

Telecommunications

9.23 The year witnessed continued progress on policies in telecom, resulting in a growth of new telephone connections by 17 percent (April-December, 2002), and reduction in tariffs of national long distance (NLD) and international long distance (ILD) telephony by 56 percent and 47 percent, respectively and a sharp decline by almost 70 percent in NLD tariffs for cellular – to – cellular calls. A major shift towards mobile telephony is now apparent, where the share of cellular connections in new connections over the period of April-December 2002 stood at 63 percent, up from 43 percent during the corresponding period of the preceding year.

9.24 The two important goals of the telecom sector are: delivering low-cost voice telephony to the largest possible number of individuals, and delivering low-cost high speed computer networking to the largest number of firms. The number of phone lines per 100 persons of the population, which is called teledensity, has improved rapidly, from 3.6 in March 2001 to 4.9 in December, 2002. However, as Table 9.7 shows, this is still a level which greatly lags other developing countries. In particular, China started out with

a higher teledensity than India as of 1995, and obtained a higher growth rate over the following years.

9.25 The direction of policies in the telecom sector continue to be driven by the New Telecom Policy (NTP), 1999. The government no longer engages in telecom service provision, which is now the task of private and public sector companies operating in a competitive market. The Telecom Regulatory Authority of India (TRAI) now performs the regulatory functions of the sector. The Department of Telecom and the Telecom Commission have refocused on the functions of policy formulation, licensing, wireless spectrum management, administrative monitoring of PSUs, research and development and standardisation/validation of equipment etc.

9.26 In the year under review, some major initiatives in telecom policy came about. These include opening up of international long distance traffic, permitting internet telephony, setting up a mechanism for Universal Social Obligation (USO), permitting a fourth operator in the cellular mobile segment, and the commissioning of National Internet Backbone (NIB). Some of the major initiatives are

Table 9.6 : Performance of Telecommunications sector

A : New Telephone connections			
Parameters	2001 April-December (in million)	2002 April-December (in million)	Percent variation
Basic Telephone connections (including WLL) (Nos.)	2.6	1.9	-24.7
Cellular Mobile Phone (Nos.)	1.9	3.3	73.7
Total	4.5	5.2	17.3
B: Tariffs			
Parameters	Telecom Tariff Order third tranche Rates on March 14, 2002 Charge per minute (Rs. 1.20 per Pulse) (Rs.)	Existing as reported to TRAI Charge per minute (Rs. 1.20 per Pulse) (Rs.)	Percent variation
NLD Peak Hour Tariffs (1000 kms and above)	21.60	9.60	-56
ILD Peak Hour Tariffs ((North America)	40.80	21.60	-47
Source : TRAI.			
The telecom operators are fixing their own tariff rates within ceilings given by TRAI and this position is dynamic in nature.			

Table 9.7 : Teledensity international comparison			
Country	1995	2001	Compund Average Growth Rate (Percent)
Brazil	8.5	21.8	17.0
China	3.3	13.8	26.9
India	1.1*	3.6*	22.3
Indonesia	1.7	3.7	14.0
Pakistan	1.7	2.4	5.8
U.K.	50.2	58.8	2.7
USA	60.7	66.5	1.5
Sri Lanka	1.1	4.3	25.0
World	12.3	17.2	5.8

* 4.89 as on December 31, 2002 (cellular + Fixed + WLL)
Source : ITU, 2002 and STT section for India.

summarized in the Box 9.5.

9.27 The telecommunications network of the public sector (BSNL and MTNL) is one of the largest telecom network in Asia. As on December 31, 2002, equipped capacity of 49.8 million lines and 40.5 million working connections were provided with 35,508 telephone exchanges in the country. Similarly, capacity in Trunk Automatic Exchanges (TAX) and optical fibre network were considerably enhanced. The total capacity of TAX is 3.9 million lines as on December 31, 2002. Optical fibre cable has been laid in 63,121 Route Km. Further, out of 6,084 Block

Box 9.5 : Key policy developments in the telecom sector
<ul style="list-style-type: none"> ● The International long distance business was opened up for unrestricted entry. ● The monopoly of VSNL over International Long Distance (ILD) service was ended, and VSNL was privatised. ● Large number of villages covered through Wireless in Local Loop (WLL). ● The National Internet Backbone (NIB) was commissioned. ● The USO Administrator was appointed and his office is functioning. ● Radio Frequency Spectrum allocation is being modernised and automated to efficiently address the dynamic needs of the liberalised sector.

