CHAPTER III

THE TELECOM POLICIES
Importance of Telecommunications

The Government of India (Government) recognizes that provision of world class telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. It is also anticipated that going forward, a major part of the GDP of the country would be contributed by this sector. Accordingly, it is of vital importance to the country that there be a comprehensive and forward looking telecommunications policy which creates an enabling framework for development of this industry.

National Telecom Policy 1994

The National Telecom Policy 1994 drafted by the Department of Telecommunication (DOT), Government of India, resulted from the fast change in the overall scenario of the Indian telecommunication industry. Further, the National Telecom Policy 1994 of India made a number of amendments to the preceding telecommunication policy of India. This was affected to compliment the stupendous growth of the Indian telecommunication industry. The 'Telecom Regulatory Authority of India' (TRAI) and 'Department of Telecommunication' (DOT) are the two main governing bodies of the Indian telecommunication industry.
The highlights of the National Telecom Policy 1994 of India are as follows -

- To facilitate telecommunication for all.
- Ensuring quick availability of telephone connectivity through efficient service networks.
- Achieve universal service access at reasonable cost, connecting all Indian villages.
- Providing world class telecommunication services.
- Solving consumer complaints, resolve disputes, and special attention to be given to public interface.
- To provide the widest possible range of products and services at affordable price, to all Indians.
- To emerges as a major manufacturing industry and major exporter of telecommunication equipment.
- To protect the defense and security interests of India.

Some notable points of the Indian National Telecommunication Policy 1994 are as follows -

- Creating world class telecommunication infrastructure to meet the communication requirements of IT, ITES, media and other IT based industry.
• Easy and affordable access to basic telecommunication services across all the states of India.

• Affordable and efficient basic telephony facility to each and every applicant.

• Provision for world class service to all uncovered and rural areas of India.

• Establishment of modern and efficient telecommunication infrastructure to meet the requirements of modern India.

• Continual upgradation of the Indian telecommunication sector and provide an equal opportunity for all the telecommunication service providers doing business in India.

• Strengthening R&D on telecommunication hardware and software

• Efficient and unbiased spectrum management.

• Facilitating protection of the Indian defense and security systems

• Facilitating the Indian telecommunication companies to reach global standards.

• Facilitate world class products and services at affordable prices

• Institutionalize the Department Of Telecommunication (DOT), Government of India and help it function as a corporate body.

• To make telephone available within 48 hours of such demand.

• To reach tele-density of 9.91 by the end of 31st March 2007 (which has been achieved).
• Facilitate reliable communication relay media to all telephone exchanges.

• Provide high-speed data and multimedia connections using technologies like ISDN across all towns, having population strength of two lakh or more.

The main contributing factors for the tremendous success of the Indian National Telecom Policy 1994 are as follows -

• Investor friendly TRAI telecommunication policies

• Low operational cost of telecommunication industry in the domestic market

• Access to world class infrastructure at cheap cost

• Availability of huge English speaking workforce

• Availability of strong technical education amongst the majority of Indians

• Access to huge number of science and engineering graduates

• Assurance of high quality output

• Access to highly skilled workforce

• Use of innovative technologies

• High entrepreneurship skills

• Good relationship with client and expansion of existing relationships
• Huge success in overseas markets and easy creation of global brands
• Huge untapped market, across all industries especially, in IT and ITES industries
• Ever growing domestic market, especially the market in rural India offers tremendous scope
• Increased manufacturing of electronics and hardware components in India
• Aggressive of R&D in telecommunication domain
• Increased penetration of computers across all sections of Indian society
• Increased utilization of Internet
• Steady growth of the domestic software market
• Development of local language software, especially for the use of rural mass of India
• Increased use of Information Technology to increase productivity
• Increased use of Information Technology as a means of generating employment
• Increased number and quality of training facilities across India
NTP 94 - Objectives and achievements

In 1994, the Government announced the National Telecom Policy which defined certain important objectives, including availability of telephone on demand, provision of world class services at reasonable prices, ensuring India’s emergence as major manufacturing / export base of telecom equipment and universal availability of basic telecom services to all villages. It also announced a series of specific targets to be achieved by 1997. As against the NTP 1994 target of provision of 1 PCO per 500 urban population and coverage of all 6 lac villages, DoT has achieved an urban PCO penetration of 1 PCO per 522 and has been able to provide telephone coverage to only 3.1 lac villages. As regards provision of total telephone lines in the country, DoT has provided 8.73 million telephone lines against the eighth plan target of 7.5 million lines. NTP 1994 also recognized that the required resources for achieving these targets would not be available only out of Government sources and concluded that private investment and involvement of the private sector was required to bridge the resource gap. The Government invited private sector participation in a phased manner from the early nineties, initially for value added services such as Paging Services and Cellular Mobile Telephone Services (CMTS) and thereafter for Fixed Telephone Services (FTS). After a competitive bidding process, licenses were awarded to 8 CMTS operators in the four metros, 14 CMTS operators in 18 state
circles, 6 BTS operators in 6 state circles and to paging operators in 27 cities and 18 state circles. VSAT services were liberalized for providing data services to closed user groups. Licences were issued to 14 operators in the private sector out of which only nine licencees are operational.

The Government has recently announced the policy for Internet Service Provision (ISP) by private operators and has commenced licensing of the same. The Government has also announced opening up of Global Mobile Personal Communications by Satellite (GMPCS) and has issued one provisional license. Issue of licenses to other prospective GMPCS operators is under consideration. The Government recognises that the result of the privatization has so far not been entirely satisfactory. While there has been a rapid rollout of cellular mobile networks in the metros and states with currently over 1 million subscribers, most of the projects today are facing problems. The main reason, according to the cellular and basic operators, has been the fact that the actual revenues realized by these projects have been far short of the projections and the operators are unable to arrange financing for their projects and therefore complete their projects. Basic telecom services by private operators have only just commenced in a limited way in two of the six circles where licenses were awarded. As a result, some of the targets as envisaged in the objectives of the NTP 1994 have remained unfulfilled. The private
sector entry has been slower than what was envisaged in the NTP 1994. The government views the above developments with concern as it would adversely affect the further development of the sector and recognises the need to take a fresh look at the policy framework for this sector.

