards is Rs. 1.99 per min in Peak Time
 Warid to Warid Calls are charged on 30 second duration
 Off-peak Time: Ufone & Warid 10 pm to 7 am, Instaphone 12 am to 7 am

* Limited Time Offer

** In case of termination Rs. 150

^ Limited Time Offer

10% Advance Tax is deducted from the purchase value upon Card Activation

Cellular Mobile Tariffs (Post-Paid) As of August, 2005

	Paktel	Instaphone		Mobilink	Ufone		Telenor	Warid	
Line Rent	100.00	295.00		0.00	99.00		149.00	0.00	
15% GST	15.00	44.00		0.00	15.00		22.00	0.00	
Total	115.00	339.00		0.00	114.00		171.00	0.00	
Free Minutes	0.00	0.00		0.00	0.00		0.00	0.00	
Free SMS	0.00	0.00		10.00	50.00		0.00	0.00	
	Peak & Off-peak	Peak	Off-peak	Peak & Off-peak	Peak	Off-Peak	Peak & Off-Peak	Peak	Off-peak
Local & Long Distance Calls to Same Network (Rs. per min.)									
Airtime	3.75	3.75	2.99	3.00	1.75	1.25	1.50	2.00	1.50
15% GST	0.56	0.56	0.45	0.45	0.26	0.19	0.23	0.30	0.23
Total	4.31	4.31	3.44	3.45	2.01	1.44	1.73*	2.30	1.73
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Airtime	3.75	3.75	2.99	3.00	1.75	1.25	2.99	3.00	2.75
Interconnect	0.00	1.60	1.60	1.60	1.60	1.60	0.00	0.00	0.00
15% GST	0.56	0.80	0.69	0.69	0.50	0.43	0.45	0.45	0.41
Total	4.31	6.15	5.28	5.29	3.85	3.28	3.44	3.45	3.16
Local & Long Distance Calls to Fixed-line Network (Rs. per min.)									
Airtime	3.75	3.75	2.99	3.00	1.75	1.25	2.99	3.00	2.75
Interconnect	0.00	0.52	0.52	0.52	0.52	0.52	0.00	0.00	0.00
15% GST	0.56	0.64	0.53	0.53	0.34	0.27	0.45	0.45	0.41
Total	4.31	4.91	4.04	4.53	2.61	2.04	3.44	3.45	3.16
International Calls (Rs. per min.)									
Airtime	3.75	3.75	2.99	3.00	1.75	1.25	2.99	9.00 & 18.00	8.00 & 17.00
Access Charge	2.00	2.00	2.00	3.00	2.00	2.00	0.00	0.00	0.00
Intl Long Dis.	18.00	18.00	18.00	18.00	18.00	18.00	20.00	0.00	0.00
15% GST	3.56	3.56	3.45	3.60	3.26	3.19	3.45	1.35 & 2.70	1.20 & 2.55
Total	27.31	27.31	26.44	27.60	25.01	24.44	26.44	10.35 & 20.70	9.20 & 19.55
International Roaming (Rs.)									
Activation Fee	Free	Service Not Available		500.00	Free		Free	Free	

Value Added Services

	Paktel	Instaphone	Mobilink	Ufone	Telenor	Warid
Itemized / Detailed Billing Charges (Rs.)						
Monthly Subscription	15.00		25.00			50.00
15% GST	2.25		3.75			7.50
Total	17.25	Free	28.75	Free	Free	57.50
SMS Charges (Rs.)						
Monthly Subscription			25.00			
15% GST			3.75			
Total	Free	Free	28.75	Free	Free	Free
SMS Domestic (Rs.)						
To Same Network	0.50	0.50	1.00	1.00	1.50	0.50
15% GST	0.08	0.08	0.15	0.15	0.23	0.08
Total	0.58	0.58	1.15	1.15	1.73	0.58
To Other Network	1.00	1.50	1.00	1.50	1.50	1.00
15% GST	0.15	0.23	0.15	0.23	0.23	0.15
Total	1.73	1.73	1.15	1.73	1.73	1.15

