Telecommunications

9.28 The effort at creating a new framework for infrastructure policy, consisting of *competition* between multiple players, under a *regulatory framework* defined by the State, has made much headway in the area of telecom, a sector high on the reforms agenda. The successful implementation of reforms since 1991 has resulted in unprecedented growth of the sector. It has enabled the adoption of latest available technologies.

9.29 The perception about telecom services, until recently considered an elitist luxury, has changed to a preferred good of mass consumption with increasing usage of telecom and IT services. The benefits from increased market access for the masses, improved productivity and market efficiency, and unprecedented innovation in business models and organizational structures are now widely recognised. There is a consensus that the country needs a much higher volume of voice telephony and Internet connectivity, and teledensity, i.e. the number of telephones per hundred persons, needs to go up from existing levels of 7 per cent eventually to developed country levels of over 100 per cent (Table 9.8). In fact countries like China and Brazil are already much ahead of India. The cost per minute of placing phone calls is expected to go down further through improvements in technology and their wider usage. The market should offer a range of reliable fixed line and wireless technologies to suit the heterogeneous needs of the people. Furthermore, progress is needed in 'broadband' connectivity to homes, to high speed lines for firms for the efficient computer networking.

9.30 Rapid expansion in the telecom sector has been accompanied by a simultaneous significant technological change. The total number of lines grew by about 40 per cent in 2003-04, to cross 76 million at end-March 2004 (Table 9.9). At the same time, there was a continuing massive shift in the technology of access from fixed line to mobile telephony. In 2003-04, fixed lines grew by less than 3 per cent, while mobile telephones grew by 159.2 per cent. The growth of mobile phones during the year was accelerated by the introduction of the Calling Party Pays (CPP) regime also introduced in May 2003.

Table 9.8 : International comparison of Teledensity (2003)

Countries	Teledensity
Australia	126.18
Bangladesh	1.56
Brazil	42.38
China	42.32
India	**6.60**
Indonesia	9.17
Nepal	1.70
Pakistan	4.42
Sri Lanka	9.57
U.K.	143.13
U.S.A.	116.43

Source : ITU December, 2003.

Note : India's teledensity as on March 31, 2004 was 7.02.

9.31 For a large section of the populace without a telephone, 1.76 million public call offices (PCOs) working in the country at end-March 2004 provided a great convenience in terms of dependable connectivity. Of these, more than 2 lakh PCOs were in rural areas. Of the 6 lakh villages identified in the 1991 census, 5.22 lakh had a Village Public Telephone (VPT) as of March 2004. In the same period, the number of Internet subscribers grew by 15 per cent from 3.6 million to 4.2 million. Internet access for the masses is primarily taking place through cybercafes. Their number grew from 4,600 in 2002-03 to 8,800 on December 31, 2003. To reach the semi-urban and rural areas out of 6,332 block headquarters in the country, 3,617 have been provided with Sanchar Dhabas by BSNL by the end of March 2004.

9.32 India has emerged as one of the few markets in the world where there is active competition between the two major standards for achieving mobile telephony, i.e. Global System for Mobile (GSM) and Code Division Multiple Access (CDMA). Consumers have benefited from this competition. In four telecom circles - Delhi, Bombay, Madras and Punjab -

Table 9.9 : Telephone connections

(million lines)

	Public	Private	Overall
Telephone connections as on March 31, 2003			
Mobile	2.64	10.36	13.00
	(4.83)	(18.97)	(23.80)
Fixed	40.53	1.09	41.62
	(74.20)	(2.00)	(76.20)
Overall	**43.17**	**11.45**	**54.62**
	(79.04)	**(20.96)**	**(100)**
Telephone connections as on March 31, 2004			
Mobile	6.00	27.70	33.70
	(7.84)	(36.19)	(44.03)
Fixed	40.48	2.36	42.84
	(52.89)	(3.08)	(55.97)
Overall	**46.48**	**30.06**	**76.54**
	(60.73)	**(39.27)**	**(100)**
Growth (per cent) during 2003-04			
Mobile	127.27	167.37	159.20
Fixed	-0.12	116.51	2.93
Overall	**7.67**	**162.53**	**40.10**

Source: DOT.

Figures in brackets indicate the share in the total number.

the number of mobile subscribers has already exceeded the number subscribing to fixed lines. Table 9.9 also highlights the break up of the recent growth in telephony between private and public. In the area of fixed lines, the public sector has actually witnessed a decline in the number of phones, while the private sector has experienced growth in excess of 100 per cent. In the area of mobile phones, while the public sector has seen sharp growth from 2.64 million to 6 million, the private sector continues to dominate, with growth from 10.36 million to 27.70 million during 2003-04.