Achievements of National Telecom Policy 1994 and Need for New Telecom Policy

The Achievements of National Telecom Policy 1994 and Need for New Telecom Policy cropped up as a result of fast change in the overall scenario of the Indian telecommunication industry. The Achievements of National Telecom Policy 1994 and Need for New Telecom Policy cropped up since the Indian telecommunication sector grew very rapidly over the last decade and half. The meteoritic rise of the Indian telecommunication industry enforced rapid amendment of the Indian telecommunication policy as drafted in the early 1990s. The 'Telecom Regulatory Authority of India' (TRAI) and 'Department of Telecommunication' (DOT), the two main governing bodies of the Indian telecommunication industry soon realized the need for an overall revamping of the Indian telecommunication policy to compliment the rapid growth of this industry.
The highlights of the basic telecommunication policy of India are as follows:-

- To facilitate telecommunication for all
- Ensuring quick availability of telephone connectivity
- Achieve universal service access at affordable price covering all Indian villages, as early as possible
- Providing world class telecommunication services
- Solving consumer complaints, resolve disputes, and special attention to be given to public interface
- To provide widest possible range of services at reasonable prices
- To emerges as a major manufacturing base and major exporter of telecommunication equipment
- To protect the defense and security interests of the country

The tenth plan meets the need for new telecom policy of the Indian communication industry, which are as follows -

- Creating world class telecommunication infrastructure to meet the communication requirements of IT, ITES, media and other IT based industry
- Easy and affordable access to basic telecommunication services across all the states of India
• Affordable and efficient basic telephony facility to each and every applicant

• Provision for world class service to all uncovered and rural areas of India

• Establishment of modern and efficient telecommunication infrastructure to meet the requirements of modern India

• Continual upgradation of the Indian telecommunication sector and provide an equal opportunity for all the telecommunication service providers doing business in India

• Strengthening R&D on telecommunication hardware and software

• Efficient and unbiased spectrum management

• Facilitating protection of the Indian defense and security systems

• Facilitating the Indian telecommunication companies to reach global standards

• Facilitate world class products and services at affordable prices

• Institutionalize the Department Of Telecommunication (DOT), Government of India and help it function as a corporate body

• To make telephone available within 48 hours of such demand

• To reach tele-density of 9.91 by the end of 31st March 2007 (which has been achieved)

• Facilitate reliable communication relay media to all telephone exchanges

167
• Provide high-speed data and multimedia connections using technologies like ISDN across all towns, having population strength of two lakh or more

The Achievements of National Telecom Policy 1994 and Need for New Telecom Policy initiated the following developments:

• Friendly Government of India economic and telecommunication policies
• Low operational cost
• Availability of world class infrastructure at a much cheaper cost
• Availability of huge English speaking workforce
• Prevalence of strong technical education amongst the majority of educated Indians
• Large number of science and engineering graduates
• Assurance of high quality output
• Highly skilled workforce
• Usage of innovative technologies
• Effective and efficient entrepreneurship skills
• Good client and service provider's relationships
• Creation of global brands
• Huge scope of business across all industries especially, in IT and ITES industries

168
• Expansion of existing relationships
• Ever growing domestic market, especially the rural market
• Huge success in overseas markets
• Increased electronics and hardware manufacturing in India
• Aggressive promotion of R&D in telecommunication
• Increased penetration of computers
• Increased utilization of Internet
• Growth of domestic software market
• Development of local language software, especially for the use in rural- India
• Use of Information Technology to increase productivity
• Use of Information Technology as a means of generating employment
• Increased number and quality of training facilities across India

Need for a new telecom policy

In addition to some of the objectives of NTP 1994 not being fulfilled, there have also been far reaching developments in the recent past in the telecom, IT, consumer electronics and media industries worldwide. Convergence of both markets and technologies is a reality that is forcing realignment of the industry. At one level, telephone and broadcasting industries are entering each other's markets, while at
another level, technology is blurring the difference between different conduit systems such as wire line and wireless. As in the case of most countries, separate licences have been issued in our country for basic, cellular, ISP, satellite and cable TV operators each with separate industry structure, terms of entry and varying requirement to create infrastructure. However this convergence now allows operators to use their facilities to deliver some services reserved for other operators, necessitating a relook into the existing policy framework. The new telecom policy framework is also required to facilitate India’s vision of becoming an IT superpower and develop a world class telecom infrastructure in the country

NEW TELECOM POLICY 1999

Importance of Telecommunications the Government of India (Government) recognizes that provision of world class Telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. It is also anticipated that going forward, a major part of the GDP of the country would be contributed by this sector. Accordingly, it is of vital importance to the country that there be a comprehensive and forward looking
telecommunications policy which creates an enabling framework for development of this industry.

Objectives of National Telecom Policy 1999

The objectives of National Telecom Policy 1999 drafted by the Department of Telecommunication (DOT), Government of India, resulted from the fast change in the overall scenario of the telecommunication industry of India. The 'Telecom Regulatory Authority of India' (TRAI) and 'Department of Telecommunication' (DOT) are the two main governing bodies of the Indian telecommunication industry and they realized the need for an overall revamping of the Indian telecommunication policy of 1994, to compliment the rapid growth of this industry. Further, to compliment the stupendous growth of the Indian telecommunication industry, the objectives of National Telecom Policy 1999 were made more coherent and in tandem with the requirements of the Indian Telecommunication industry.

The highlights of the objectives of National Telecom Policy 1999 of India are as follows -

- To facilitate affordable and effective telecommunication for all.
- Ensuring quick availability of telephone connectivity through efficient service networks.
• Achieve universal service access at reasonable cost, connecting all rural areas of India.

• Encourage the development of telecommunication facilities in remote, hilly and tribal areas of India.

• Convert Public Call Offices (PCOs) into Public Teleinfo centers, offering multimedia services like government and business information systems, Integrated Service Digital Network (ISDN) services, remote database access, etc.

• Providing world class telecommunication services.

• Solving consumer complaints, resolve disputes, and special attention to be given to public interface.

• To provide the widest possible range of products and services at affordable price, to all Indians.

• To emerges as a major manufacturing industry and major exporter of telecommunication equipment.

• To protect the defense and security interests of India.

• Creating world class telecommunication infrastructure to meet the communication requirements of IT, ITES, media and other IT based industry, to become a IT super power.

• Easy and affordable access to basic telecommunication services across all the states of India.
• Affordable and efficient basic telephony facility to each and every applicant.

• Provision for world class service to all uncovered and rural areas of India.

• Establishment of modern and efficient telecommunication infrastructure to meet the requirements of modern India.

• Continual up gradation of the Indian telecommunication sector and provide an equal opportunity for all the telecommunication service providers doing business in India.

• Strengthening R&D on telecommunication hardware and software

• Efficient and unbiased spectrum management.

• Facilitating protection of the Indian defense and security systems.

• Facilitating the Indian telecommunication companies to reach global standards.

• Facilitate world class products and services at affordable prices.

• Institutionalize the Department Of Telecommunication (DOT), Government of India and help it function as a corporate body.

• Facilitate reliable communication relay media to all telephone exchanges.