International Outgoing SMS (Rs.)						
International SMS	5.00	5.00	4.50	1.50	5.00	5.00
15% GST	0.75	0.75	0.68	0.23	0.75	0.75
Total	5.75	5.75	5.18	1.73	5.75	5.75
MMS / GPRS Charges (Rs.)						
Monthly Subscription			500.00			
15% GST	Service Not Available	Service Not Available	75.00			
Total			575.00	Free	Free	50.00
MMS Outgoing (Rs.)						
Same Network				5.00	5.00	3.00
15% GST	Service Not Available	Service Not Available		0.75	0.75	0.45
Total			Free*	5.75	5.75	3.45
MMS Incoming (Rs.)						
Same Network				5.00		3.00
15% GST	Service Not Available	Service Not Available		0.75		0.45
Total			Free*	5.75	Free	3.45
GPRS Charges (Rs.)						
Usage Charges per mb				15.00	15.00	15.00
15% GST	Service Not Available	Service Not Available		2.25	2.25	2.25
Total			Free*	17.25	17.25	17.25

International Roaming Tariffs (Rs. per minute)

International Roaming - Saudi Arabia							
	Inland Outgoing		Outgoing to Pakistan		Incoming	SMS Outgoing	SMS Incoming
	Peak	Off-peak	Peak	Off-peak			
Paktel	19.36	12.00	288.00	252.00	30.08	16.96	Free
Mobilink	21.60	13.20	214.20	214.20	30.60	19.20	9.60
Ufone	14.72	9.20	82.80	60.72	30.00	12.88	Free
Telenor	17.00	9.00	101.00	81.00	33.00	9.00	Free
Warid	17.40	17.40	Service Not Yet Available		33.00	19.80	10.20
International Roaming UAE							
Paktel	5.60	4.16	59.36	55.20	29.44	13.76	Free
Mobilink	4.80	3.00	61.80	61.80	30.60	15.60	9.60
Ufone	5.08	3.81	57.10	46.28	30.00	12.70	Free
Telenor	5.00	4.00	52.00	41.00	33.00	19.00	Free
Warid	6.00	4.80	Service Not Yet Available		33.00	15.60	10.20
International Roaming USA							
Paktel	Service Not Available						
Mobilink	100.20	100.20	198.60	198.60	103.20	30.60	9.60
Ufone	68.31	68.31	82.80	82.80	30.00	20.70	Free
Telenor	47.00	47.00	150.00	150.00	80.00	21.00	Free
Warid	81.60	81.60	Service Not Yet Available		92.40	24.60	10.20
International Roaming UK							
Paktel	34.10	14.30	206.80	171.60	28.60	20.90	Free
Mobilink	75.60	45.00	253.20	242.40	30.60	22.80	9.60
Ufone	37.95	12.65	203.67	172.04	30.00	18.98	Free
Telenor	26.00	13.00	212.00	179.00	33.00	19.00	Free
Warid	30.00	15.00	Service Not Yet Available		33.00	22.80	10.20

Security Deposit (Rs.)

	Mobilink	Ufone	Paktel	Instaphone	Telenor	Warid
	Mobilink	Ufone	Paktel	Instaphone	Telenor	Warid
Local	1,000	1,000	1,500	1,500	2,000	-
NWD	1,000	1,000	1,500	2,500	2,000	1,000
ISD	6,000	3,000	5,000	4,000	5,000	5,000

Off-peak Time: Ufone 9pm to 6am, Warid 10 pm to 7 am, Insta 9 pm to 8 am
Warid to Warid Calls are charged on 30 second duration

Note:

1. Only lowest line rent packages have been shown in this bulletin
2. Tariffs are given on per minute basis.
3. Free minutes have not been included in the per minute charge
4. 10% Advance Tax is calculated on Total Bill
5. For further information and questions please email at: tariff@pta.gov.pk

Fee Schedule for Value Added Services

(Rs.)

Level	VTS	VCS	Audiotex	DCNS	TRS
Application Fee	500	500	500	500	500
Evaluation Fee	10,000	10,000	10,000	10,000	10,000
Initial License Fee (National Level)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Renewal Fee: 1.5% of Gross Sales Revenue or 10% of License Fee whichever is higher.					

Fee Schedule for Card Payphone Companies

(Rs.)

Level	Application & Evaluation Fee	Initial License Fee
National Level	500	500,000
Provincial Level	500	300,000
Metropolitan Level	500	200,000
District Level	500	100,000
Renewal Fee: 1.5% of Gross Sales Revenue or 10% of License Fee whichever is Higher.		

VTS Vehicle Tracking Service

VCS Video Conferencing Service

DCNS Data Communication Network Service

TRS Trunk Radio Service

Class Value Added License

License Processing Fee : Rs. 55,000 (non-refundable)

(Rs.)