9.33 A high bandwidth connecting a country to the world, for both voice and data traffic is increasingly seen as one of the barometers of progress in integration into the world economy. In India's case, this is particularly critical, since this connectivity is the foundation underlying the growth of services exports from the country. India now has a total of 20.5 Gigabits per second of international connectivity (as of 2003-04).

9.34 The introduction of competition in the telecom sector has led to a dramatic drop in tariffs (Table 9.10). In particular, GSM tariffs have dropped from Rs.14.5/minute in March 1998 to Rs.0.77/minute in March 2004. National Long Distance (NLD) and International Long Distance (ILD) rates have also dropped dramatically by the shift away from a monopolistic market to a competitive market. These declines in prices of telephony are even more drastic when adjusted for inflation - prices of other goods have risen while the prices of telephone calls have come down. Within the country, long-distance telephone calls were once a rarity, but they have increasingly become affordable.

Policy issues

9.35 One major development in the policy frame work has been the move towards a 'unified licensing regime'. The focus of this effort is on technological advancement driving the policy framework. A Unified Access Service

License regime for basic and cellular services was introduced in October 2003. Unified Service License regime will be able to offer any or all services using technologies chosen by the provider. This phase is presently under discussion.

9.36 The Communication Convergence Bill, which was introduced in the Lok Sabha on 31st August 2001, aims at the creation of the "Communications Commission of India (CCI)" which would oversee the national infrastructure for an information-based society. On 20th November 2002, the Standing Committee on Communications and IT submitted its report on this Bill in Parliament.

9.37 A concern for policy is the stagnation of Internet use, both dialup and broadband. One problem inhibiting dialup Internet use is the lack of flat fee unlimited access tariff plans for fixed line telephony. While the growth of broadband has been a vexing problem for many countries, some countries, such as South Korea, have achieved remarkable penetration of broadband internet access at homes. TRAI has issued a consultation paper on the problem of broadband and an effort is being made to find a suitable solution.

9.38 The National Internet Exchange of India (NIXI) has setup operations in Noida, Mumbai, Kolkata and Chennai. This would ensure switching of Internet traffic within the country.

9.39 With a view to providing termination charge for cellular services and enable introduction of Calling Party Pays regime the Interconnection Usage Charge regime was introduced during 2003-04.This is expected to result in lower tariff environment in voice telephony.

9.40 After a growth in the number of lines of roughly 40 per cent in 2003-04, continued growth at the same rate in 2004-05 and 2005-06 will take the total number of lines to almost 150 million by the end of 2005-06. Yet, the tele-density will be only about 14 by end-March 2006. Many observers have argued that given the extremely high growth rates that are presently being observed in mobile telephony, there is a good possibility of obtaining faster growth over the period 2004-05 and 2005-06, to achieve a teledensity of 17 by the end of 2005-06.

9.41 The Universal Service Obligation (USO) fund is an innovative mechanism for transparent cross-subsidisation of universal access in the telecom sector. A 5 per cent universal levy has been imposed on the adjusted gross revenue of all telecom operators. A substantial sum of Rs. 1,653 crore and Rs. 2,143 crore was collected as levy in 2002-03 and 2003-04 respectively. The USO Fund (USOF) was established as a separate non-lapsable fund through a Bill passed by the Parliament in December 2003. A sum of Rs. 300 crore and Rs. 200 crore was allotted to USOF for the year 2002-03 and 2003-04 respectively which has been utilized for extending the Universal Service subsidy for more than 5 lakh Village Public Telephones (VPTs), uneconomic rural DELs and replacement of 1.8 lakh MARR based VPTs to improve the quality of service.

9.42 The Government policy on spectrum allocation is going to be a major factor which will shape the future of the telecom industry as the trend in telecom services is towards mobility with high data rates. The electromagnetic spectrum which is a scarce natural resource, essential for mobile

Table 9.10 : Trends in tariffs

(Rs. per minute)

	1998-1999	1999-2000	2001	2002	March 2003 onwards
NLD (Beyond 1000 km.)	30.0	30.0	24.0	9.6	4.8
ISD (United States)	61.2	61.2	49.2	40.8	24.0
Mobile	14.5	6.1	2.4	1.9	1.6

Source: TRAI

Table 9.11 : Postal network – International Comparisons				
Country	**Permanent post office**	**Population served by a post office on a average**	**Average area served (sq.km) by a post office**	**Employee per thousand population**
China	76,358	16,851	125.68	0.38
India	1,55,618	6,602	21.13	0.56
Indonesia	19,881	10,806	95.80	0.12
Malaysia	1,207	19,085	273.20	0.62
Sri Lanka	4,638	4,158	14.15	1.17
U.K.	17,243	3,460	14.16	3.55
USA	37,683	7,657	248.72	2.96
Source : Dept. of Posts.				

communication needs to be allocated in ways that maximize its utilization and economic value. There has been an ongoing policy process to address bottlenecks in spectum availability.