• Access to telecommunications is of utmost importance for achievement of the country's social and economic goals.
Availability of affordable and effective communications for the citizens is at the core of the vision and goal of the telecom policy.

- Strive to provide a balance between the provision of universal service to all uncovered areas, including the rural areas, and the provision of high-level services capable of meeting the needs of the country's economy.

- Encourage development of telecommunication facilities in remote, hilly and tribal areas of the country.

- Create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, telecom and consumer electronics and thereby propel India into becoming an IT superpower.

- Convert PCO's, wherever justified, into Public Teleinfo centres having multimedia capability like ISDN services, remote database access, government and community information systems etc.

- Transform in a time bound manner, the telecommunications sector to a greater competitive environment in both urban and rural areas providing equal opportunities and level playing field for all players.

- Strengthen research and development efforts in the country and provide an impetus to build world-class manufacturing capabilities.

- Achieve efficiency and transparency in spectrum management.
• Protect the defence & security interests of the country.

• Enable Indian Telecom Companies to become truly global players.

• In line with the above objectives, the specific targets that the NTP 1999 seeks to achieve would be:

• Make available telephone on demand by the year 2002 and sustain it thereafter so as to achieve a teledensity of 7 by the year 2005 and 15 by the year 2010.

• Encourage development of telecom in rural areas making it more affordable by suitable tariff structure and making rural communication mandatory for all fixed service providers.

• Increase rural teledensity from the current level of 0.4 to 4 by the year 2010 and provide reliable transmission media in all rural areas.

• Achieve telecom coverage of all villages in the country and provide reliable media to all exchanges by the year 2002.

• Provide Internet access to all district head quarters by the year 2000.

• Provide high-speed data and multimedia capability using technologies including ISDN to all towns with a population greater than 2 lac by the year 2002.
The main contributing factors for the tremendous success of the Indian National Telecom Policy 1999 are as follows -

- Investor friendly TRAI telecommunication policies.
- Low operational cost of telecommunication industry in the domestic market.
- Access to world-class infrastructure at cheap cost.
- Availability of huge English speaking workforce.
- Availability of strong technical education amongst the majority of Indians.
- Access to huge number of science and engineering graduates.
- Assurance of high quality output.
- Access to highly skilled workforce.
- Use of innovative technologies.
- High entrepreneurship skills.
- Good relationship with client and expansion of existing relationships.
- Huge success in overseas markets and easy creation of global brands.
- Huge untapped market, across all industries especially, in IT and ITES industries.
• Ever growing domestic market, especially the market in rural India offers tremendous scope.

• Increased manufacturing of electronics and hardware components in India.

• Aggressive of R&D in telecommunication domain.

• Increased penetration of computers and Internet across all sections of Indian society.

• Development of local language software's, especially for the use of rural mass of India.

• Steady growth of the domestic software market to increase productivity.

• Generate employment

**Policy Framework of Telecom Policy 1999**

The policy framework of Telecom Policy 1999, as promulgated by the Department of Telecommunication (DOT), Government of India, was the result of stupendous development in the overall growth of the Indian telecommunication industry. The 'Telecom Regulatory Authority of India' (TRAI) and 'Department of Telecommunication' (DOT) are the two main governing bodies of the Indian telecommunication industry and the policy framework of Telecom Policy 1999 was drafted by them in accordance with the provisions of the Indian Telecommunication Acts and Rules. The
process of revamping of the Indian telecommunication policy of 1994 was effected, to accommodate the rapid growth of the Indian telecommunication sector during the aforesaid period.

The policy framework of Telecom Policy 1999 was drafted as an intermediate plan covering the Ninth Plan of Indian Telecommunication Industry. Further, to compliment the stupendous growth of the Indian telecommunication industry, the policy framework of Telecom Policy 1999 were made more coherent and in tandem with the growing demands of the Indian telecommunication industry.

The highlights of the policy framework of Telecom Policy 1999 of India are as follows -

- To facilitate affordable and effective telecommunication to every citizen of India.
- Ensuring quick availability of telephone connections.
- Achieve universal service access at affordable and reasonable price.
- Provision for world class service to all uncovered and rural areas of India.
- Encourage the development of telecommunication facilities in remote, hilly and tribal areas of India.
• Convert Public Call Offices into Public Teleinfo centers and it should offer multimedia services like government and business.
• information systems, Integrated Service Digital Network services, remote database access, etc.
• Providing world class telecommunication services to each and every applicant.
• Attending to customer's complaints, resolve disputes, and increased public interface.
• Provide the widest possible range of products and services at affordable price, to all Indians.
• Emerge as a major manufacturing country and major exporter of telecommunication equipment.
• To protect the defense and security interests of India.
• Create world class telecommunication infrastructure to meet the communication requirements of IT, ITES, media and other IT based industry, and integrate them to become an IT super power.
• Easy, efficient and affordable access to basic telecommunication services across all the states of India.
• Facilitate reliable communication relay media to all telephone exchanges.
• Establishment of modern and efficient telecommunication infrastructure to meet the industrial demand of modern India.
• Continual modernization of the Indian telecommunication sector and provide an equal level playing field for all the telecommunication service providers.
• Strengthening R&D on telecommunication and create a world class industry at par with international standards.
• Efficient and unbiased spectrum allocation and management.
• Provide protection of the Indian defense and security systems.
• Helping the Indian telecommunication companies to reach global standards.
• Facilitate world class products and services at affordable prices.
• Institutionalize the Department Of Telecommunication (DOT), to help them function as independent corporate bodies.

Policy Initiatives by Govt. of India in the Telecommunication Sector

Policy Initiatives by Govt. of India in the Telecommunication Sector have been one of the largest causes for the success of the telecom market in India. The national parties before the administrative unit have lifted private telecom units based on license-fee. The government of India has adopted a new economic policy for the telecommunication market in India. This policy has been effective from 1994 and the Govt. of India with the aim to accelerate India's growth in export production and international market formulated it. The national telecom policy as has
been designed by the government of India also ensures foreign direct investment and exhilarating domestic investiture. This national economic policy of telecom department demands superior quality telecommunication services and therefore the development of telecom services are to be given the utmost importance to attain the peak of success. The national telecom policy covers the following objectives:

- Telephone should be made available everywhere which will be in need of it.
- All the villages should be entitled to universal telecom services, that is, all the people should be able to enjoy the telecom services at low-priced range.
- The telecom services should be of global standard and all the grievances from consumers, disputation and public interface should be taken care of at the earliest possible time.
- India being one of the biggest countries should encompass a major manufacturing unit as well as exporter of the telecom products across the globe.
- The telecom department is also responsible for the security issues of the country.