CVAL Type	Initial License Fee (ILF) per Telecom Region	
	General	Not for Profit Organization
Type-A Data CVAL (0 to 128 Kbps)	50,000	25,000
Type-B Data CVAL (Any Data Rate)	500,000	250,000
Type-C Data Voice CVAL	50,000	25,000
Type-D Registration only	-	-

CVAL Class Value Added License

**Licenses Issued by
Pakistan Telecommunication Authority
Upto 20th July, 2005**

License Type	Licenses Issued
Long Distance & International (LDI)	12
Local Loop (LL)	36
Wireless Local Loop (WLL)	17
Mobile Operators (MOB)	6
Audiotex Services	17
Burglar Alarm System	2
Card Pay Phone Services	372
Data Communication Network	23
Digital Radio Paging Services	1
Electronic Information Services	121
E-Mail Services	11
Mobile Telephony	7
Non Voice Communication Network Services	31
Stored and Forward Fax Services	7
Satellite Services	8
Special License	4
Basic Telephony	4
Trunk Radio Services	4
Video Conferencing Services	1
Voice Mail Services	2
Vehicle Tracking System	10
Total	696

Teledensity

Year	Fixed (%)	Cellular (%)	WLL (%)	Total (%)
1996-97	1.96	0.10	-	2.06
1997-98	1.99	0.15	-	2.14
1998-99	2.11	0.19	-	2.30
1999-00	2.18	0.22	-	2.40
2000-01	2.28	0.52	-	2.80
2001-02	2.50	1.16	-	3.66
2002-03	2.69	1.62	-	4.31
2003-04	2.94	3.31	-	6.25
2004-05	3.43	8.29	0.17	11.89
July 2005	3.43	9.16	0.17	12.76

Telecom Sector's Contribution to National Exchequer

(Rs. in billions)

Year	GST	Activation Tax	PTA	Total
2001-02	8.90	0.12	0.04	9.06
2002-03	11.50	1.91	0.47	13.88
2003-04	12.10	4.02	0.69	16.81
2004-05	20.50	7.53	17.72	45.75

*Paktel & Insta not included

PAKISTAN TELECOMMUNICATION AUTHORITY
BALANCE SHEET
AS AT JUNE 30, 2005

	Note	2005 Rupees	2004 Rupees	Note	2005 Rupees	2004 Rupees
PAKISTAN TELECOMMUNICATION AUTHORITY FUND	6	12,372,930,215	5,288,232,180	13	301,095,298	256,519,686
CONTRIBUTION TO FEDERAL CONSOLIDATED FUND	7	(30,198,450,081) (17,825,519,867)	(19,702,446,770) (14,414,214,590)			
DEFERRED INCOME	8	75,152,505,561	31,621,449,607	14	14,032,483	6,157,629
DEFERRED LIABILITIES	9	56,943,960	46,296,030	15	46,003,353,250	16,898,770,000
CURRENT LIABILITIES				16	22,800,000	22,800,000
Due to Federal Government	10	10,245,774,914	17,725,380,097			
Advance fee		40,210,000	1,678,362,790	17	8,311,975,119	59,076,388
Creditors, accrued and other liabilities	11	33,712,947	33,719,324	18	170,152,492	77,203,528
				19	-	18,650,165,254
		10,319,697,861	19,437,462,211		12,880,218,874	713,728,071
					21,362,346,485	19,500,173,241
CONTINGENCIES AND COMMITMENTS	12					
		67,703,627,515	36,690,993,258		67,703,627,515	36,690,993,258

AUDITORS' REPORT ANNEXED

The annexed notes 1 to 26 form an integral part of these financial statements.

Member (Finance)

Chairman

Annex - 6

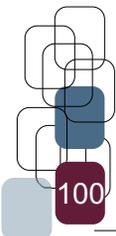
**PAKISTAN TELECOMMUNICATION AUTHORITY
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED JUNE 30, 2005**

	Note	2005 Rupees	2004 Rupees
INCOME			
Annual license fee	20	914,510,762	686,891,623
Initial license fee	8	5,530,437,540	2,259,678,025
Other fees		19,697,462	601,985,257
		<u>6,464,645,764</u>	<u>3,548,554,905</u>
EXPENDITURE			
Salaries, allowances and staff expenses	21	122,356,281	103,185,163
General overheads	22	164,785,527	84,166,821
Depreciation	13	27,638,812	17,674,114
Audit fee		120,000	95,000
Financial charges		843,209	38,638
		<u>315,743,829</u>	<u>205,159,736</u>
Operating surplus		6,148,901,935	3,343,395,169
Other income	23	855,019,211	190,847,114
Surplus for the year		<u>7,003,921,146</u>	<u>3,534,242,283</u>
Accumulated surplus brought forward		5,288,232,180	1,603,889,653
Asset replacement reserve - reversal of transfers in prior years		-	104,371,284
Adjustments relating to prior years		-	45,728,960
Adjusted accumulated surplus		<u>5,288,232,180</u>	<u>1,753,989,897</u>
Accumulated surplus carried forward to Pakistan Telecommunication Authority Fund	6	<u><u>12,292,153,326</u></u>	<u><u>5,288,232,180</u></u>

The annexed notes 1 to 26 form an integral part of these financial statements.