Headquarters, 3,402 Block Headquarters have been provided with internet dhabas in the country. In the field of cellular telephony, fourth cellular operator has been permitted in a circle to increase competition. The tariff plans of BSNL provide a cost-effective alternative to mobile subscribers with Low entry charges, no security deposit for local/ ISD connection, no CLIP charges, no additional airtime charges while roaming in BSNL network, free zonal roaming for pre-paid subscribers, no monthly charges for national roaming under Plan 325, free SMS services for both incoming and outgoing to all prepaid customers, additional grace-period of 90 days for SIM-activation without activation charges. During a short period of about three months about eight lakh cellular mobile phones were provided by BSNL. The role of private sector in providing telecom facilities has also shown substantial improvement during the year 2002-03.

9.28 The impressive growth realised in the telecommunication sector after 1995 has continued and during 2001-02, about 8.4 million new connections (5.6 million by BSNL & MTNL and 2.8 million by private sector) were provided. The total telephone connections as on March 31, 2002 were 45 million, comprising 38.2 million fixed lines and cellular connections provided by the public sector, and 0.6 million fixed lines and 6.2 million cellular connections by the private sector. Although in the current year (upto December 31, 2002), 2.4 million lines (fixed, cellular & WLL) have been provided by the public sector units as compared to 2.5 million lines during the corresponding period of last year, the private sector has provided 2.9 million lines (fixed & cellular) during this period as against 2 million in the corresponding period of preceding year taking the total number of telephones to 50.2 million.

9.29 Table 9.8 highlights the shift in importance towards the private sector and towards wireless telephony. With falling tariff rates for cellular phones, there has been a phenomenal increase in the number of cellular subscribers. From a mere 0.3 million cellular subscribers on March 31,1997, the

Table 9.8 : (A) New telephone connections – April to December 2002 (million lines)			
	Public sector	Private sector	Total
Basic Telephones (including WLL)	1.5 (-35.0)	0.4 (111.7)	1.9 (-24.7)
Cell Phone connections	0.8 (591.7)	2.5 (38.8)	3.3 (73.7)
Total	2.4 (-4.8)	2.9 (45.4)	5.2 (17.3)
Source : Department of Telecom Figures in brackets indicate the growth/decline over the same period in 2001-02.			
(B) Changing pattern in shares of Teledensity (April-December, 2002) (percent)			
	Public sector	Private sector	Total
Basic Telephones (including WLL)	80.2	19.8	100.0
Cell Phone connections	25.2	74.8	100.0
Total	35.4	54.6	100.0

number increased to 6.4 million as on March 31, 2002 and 10.4 million as on December 31, 2002. The share of the cellular mobile subscribers in the total telephone subscribers (fixed line and mobile) has gone up from 10 percent in March 2001 to 14 percent in March 2002 and 21 percent at the end of December 2002. A fourth cellular operator has been permitted in a circle to increase competition. As on December 31, 2002, 78 cellular telephony licenses were issued to 25 companies for 23 service areas with a maximum of 4 licenses in a service area.

9.30 While mobile telephony is very important in the process of rapidly raising teledensity, there have been differing views about the regulatory treatment to two competing technologies, global system for mobile (GSM) and code division multiple access (CDMA). The issues in this regard are being considered by Telecom Dispute Settlement Appellate Tribunal (TDSAT).

9.31 With a view to supplementing the efforts of public sector service providers, and to ensure greater competition in providing basic telephone services, private companies are being licensed to offer basic services. seven companies have so far signed the license agreement with the Government. Presently, these services are being provided in the states of Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Punjab, Tamil Nadu and Delhi. During 2000-01 and 2001-02 (April-September), 25 new basic service license agreements have been signed by private operators.