At present, about 0.8 percent of Indians possess telephones as compare to around 10 percent of telephone owners per hundred persons.
The statistics is also quite less than many developing countries of Asia such as, China which has 1.7 percent of persons possessing telephones, Pakistan with 2 percent, and Malaysia having 13 percent of the same. The government of India has planned up for a revision of the VII Telecom plan for 1997 and set some new targets for it. The targets for the revised telecom plan demands the availability of telephone as per the requirement, by 1997 all the villages should be availed the telecom facilities, a PCO should be set up within the range of every 500 persons in urban areas, the globally organized value added services in the telecom department should also be introduced in India to make its standard at par with the global market. Policy Initiatives by Govt. of India in the Telecommunication Sector also include the new telecom policy which was formulated by the government of India in 1999 has been designed by the government of India with the aim to create an ambiance that will attract foreign direct investment and will also permit infrastructure for communication purposes by making investments on technological development. The following sectors in the telecommunication department should be licensed:

- All the telecommunication or telegraphed services should be licensed that might cover any geographical region by using any kind of technology.
License for an integrated access to cellular services within a specific area.

Policy Initiatives by Govt. of India in the Telecommunication Sector also covers broadband policy effective from 2004 that implies availing Internet connectivity in the houses as per their requirement as well as tele-calling services. The broadband service offered by the telecommunication department includes tele-education, tele-medicine, e-governance, entertainment along with employment generation with the help of high-speed access to information and web-based communication.

New Policy Framework

The New Policy Framework must focus on creating an environment, which enables Continued attraction of investment in the sector and allows creation of communication infrastructure by leveraging on technological development. Towards this end, the New Policy Framework would look at the telecom service sector as follows –

- Cellular Mobile Service Providers, Fixed Service Providers and Cable Service.
- Providers, collectively referred to as 'Access Providers'
- Radio Paging Service Providers.
- Public Mobile Radio Trunking Service Providers
Access Providers:-

Cellular Mobile Service Providers

The Cellular Mobile Service Providers (CMSP) shall be permitted to provide mobile Telephony services including permission to carry its own long distance traffic within their service area without seeking an additional license. Direct interconnectivity between licensed CMSP’s and any other type of service provider (including another CMSP) in their area of operation including sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up national long distance. The CMSP shall be allowed to directly interconnect with the VSNL after opening of national long distance from January 1, 2000. The CMSP shall be free to provide, in its service area of operation, all types of mobile services including
voice and non-voice messages, data services and PCOs utilizing any type of network equipment, including circuit and/or packet switches, that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards. CMSP would be granted separate licence, for each service area. Licences would be awarded for an initial period of twenty years and would be extendible by additional periods of ten years thereafter. For this purpose, service areas would be categorized into the four metro circles and Telecom circles as per the existing policy. CMSP would be eligible to obtain licences for any number of service areas. Availability of adequate frequency spectrum is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. Based on the immediately available frequency spectrum band, apart from the two private operators already licenced, DOT / MTNL would be licenced to be the third operator in each service area in case they want to enter, in a time bound manner. In order to ensure level playing field between different service providers in similar situations, licence fee would be payable by DoT also. However, as DoT is the national service provider having immense rural and social obligations, the Government will reimburse full licence fee to the DoT. It is proposed to review the spectrum utilisation from time to time keeping in view the Emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public. The
entry of more operators in a service area shall be based on the recommendation of the TRAI who will review this as required and no later than every two years.

CMSP operators would be required to pay a one-time entry fee. The basis for determining the entry fee and the basis for selection of additional operators would be recommended by the TRAI. Apart from the one time entry fee, CMSP operators would also be required to pay licence fee based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share arrangement for different service areas would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

Fixed Service Providers

The Fixed Service Providers (FSP) shall be freely permitted to establish ‘last mile’ linkages to provide fixed services and carry long distance traffic within their service area without seeking an additional licence. Direct interconnectivity between FSP’s and any other type of service provider (including another FSP) in their area of operation and sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up of
national long distance. The FSP shall be allowed to directly interconnect with the VSNL after the opening up of national long distance from January 1, 2000. The FSP may also utilize last mile linkages or transmission links within its service area made available by other service providers. The FSP shall be free to provide, in his service area of operation, all types of fixed services including voice and non-voice messages and data services, utilizing any type of network equipment, including circuit and/or packet switches that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards.

The FSP shall be granted separate licence, on a non-exclusive basis, for each service area of operation. Licences would be awarded for an initial period of twenty years which shall be extended by additional periods of ten years thereafter. The FSPs shall be eligible to obtain licences for any number of service areas.

While market forces will ultimately determine the number of fixed service providers, during transition, number of entrants have to be carefully decided to eliminate non-serious players and allow new entrants to establish themselves. Therefore, the option of entry of multiple operators for a period of five years for the service areas where no licences
have been issued is adopted. The number of players and their mode of selection will be recommended by TRAI in a time-bound manner.

The FSP licencees would be required to pay a one time entry fee. All FSP licencees shall pay licence fee in the form of a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share and basis for selection of new operators for different service areas of operation would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

As in the case for cellular, for WLL also, availability of appropriate frequency spectrum as required is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. It is proposed to review the spectrum utilisation from time to time keeping in view the emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public.

The WLL frequency shall be awarded to the FSPs requiring the same, based on the payment of an additional one-time fee over and above the FSP entry fee. The basis for determining the entry fee and the basis for assigning WLL frequency shall be recommended by the TRAI. All
FSP operators utilising WLL shall pay a licence fee in the form of a revenue share for spectrum utilization. This percentage of revenue share shall be over and above the percentage payable for the FSP licence. It is proposed that the appropriate level of entry fee and percentage of revenue share for WLL for different service areas of operation will be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

**Cable Service Providers**

Under the provisions of the Cable Regulation Act, 1995, Cable Service Providers (CSP) shall continue to be freely permitted to provide ‘last mile’ linkages and switched services within their service areas of operation and operate media services, which are essentially one-way, entertainment related services. Direct interconnectivity between CSP’s and any other type of service provider in their area of operation and sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up national long distance. In view of convergence, it is highly likely that two-way communication (including voice, data and information services) through cable network would emerge in a significant way in future.
Offering of these services through the cable network would tantamount to providing fixed services. Accordingly, in case the above two-way communication services are to be provided by CSPs utilising their network, they would also be required to obtain an FSP licence and be bound by the licence conditions of the FSPs, with a view to ensure level playing field.

**Internet Telephony**

Internet telephony shall not be permitted at this stage. However, Government will continue to monitor the technological innovations and their impact on national development and review this issue at an appropriate time.