Member (Finance)

Chairman



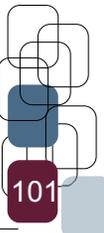
PAKISTAN TELECOMMUNICATION AUTHORITY
CASH FLOW STATEMENT
FOR THE YEAR ENDED JUNE 30, 2005

	2005 Rupees	2004 Rupees
CASH FLOWS FROM OPERATING ACTIVITIES		
Net surplus for the year	7,003,921,146	3,534,242,283
Adjustments for :		
Depreciation	27,638,812	17,674,114
Exchange gain	(642,350,045)	(140,568,289)
Gain on sale of fixed assets	(1,061,104)	(2,201,999)
Amortization of initial license fee	(5,530,437,540)	(2,259,678,025)
Profit on investment and bank deposits	(204,333,220)	(42,193,368)
Provision for doubtful advances	471,357	-
Provision for gratuity	5,026,738	-
Financial charges	843,209	38,638
Adjustment relating to prior years	-	45,728,960
	<u>(6,344,201,793)</u>	<u>(2,381,199,969)</u>
Surplus before working capital changes	659,719,353	1,153,042,314
Working capital changes:		
(Increase)/Decrease in fee receivable	(8,252,898,731)	58,895,565
(Increase)/Decrease in advances, prepayments and other receivables	8,719,568	(9,924,808)
(Decrease)/Increase in advance fee	(1,638,152,790)	1,578,362,790
(Decrease)/Increase in creditors, accrued and other liabilities	(835,164)	29,662,812
Increase in deferred liabilities	6,140,476	15,221,551
Cash (used in) / generated from operations	<u>(9,217,307,288)</u>	<u>2,825,260,224</u>
Gratuity paid	(288,000)	(6,687,978)
Pension paid	(231,284)	(16,731)
Financial charges paid	(14,420)	(11,078)
Net cash (used in) / generated from operating activities	<u>(9,217,840,992)</u>	<u>2,818,544,437</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Capital expenditure	(65,932,317)	(21,048,205)
Proceeds from sale of fixed assets	1,351,699	(1,130,757)
Profit received on investment and bank deposits	102,560,049	13,874,737
Initial license fee received	20,599,260,287	16,810,515,093
Contribution to Federal Government consolidated fund	(17,925,608,494)	(887,068,787)
Long term advances to employees	(8,241,572)	2,007,164
Long term deposits	-	387,500
Short term investments en-cashed / (purchased)	18,650,165,254	(18,650,165,254)
Net cash generated from / (used in) investing activities	<u>21,353,554,907</u>	<u>(2,732,628,509)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Loan from World Bank	30,776,889	-
Payment of lease rentals	-	(650,163)
Net cash generated from / (used in) financing activities	<u>30,776,889</u>	<u>(650,163)</u>
Net cash increase in cash and cash equivalents	12,166,490,803	85,265,765
Cash and cash equivalents at the beginning of the year	713,728,071	628,462,306
Cash and cash equivalents at the end of the year	<u><u>12,880,218,874</u></u>	<u><u>713,728,071</u></u>

The annexed notes 1 to 26 form an integral part of these financial statements.

Member (Finance)

Chairman



Telecom Revenues

(Rs. in millions)

Service	Annual Gross Revenue		
	2003	2004	2005 E*
Basic Telephony	70,606	78,470	82,050
Mobile Telephony	19,757	34,928	57,871
CPPS	8,122	11,551	15,755
ISPs/DNOPs	2,836	3,321	4,017
Other Value Added Services	714	1,078	1,666
Total	102,037	129,348	161,359

* Estimated figures based partially on available actual data and partially on the growth of 2004's revenues over 2003.

Employment Generation in Telecom Sector during 2004-05

Service	Direct Employment	Indirect Employment
Cellular Mobile	3,199	23,495
Long Distance & International	2,687	8,061
Wireless Local Loop	653	9,032
Local Loop	120	160
Manufacturers	1,145	2,912
Card Payphones	188,800	188,800
ISPs	343	686
Sets & Accessories Sellers	6,000	120
Total	202,947	233,266

Note: In addition to the above, PTCL has over 64,783 employees at its strength.