9.32 In response to the policy changes in the Indian Telecom Sector, the tariff structure has been altered substantially. The telecommunication tariff order (TTO) 1999, issued by the Regulator (TRAI), had begun the process of tariff rationalisation with an increase in monthly rental and decreasing STD and ISD tariffs. This rebalancing exercise was implemented by TTO 1999 in three steps, beginning with the first phase in May 1999 and the third coming into effect from March 14, 2002. This has resulted in a reduction of STD tariffs by upto 56 percent and of ISD tariffs by upto 47 percent. TRAI has very recently initiated a fresh tariff review exercise for rationalising the tariff structure further. The new initiatives taken by TRAI in the telecom sector to achieve the set of objectives are given in Box 9.6.

9.33 The National and International Long Distance markets in telecom have been opened up to competition. These policy measures have resulted in significant reduction in long distance tariffs due to competitive pressures. This has drastically reduced the margin available to fund the Access Deficit incurred by the Basic Service Operators due to rentals being significantly lower than actual costs. In a multiple operator environment it is important to specify an International Usage Charges (IUC) regime which gives greater certainty to the Inter-

Box 9.6 : New initiatives in telecom regulation

TRAI has been working on the complex problem of obtaining a sound framework for competition between multiple technologies and vendors. The initiatives of the TRAI within the mandate of the TRAI Act over the past year are outlined below:

New Services

During the year, TRAI gave two recommendations on VSAT. First relates to issue licenses for VSAT services such as "Receive only VSAT" because it has great potential to open new vistas of innovation in information sharing & spread of education and facilitate the efforts of the Government in bridging the Digital Divide. The second recommendation given in December, 2002 relates to facilitate VSAT operations by permitting Higher Data Rate, Reduction in Licence fee for Captive VSAT Network and reducing minimum antennae size. In order to promote Internet in the country, TRAI made a number of recommendations including setting up of National Internet Exchange of India (NIXI). In order to ensure for the consumers equal ease of access to the different domestic and international long distance services providers, TRAI issued a directive to all Access Providers and national/International Long Distance Operators regarding implementation of carrier selection in their respective networks. A regulatory principle was maintained to prevent any anti-competitive or predatory behaviour on part of dominant operators.

Quality of Service and Consumer Protection

TRAI is monitoring the quality of services of all service providers on the basis of quarterly reports submitted by them. TRAI is also conducting an objective survey of Quality of Service (QoS) parameters of basic and cellular service in different circles through an independent agency. The agency has also been assigned the task of making an assessment of customer satisfaction through a survey. The results of the survey are publicly available. During the year, TRAI issues a regulation on quality of service for Voice over internet protocol (VOIP) based International Long Distance Service.

Accounting Separation

TRAI has finalized the System of Accounting Separation (SAS), providing a detailed accounting and financial system to be maintained by telecom service providers and has forwarded the same to DoT for notification under Section 35(2)(d) of the TRAI Act. The proposed system, based on the principles of accounting separation, would help monitor and measure financial performance of individual telecom products/network services and help disaggregate costs to the level of network elements. It would also help in identification of cross-subsidisation practices in the industry, wherever these exist. By providing for maintenance of detailed cost records right up to the level of network elements, the system will help generate accurate information on costs, which is necessary for tariff and interconnect regulations. TRAI's document on accounting separating would go a long way in promoting healthy competition with adequate mechanisms built in to detect unfair competitive practices. While the system is mainly aimed at enabling better monitoring and control by TRAI, the new system is also expected to help operators establish a more comprehensive system for arriving at product/network service wise costs and revenues and thus enhance their operating efficiency.

Deregulation of Tariffs for Cellular Mobile Services

While reviewing the competitive conditions in cellular market, TRAI recommended deregulating regulatory intervention in cellular tariffs. This implied that operators need no longer have prior approval of the regulator for implementing tariff plans except under certain conditions. Guidelines were also issued to service providers in respect of pre-paid cards which would enable increased consumer awareness and transparency for the subscriber.

operator settlements and facilitates interconnection agreements. Therefore the TRAI had notified its Telecommunication Interconnection Usage Charges (IUC) Regulation, 2003 in January, 2003 which covers arrangements among service providers for payment of Interconnection Usage Charges for telecommunication services, covering Basic Service which includes WLL(M) services, Cellular Mobile Service providers and Long Distance Operators throughout the territory of India. This regulation has specified the IUC for

Origination, Transit and Termination in a multi operator environment.