**Radio Paging Service Providers**

The Radio Paging Service Providers (RPSP) shall be permitted to provide paging services within their service area of operation. Direct interconnectivity between licenced RPSPs and any other type of service provider in their area of operation including sharing of Infrastructure shall be permitted. Interconnectivity between service providers in different Service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up of national long distance. The RPSP shall be granted separate licence, on a non-exclusive basis, for each service area of operation.
Licences would be awarded for an initial period of twenty years and will be extended by additional periods of ten years thereafter. For this purpose, the service areas would be categorized as per the existing structure. The RPSP shall be eligible to obtain licences for any number of service areas.

Availability of adequate radio frequency spectrum is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. It is proposed to review the spectrum utilisation from time to time keeping in view the emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public. The entry of more operators in a service area shall be based on the recommendation of the TRAI who would review this as required as and no later than every two years. The radio paging licencees shall pay a one-time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. All radio paging licencees shall pay licence fee as a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share for different service areas of operation will be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy. Further, TRAI may also examine and recommend the revenue sharing
arrangements between RPSP and other access providers, subject to technical feasibility.

**Public Mobile Radio Trunking Service Providers**

The Public Mobile Radio Trunking Service Providers (PMRTSP) shall be permitted to provide mobile radio Trunking services within their service area of operation. Direct Interconnectivity between licenced PMRTSP’s and any other type of service provider in their area of operation shall be permitted after examining the legal implications in view of the CMSP licences.

The PMRTSP shall be granted separate licence, on a non-exclusive basis, for each service area of operation. Licences would be awarded for an initial period of twenty years and will be extended by additional periods of ten years thereafter. For this purpose, the service areas would be categorized as per the existing structure. The PMRTSP shall be eligible to obtain licences for any number of service areas.

PMRTSP licencees would be required to pay a one time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. Apart from the one time entry fee, PMRTSP licencees would also be required to pay licence fee based on a revenue share. It is proposed that the appropriate
level of entry fee and percentage of revenue share arrangement for
different service areas would be recommended by TRAI in a time-bound
manner, keeping in view the objectives of the New Telecom Policy.

National Long Distance Operator

National long distance service beyond service area to the private
operators will be opened for competition with effect from January 1,
2000. To promote setting up long distance bandwidth capacity in the
country, provide a choice to consumers and promote competition, all
NLDOs should be able to access subscribers. With a view to achieve the
above, all access providers shall be mandatory required to provide
interconnection to the NLDOs resulting in choice for subscribers to make
long distance calls through any operator. For this purpose, the terms and
conditions and other modalities would be worked out in consultation with
TRAI and the same will be announced by August 15, 1999. The terms
and conditions would also specify the number of operators, licence
conditions on revenue sharing basis and other related issues.

Usage of the existing backbone network of public and private
power transmission companies / Railways / GAIL, ONGC etc. shall be
allowed immediately for national long distance data communication and
from January 1, 2000 for national long distance voice communications.
Resale would be permitted for domestic telephony, announcement for the
modalities thereof to be announced along with the opening up of national long distance by August 15, 1999. Resale on international long distance will not be permitted till the year 2004.

**International Long Distance Services**

The subject of opening up of international telephony service to competition will be reviewed by the year 2004.

**Other Service Providers**

For applications like tele banking, tele-medicine, tele-education, tele trading, e-commerce, other service providers will be allowed to operate by using infrastructure provided by various access providers. No licence fee will be charged but registration for specific services being offered will be required. These service providers will not infringe on the jurisdiction of other access providers and they will not provide switched telephony.

**Global Mobile Personal Communication Services**

The Government has opened up the GMPCS market in India and has issued a provisional licence. The terms of the final licence would need to be finalised in consultation with TRAI by June 30, 1999. All the calls originating or terminating in India shall pass through VSNL gateway or in case of bypass; it should be possible to monitor these calls in the
Indian gateways. VSNL is also to be compensated in case gateway is bypassed.

The GMPCS operators shall be free to provide voice and non-voice messages, data service and information services utilising any type of network equipment, including circuit and/or packet switches that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards. However, the licences be awarded after the proposals are scrutinised from the security angle by the Government. The appropriate entry fee/revenue sharing structure would be recommended by TRAI, keeping in view the objectives of the New Telecom Policy.

**BROADBAND POLICY 2004**

Recognising the potential of ubiquitous Broadband service in growth of GDP and enhancement in quality of life through societal applications including tele-education, tele-medicine, e-governance, entertainment as well as employment generation by way of high speed access to information and web-based communication, Government have finalised a policy to accelerate the growth of Broadband services.

Demand for Broadband is primarily conditioned and driven by Internet and PC penetration. It is recognised that the current level of
Internet and Broadband access in the country is low as compared to many Asian countries. Penetration of Broadband, Internet and Personal Computer (PC) in the country was 0.02%, 0.4% and 0.8% respectively at the end of December, 2003. Currently, high speed Internet access is available at various speeds from 64 kilobits per second (kbps) onwards and presently an always-on high speed Internet access at 128 kbps is considered as ‘Broadband’. There are no uniform standards for Broadband connectivity and various countries follow various standards.

Government envision an accelerated growth in Internet penetration and PC as the success of Broadband would largely be dependent on their spread. It has been decided that following shall be the framework of the policy.

**Broadband connectivity:**

Keeping in view the present status, Broadband connectivity is defined at present as

"An ‘always-on’ data connection that is able to support interactive services including Internet access and has the capability of the minimum download speed of 256 kilo bits per second (kbps) to an individual subscriber from the Point Of Presence (POP) of the service provider"
intending to provide Broadband service where multiple such individual Broadband connections are aggregated and the subscriber is able to access these interactive services including the Internet through this POP. The interactive services will exclude any services for which a separate licence is specifically required, for example, real-time voice transmission, except to the extent that it is presently permitted under ISP licence with Internet Telephony."

The estimated growth for Broadband and Internet subscribers in the country envisaged through various technologies is as follows:

<table>
<thead>
<tr>
<th>Year Ending</th>
<th>Internet Subscribers</th>
<th>Broadband Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>6 million</td>
<td>3 million</td>
</tr>
<tr>
<td>2007</td>
<td>18 million</td>
<td>9 million</td>
</tr>
<tr>
<td>2010</td>
<td>40 million</td>
<td>20 million</td>
</tr>
</tbody>
</table>

Source: COAI

The Broadband Policy Framework visualises creation of infrastructure through various access technologies which can contribute to growth and can mutually coexist. Spread of infrastructure is a must for healthy competition and therefore it would be the endeavour of the Government that the telecommunication infrastructure growth in the country is not compromised in any manner.
Various access technologies, inter-alia, are:

(a) *Optical Fibre Technologies*

The fibre optics technology can provide nearly unlimited bandwidth potential and is steadily replacing copper network specially in intra-city backbone networks. This is being deployed in commercial buildings and complexes and some metros / big cities having high-density potential broadband subscribers. Hybrid Fibre Coaxial (HFC), Fibre to the Curb (FTTC) and Fibre to the Home (FTTH) networks make use of fibre cabling into the last mile. The fibre based models are future proof as they are able to provide huge amounts of bandwidth in the last mile as well as provide a true IP and converged network that can deliver high quality voice, data and video.