Total Cellular Subscribers

Year	Paktel	Instaphone	Mobilink	Ufone	Telenor	Warid	Total
1995-96	30,703	20,950	16,385				68,038
1996-97	39,398	43,029	52,600				135,027
1997-98	60,000	53,184	82,912				196,096
1998-99	70,000	108,058	87,556				265,614
1999-00	80,221	112,000	114,272				306,493
2000-01	96,623	220,000	309,272	116,711			742,606
2001-02	218,536	330,000	800,000	350,000			1,698,536
2002-03	319,400	420,000	1,115,000	550,000			2,404,400
2003-04	470,021	535,738	3,215,989	801,160			5,022,908
2004-05	924,486	454,147	7,469,684	2,579,103	839,289	508,655	12,775,364
July 2005							14,119,257
August 2005							15,511,045

Annex - 10

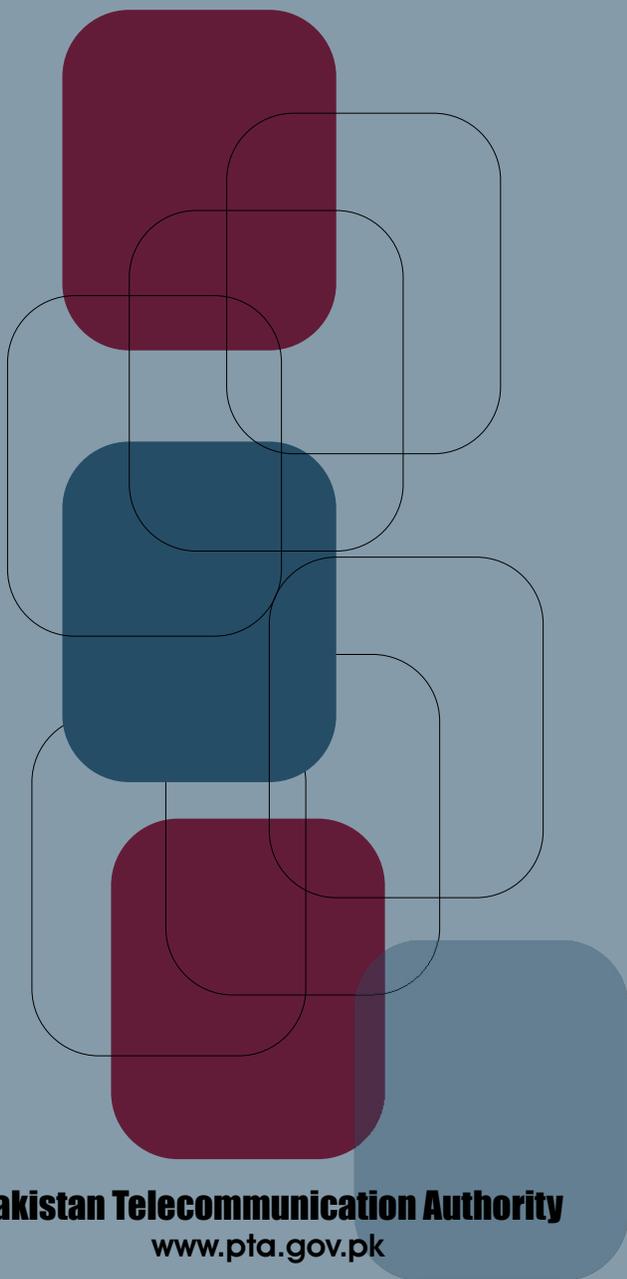
Total Subscribers and Teledensity by Province (June 2005)

Subscribers	Punjab	Sindh	NWFP	Balochistan	Total
Fixed Line Subscribers	3,028,602	1,441,814	663,090	144,040	5,277,546
WLL Subscribers	131,470	98,832	20,791	13,735	264,828
Cellular Subscribers	7,157,223	4,044,769	969,740	267,218	12,438,950
Total Subscribers	10,317,295	5,585,415	1,653,621	424,993	17,981,324
Teledensity					
Fixed Line	3.5	4.1	2.7	1.9	3.4
Cellular Mobile	8.3	11.4	4.0	3.5	8.3

Card Payphone PCOs by Province

<i>Year</i>	Punjab	Sindh	NWFP	Baluchistan	Total
2002-03	76,663	37,390	11,795	4,295	127,910
2003-04	111,368	50,552	16,905	6,125	184,920
2004-05	162,710	84,604	24,524	7,482	279,320

Note: Wireless PCOs are also included.



Pakistan Telecommunication Authority
www.pta.gov.pk