9.34 The rise of modern telecom has raised fresh concerns about a 'digital divide', where rural areas are disadvantaged through having inadequate telecom services. In order to enhance teledensity in rural and remote areas, guidelines for implementing Universal Service Obligation (USO) have been issued which are effective from April 1, 2002. To meet the investment requirement, initially, a 5 percent Universal Levy has been imposed

on the Adjusted Gross Revenue on all telecom operators, excluding pure value added service providers. The quantum of levy can be increased in the event of an increase in the scope of USO. The Administrator for implementation of USO has also been appointed on June 1, 2002. The support from Universal Service Fund (USF) will cover both public access through public or community telephones in villages as well as individual household telephones in identified Net High Cost rural / remote areas (Box 9.7)

9.35 As on November 30, 2002, there were 1.3 million PCOs in the country, of which 2,00,000 PCO's were working in the rural areas. According to the NTP, every village is expected to be provided with one public telephone by December 2002. The accomplishment of this task is the responsibility of both BSNL, as well as licensed private operating companies. BSNL has provided VPTs, in 5,03,610 villages. According to the terms of the license agreement, private operators were to provide

97,806 Village Public Telephone (VPTs) during the first three years. However, they have provided only 7,123 by the end of December, 2002. Thus, out of a total 6,07,491 (1990-91 census) villages in the country, 5,10,733 villages were provided with public telephones by the end of December 2002. During the current year 2002-03, it is proposed to provide VPTs in 39,439 villages by the Public sector out of which 35,594 villages have been covered by December 31, 2002. The Gramin Sanchar Sewak Scheme (GSSS), inaugurated by the Hon'ble Prime Minister in December, 2002 as a pilot project, is designed to provide a telephone at the doorstep of every citizen of rural areas. Under the scheme, 1,800 village postmen covering 8,000 villages are provided mobile phone to be used as mobile PCOs.

9.36 The telecom sector is a major recipient of foreign direct investment (FDI) flows. During the period August 1991 to June 2002, 831 proposals for FDI of Rs. 56,226 crore were approved and the actual flow of FDI during the above period was Rs. 9,528 crore. In terms of approval of FDI, the telecom sector, is the second largest, after the energy sector. In the year 2002, the increase in FDI inflow was of the order of Rs.1,077 crore during January to July, 2002. The FDI target for the telecommunication sector is estimated at US \$ 2.5 billion per annum, by the Steering Group on FDI, Planning Commission.

9.37 New legislation for the telecom sector, called 'The convergence bill', was introduced in the Lok Sabha on August 31, 2001. It aims at promoting, facilitating and developing carriage and content of communications (including broadcasting, telecommunications and multimedia) in view of the necessity to facilitate development of a national infrastructure for an information based society, provide a choice of services to the people with a view to promoting plurality of news, views and information. The Bill, inter alia, envisages the setting up of a regulatory and licensing authority known as "Communications Commission of India (CCI)". The Standing Committee on Communications and IT laid its report in Parliament on November 20, 2002.

Box 9.7 : Universal Service Support Policy

- The Universal Service Support Policy (USSP) has come into effect from April 1, 2002. The guidelines for USSP were issued on March 27, 2002.
- Presently, the Universal Levy (USL) is fixed at 5 percent of the Adjusted Gross Revenue (AGR) of all telecom carriers or operators, excluding pure value added service providers such as ISPs, e-mail, voice mail service providers.
- The amount of USL will remain within the present cap of licence fee.
- Support from Universal Service Fund (USF) shall cover both public access through public or community telephones in villages as well as individual household telephones in identified net high cost rural/remote areas.
- Disbursement of funds to the service providers will be through a multi-layered bidding process on the basis of least quoted subsidy, after necessary verification of the targets achieved.
- Administrator USF was appointed on June 1, 2002.