There are more than 4.5 lakh route kms. of optical fibre laid by BSNL / MTNL and more than 1 lakh route kms laid by private operators. The spread of the networks of private service providers have to play an important role in bringing the fibre to homes as well as the rural areas and they are expected to focus on it.

With the increase in commercial availability of fibre technologies, the cost of fibre rollout is approaching the cost of other wired networks.
Spread of optical fibre networks shall be emphasised keeping in view the long-term perspective.

(b) Digital Subscriber Lines (DSL) on copper loop:

DSL has proved to be an important technology for provisioning of Broadband services through the copper loop. The owners of copper loop have to be given a high priority because their role is critical as key drivers in the Broadband service market using DSL. Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) as well as other access providers are expected to aggressively use their copper loop infrastructure for providing Broadband services through this technology.

Recognising that last mile copper loop is not a ‘bottleneck facility’ for broadband services, access providers shall be free to enter into mutually agreed commercial arrangements for utilization of available copper loop for expansion of broadband services. The owner of local loop shall be free to decide the areas in which investment is to be made to upgrade the infrastructure for Broadband services. The information regarding the areas in which Broadband services are being offered by a service provider shall be available in the public domain.

Further, use of brand-name being treated as a part of the value shall be permitted in such commercial arrangements.
There are more than 40 million copper loops in the country available with BSNL and MTNL out of which 14 million loops are in rural areas. Copper cable network of these operators is a combination of old and new cable and this makes provisioning of Broadband on all the available copper loop technically unfit. Therefore, around 25-30% of the remaining 26 million loops, i.e. approximately 7 million loops can be leveraged for broadband service by BSNL and MTNL taking into account the condition / life of copper cable and demand potential.

Management of BSNL and MTNL has decided to provide 1.5 million connections by the end of 2005.

The corporate / work plan of these PSUs have been drawn up for this purpose. Thereafter, annual plan for expansion of Broadband services by BSNL and MTNL will be determined in consultation with them. A quarterly review of their performance by the Government in the Department of Telecommunications (DoT) shall be undertaken to evaluate the achievement and redefine the future roadmap, if necessary.

It is hoped that other access service providers would also provide broadband connections using their copper in a targeted manner. A constructive review of their performance shall also be undertaken.
(c) Cable TV Network

It is noted that cable TV connection as last mile infrastructure reaches more people than even the telephone copper infrastructure and can be leveraged in providing cable operators a new business model while giving a stimulus to Broadband penetration. Therefore, Cable TV network can be used as franchisee network of the service provider for provisioning Broadband services. However, all responsibilities for ensuring compliance of terms & conditions of the licence shall vest with the Licensee. The terms of franchise agreement between Licensee and his franchisee shall be settled mutually by negotiation between the two parties involved.

(d) Satellite Media

Very Small Aperture Terminals (VSAT) and Direct-to-Home (DTH) services would be encouraged for penetration of Broadband and Internet services with the added advantage to serve remote and inaccessible areas.

It is the intention of the Government to make available transponder capacity for VSAT services at competitive rates after taking into consideration the security requirements. Department of Space is already interacting with VSAT service providers. Department of Telecommunications, in consultation with the concerned Ministries, will
soon propose measures in the direction of Open Sky Policy for VSAT operators. The role of Department of Space is critical in such an endeavour.

VSAT service providers are permitted to transmit data upto 2Mbps instead of earlier limit of 512 kbps in a Closed User Group domestic VSAT network. The increased data rate allows new applications like bulk data transfer for software industry, high-speed backhaul links, inhouse training using audio-visual etc. Reduction in antenna size enables easy installation, lower space occupancy, lower cost of hardware etc. Accordingly, the antenna size has been reduced to 1.2 metres and 2.4 metres for star network and mesh network respectively in extended C-band. In Ku-band also, 1 metre diameter antenna in star network has been permitted. To keep pace with technological advances, this shall be periodically reviewed.

Commercial VSAT service providers having ISP licence shall be permitted use of same hub station and remote station to provide Internet service directly to the subscribers. Further, this remote station shall be permitted to be used as a distribution point to provide Internet services to multiple independent subscribers. Necessary amendments in the licence agreement shall be carried out immediately.
DTH service providers shall be permitted to provide Receive Only Internet Service after obtaining ISP licence from Department of Telecommunications. Further, ISP licensees shall be permitted to allow customers for downloading data through DTH after obtaining necessary permission from the competent authority. DTH Service providers will also be permitted to provide bidirectional Internet services after obtaining VSAT and ISP licence from DoT.

(e) Terrestrial Wireless

Recognising that terrestrial wireless is another upcoming technology platform for Broadband, it has been decided in principle to de-license 2.40-2.48 GHz band for low-power outdoor use on non-protection, non-interference and non-exclusive basis. Necessary notification shall be issued. Further, notification regarding delicensing 2.40-2.4835 MHz band for low power indoor permitting use of all technologies, which inter-alia include those based on IEEE 802.11b and 802.11g standards, has been issued.

To accelerate penetration of Broadband and Internet, the 5.15-5.35 GHz band shall be de-licensed for the indoor use of low power Wi-Fi systems. For outdoor use, the band 5.25-5.35 GHz shall be de-licensed in consultation with DoS and de licensing in the band 5.15-5.25 GHz would be considered after the process of vacation. Alternative spectrum bands
which are not in high usage and could be deployed for Broadband services shall also be explored and identified.

(f) Future Technologies

In the changing technology scenario, there is a possibility of new options being used for provisioning of Broadband services. These technologies can also be utilised for provisioning of such services within the licensing framework of the service provider and the spectrum management policy of DoT.

Quality of Service (QoS)

As per TRAI Act, 1997, TRAI has to prescribe QoS parameters. Government recognises that QoS parameters are extremely important and have an impact on investment and roll-out decisions of operators. TRAI would be requested to prescribe QoS parameters for provisioning of broadband service using various access technologies at an early date.

Simplification of SACFA / WPC clearance

The VSAT operators shall be allowed to start the installation process for VSAT terminals after a period of one month of submitting all relevant documents to WPC for SACFA / WPC clearance wherever the total height of such installation is less than 5 meters above the rooftop of an authorised building.
In the case of Receive Only VSAT terminals and DTH with Receive Only Internet, no SACFA / WPC clearance will be required wherever the total height of such installation is less than 5 meters above the rooftop of an authorised building.

Government have decided that the reference to WLL in IND49 of NFAP-2002 shall be deleted to promote use of indigenously developed technologies. This would enable service providers, other than basic service operators, to use the 1880-1900 MHz band for provision of various services under their licence.

A transparent scheme is being outlined separately for time-bound frequency allocation, siting clearance and wireless licensing by removing the cumbersome procedures, computerisation and by setting predetermined standards.

Other Issues

Bandwidth availability including international bandwidth is a major driver for broadband services. In a competitive environment, service providers are expected to take appropriate steps for making required bandwidth available in a time bound manner within their licence framework. Cost of bandwidth constitutes a major cost component for Broadband services. Government and TRAI would address this issue on
priority. TRAI has already issued a consultation paper for international bandwidth leased line cost and is expected to address the issue shortly.

Government have recently decided to reduce the licence fee for Infrastructure Provider category-II, who provides end to end bandwidth, to 6% of Adjusted Gross Revenue (AGR). Further, the amount of bank guarantee for such service provider has also been reduced to Rs.5 crores from Rs.100 crores.

National Internet Exchange of India (NIXI) has been set up by DIT, Government of India to ensure that Internet traffic, originating and destined for India, should be routed within India. It is expected that NIXI will take appropriate steps for increasing the utilization of such facilities.

**Role of other Agencies**

PCs, content and applications are important constituents for overall growth of Internet and Broadband services. Broadband services will accelerate decentralised governance at Panchayat level.

The role of other facilitators such as electricity authorities, Departments of ITs of various State Governments, Departments of Local Self Governments, Panchayats, Department of Health and Family Welfare, Department of Education is very important to carry the advantage of Broadband services to the users particularly in rural areas.
Fiscal Issues

The Department of Telecommunications assigns a very high priority to indigenous manufacture of Broadband related equipments. It shall endeavour to work closely with the concerned Ministries and Manufacturers' Associations so that the equipments are available at an affordable price. The department is conscious of the fact that Broadband services can reach the urban and rural consumers only if services are offered at affordable and easy terms. Department of Telecommunications will work out a package in consultation with Ministry of Finance and related Departments as well as concerned service providers to achieve this.

SATCOM Policy

The SATCOM Policy shall provide for users to avail of transponder capacity from both domestic / foreign satellites. However, the same has to be in consultation with the Department of Space. Under the existing ISP policy, international long distance communication for data has been opened up. The gateways for this purpose shall be allowed to use SATCOM. It has also been decided that frequency band shall be allowed to be used for communication purposes.
VSAT Service Providers

The VSAT Service Providers shall be granted separate licence, on a non-exclusive basis for an initial period of twenty years and will be extended by additional periods of ten years thereafter. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced as a part of the structure for opening up national long distance by August 15, 1999. The VSAT service providers shall be granted separate licence, on a non-exclusive basis. Licences would be awarded for an initial period of twenty years and will be extended by additional periods of ten years thereafter.

VSAT licencees would be required to pay a one-time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. Apart from the one time entry fee, VSAT licencees would also be required to pay licence fee based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share arrangement would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.
Electronic Commerce

On line Electronic Commerce will be encouraged so that information can be passed seamlessly. The requirement to develop adequate bandwidth of the order of 10 Gb on National routes and even terabits on certain congested important national routes will be Immediately addressed to so that growth of IT as well as electronic commerce will not be Hampered.

Resolution of problems of existing operators

The New Policy Framework, which seeks to significantly redefine the competitive nature of industry, would be applicable to new licensees. There are, however, multiple licences that have been issued by the Government for cellular mobile services, basic services, radio paging services, Internet services etc. It is the Government’s intention to satisfactorily resolve the problems being faced by existing operators in a manner which is consistent with their contractual obligations and is legally tenable.

Restructuring of DoT

Worldwide, the incumbent, usually the Government owned operator plays a major role in the development of the telecom sector. In India, DoT is responsible for the impressive growth in number of lines from 58.1 lakh on April 1, 1992 to 191 lakh in December 1998, showing
a CAGR of 20%. DoT is expected to continue to play an important, and indeed, dominate role in the development of the sector.

Currently, the licensing, policy making and the service provision functions are under a single authority. The Government has decided to separate the policy and licensing functions of DoT from the service provision functions as a precursor to corporatisation. The corporatisation of DoT shall be done keeping in mind the interests of all stakeholders by the year 2001. All the future relationship (competition, resource raising etc.) of MTNL / VSNL with the corporatised DoT would be based on best commercial principles.

The synergy of MTNL, VSNL and the corporatized DoT would be utilised to open up new vistas for operations in other countries.

**Spectrum Management**

With the proliferation of new technologies and the growing demand for telecommunication services, the demand on spectrum has increased manifold. It is, therefore, essential that spectrum be utilized efficiently, economically, rationally and optimally. There is a need for a transparent process of allocation of frequency spectrum for use by a service and making it available to various users under specific conditions.
The National Frequency Allocation Plan (NFAP) was last established in 1981, and has been modified from time to time since. With the proliferation of new technologies it is essential to revise the NFAP in its entirety so that it could become the basis for development, manufacturing and spectrum utilization activities in the country amongst all users. The NFAP is presently under review and the revised NFAP-2000 would be made public by the end of 1999, detailing information regarding allocation of frequency bands for various services, without including security information. NFAP shall be reviewed no later than every two years and shall be in line with radio regulations of International Telecommunication Union.

Relocation of existing Spectrum and Compensation:

Considering the growing need of spectrum for communication services, there is a need to make adequate spectrum available.

Appropriate frequency bands have historically been assigned to defence & others and efforts would be made towards relocating them so as to have optimal utilisation of spectrum. Compensation for relocation may be provided out of Spectrum fee and revenue share levied by Government.

There is a need to review the spectrum allocations in a planned manner so that required frequency bands are available to the
service providers. There is a need to have a transparent process of allocation of frequency spectrum, which is effective and efficient. This would be examined further in the light of ITU guidelines. For the present, the following course of action shall be adopted.

- Spectrum usage fee shall be charged.
- Setting up an empowered Inter-Ministerial Group to be called as Wireless Planning Coordination Committee (WPCC) as part of the Ministry of Communications for periodical review of spectrum availability and broad Allocation policy.
- Massive computerization in the WPC Wing will be started during the next three Months' time so as to achieve the objective of making all operations completely computerized by the end of year 2000.

**Universal Service obligation**

The Government is committed to provide access to all people for basic telecom services at affordable and reasonable prices. The Government seeks to achieve the following universal service objectives:

- Provide voice and low speed data service to the balance 2.9 lac uncovered villages in the country by the year 2002.
- Achieve Internet access to all district head Quarters by the year 2000.
Achieve telephone on demand in urban and rural areas by 2002. The resources for meeting the USO would be raised through a ‘universal access levy’ which would be a percentage of the revenue earned by all the operators under various Licenses.

The percentage of revenue share towards universal access levy would be decided by the Government in consultation with TRAI. The implementation of The USO obligation for rural / remote areas would be undertaken by all fixed Service providers who shall be reimbursed from the funds from the universal Access levy. Other service providers shall also be encouraged to participate in USO provision subject to technical feasibility and shall be reimbursed from the Funds from the universal access levy.

Role of Regulator

The Telecom Regulatory Authority of India (TRAI) was formed in January 1997 with a view to provide an effective regulatory framework and adequate safeguards to ensure fair competition and protection of consumer interests. The Government is committed to a strong and independent regulator with comprehensive powers and clear authority to effectively perform its functions.
Towards this objective the following approach will be adopted:

- Section 13 of the TRAI Act gives adequate powers to TRAI to issue directions to Service providers. Further, under Section 14 of the Act, the TRAI has full adjudicatory powers to resolve disputes between service providers. To ensure a Level playing fields, it will be clarified that the TRAI has the powers to issue Directions under Section 13 to Government (in its role as service provider) and Further to adjudicate under Section 14 of the Act, all disputes arising between Government (in its role as service provider) and any other service provider.

- TRAI will be assigned the arbitration function for resolution of disputes between Government (in its role as licensor) and any licensee.

- The Government will invariably seek TRAI’s recommendations on the number and timing of new licensees before taking decision on issue of new licenses in future.

- The functions of licensor and policy maker would continue to be discharged by Government in its sovereign capacity. In respect of functions where TRAI has been assigned a recommendatory role, it would not be statutorily mandatory for Government to seek TRAI’s recommendations.
Other Issues

Standardization

To enable the establishment of an integrated telecommunication network, common standards with regard to equipment and services would be specified by the Telecom Engineering Center (TEC). TEC would also continue to grant interconnect and interface approvals for various service providers.

Telecom equipment manufacture

With a view to promoting indigenous telecom equipment manufacture for both domestic use and export, the Government would provide the necessary support and encouragement to the sector, including suitable incentives to the service providers utilizing indigenous equipment.

Human resource development and training

Human resources are considered more vital than physical resources. Emphasis would be placed on the development of human resources for all fields related to telecommunications and the dispersal of this expertise to the related fields. Such expertise shall also be made available to other countries.
Telecom research and development

Recognizing that telecommunications is a prime pre-requisite for the development of other technologies, telecommunications research and development (R&D) activities would be encouraged. Government would take steps to ensure that the industry invests adequately in R&D for service provision as well as manufacturing. Indigenous R&D would be actively encouraged with a view to accelerate local industrial growth and hasten transfer of technology. Premier technical institutions would be encouraged to undertake R&D activities on a contribution basis by the telecom service providers and manufacturers so as to develop multidimensional R&D activities in telecommunications and information technology.

Disaster management

International co-operation in the use of terrestrial and satellite telecommunications technologies in the prediction, monitoring and early warning of disasters, especially in the early dissemination of information would be encouraged. Financial commitment to disaster management telephony and the development of appropriate regulatory framework for unhindered use of trans-boundary telecommunications would be put in place.
Remote area telephony

Rural Telephony, areas of North East, Jammu & Kashmir and other hilly areas, tribal blocks, etc. may be identified as a special thrust areas for accelerated development of telecommunications. The Ministry of Defense shall be assigned a more active role in the development of telecommunications in such remote areas as are identified for accelerated development of telecommunications.

Export of Telecom equipment and services

Export of telecom equipment and services would be actively incentivised. Synergies among the various telecom players (manufacturers and service providers) would be exploited and used to provide integrated solutions for exports.

Right of way

Government recognises that expeditious approvals for right-of-way clearances to all service providers are critical for timely implementation of telecom networks. The Central / State Government / Local bodies / Ministry of Surface Transport etc. shall take necessary steps to facilitate the same.

Changes in legislation

The Indian telecommunications system continues to be governed by the provisions of the Indian Telegraph Act, 1885 (ITA 1885) and the
Indian Wireless Act, 1933. Substantial changes have taken place in the telecommunications sector since 1992. ITA 1885 needs to be replaced with a more forward-looking Act

**Telecommunication Reforms in India** revolutionized the telecom industries sector in India, which is an important factor for the growth of the Indian telecom sector and in turn helped the Indian economy to perform well for the past few years. The Telecommunication reforms in India were development and growth oriented. Technological advancements and innovations contributed largely towards the reformation of the telecom sector in India. The sector of telecom was a monopoly under the Central Government of India. During the 1990s this sector faced fierce challenges due to the development in the technological sector. The sector was privatized and with the abolition of the monopoly new player entered the consumer market. The competition increased in the telecom sector, the rates were slashed in order to grab the share of the market and the customers were provided with better services.

The telecommunication reforms in India started in the eighties with the mission better communication. This is regarded as the first phase of the reformation process. Several private manufacturers of tailor made equipments entered the market. There were private developer for indigenous technologies and the franchisee for STD/ISD and PCO.
increased. The Videsh Sanchar Nigam Limited (VSNL) and Mahanagar Telephone Nigam Limited (MTNL) were set up under the Government of India's Department of Telecommunication.

The second phase of telecommunication reforms in India came in the early nineties. The introduction of the New Economic Policy (NEP) in the year 1991 was a landmark in the history of telecom industry sector in India. The manufacturing of equipments pertaining to telecom sector was decentralized and several value added services were introduced into the market. The telecom services were divided into basic telephony, radio paging and cellular mobile. The TRAI was established an independent regulatory body pertaining to telecom sector. The growth of the private sector increased.

The third phase of the telecommunication reforms in India took place in the period of the late nineties. The government of India introduced the New Telecom Policy 1999. The TRAI was endowed with more power. The concept of revenue sharing was introduced to replace the fixed license fee. The National Long Distance was introduced with free entrance. Moreover, there was introduction of International Long Distance schemes. The Bharat Sanchar Nigam Limited (BSNL), a corporate body of the telecom service sector was formed, followed by the
introduction of the Internet to the Indian market.

Impact of Telecommunication Reforms in India

- The rates of the National Long Distance were cut down by 60%
- The prices of the hand sets and telephone equipments were reduced
- The charges on calls were reduced by 8 times
- The introduction of the cellular mobile phone
- The bandwidth availability was increased
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