Present Status :

The present telephone density in India is about 0.8 per hundred persons as against the world average of 10 per hundred persons. It is also lower than that of many developing countries in Asia like China (1.7), Pakistan (2), Malaysia (13) etc. There are about 8 million lines with a waiting list of about 2.5 million. Nearly 1.4 lakh villages, out of a total of 5,76,490 villages in the country, are covered by telephone services. There are more than 1 lakh public call offices in the urban areas.

Revised Targets :

In view of the recent growth of the economy and the reassessed demand, it is necessary to revise the VIII Plan targets as follows :

a. Telephones should be available on demand by 1997.
b. All villages should be covered by 1997.
c. In the urban areas a PCO should be provided for every 500 persons by 1997.
d. All value-added services available internationally should be introduced in India to upgrade the telecom services in India to international standards well within the VIII Plan period, preferably by 1996.

Resources for the Revised Targets :

The rapid acceleration of Telecom services visualised above would require supplementing the resources allocated to this sector in the VIII plan. The total demand (working connections + waiting list) showed a rise of nearly 50% from 7.03 million on 1.4.1992 to 10.5 million on 1.4.1994 over a three year period. If the demand grows at the same rate for the next three years, it would touch about 15.8 million by 1.4.1997. The actual rate of growth is likely to be higher as the economy is expected to grow at a faster pace. Achieving the target of telephones on demand by 1997 would thus imply releasing about 10 million

connections during the VIII Plan as against the existing target of 7.5 million. The release of 2.5 million additional lines alone would require extra resources to the tune of Rs. 11,750 crores at a unit cost of Rs. 47,000 per line at 1993-94 prices. To this must be added the requirement on account of additional rural connections of Rs. 4,000 crores.

Even with the comparatively modest targets of the VIII Plan, as originally fixed, there is a resource gap of Rs. 7,500 crores. The additional resources required to achieve the revised targets would be well over Rs. 23,000 crores. Clearly this is beyond the capacity of Government funding and internal generation of resources. Private investment and association of the private sector would be needed in a big way to bridge the resource gap. Private initiative would be used to complement the Departmental efforts to raise additional resources both, through increased international generation, and adopting innovative means like leasing, deferred payments, BOT, BLT, BTO etc.

Hardware :

With the objective of meeting the telecom needs of the country the manufacturing sector manufacture for telecom equipment has been progressively relicensed. Substantial capacity has already been created for the manufacture of the necessary hardware within the country. The capacity for manufacture of switching equipment, for example, exceeded 1.7 million lines / year in 1993 and is projected to exceed 3 million line / year by 1997. The capacity for manufacture of telephone instruments at 8.4 million units per year is far in excess of the existing or the projected demand. Manufacturing capacities for wireless terminal equipment, Multi Access Radio Relay (MARR) for rural communication, optical fibre cables, underground cables etc. have also been established to take care of the requirements of the VIII Plan. With the revision of the targets, demand would firm up and there would be an incentive to expand the capacities to meet the extra requirement.

Value Added Services :

In order to meet international standards, the sub-sector of value-added services was opened up to private investment in July, 1992 for the following services :

a. Electronic Mail

b. Voice Mail

c. Data Services

d. Audio Text Services

e. Video Text Services

f. Video Conferencing

g. Radio Paging

h. Cellular Mobile Telephone

With respect to the first six services, companies registered in India are permitted to operate under license on non-exclusive basis. This policy would be continued. In view of the constraints on the number of companies that can be allowed to operate in the area of Radio Paging and Cellular Mobile Telephone Service, however, a policy of selection is being followed in grant of licenses through a system of tendering. This policy will also be continued and the following criteria will be applied for selection :

a. Track record of the company

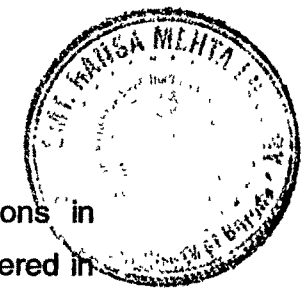
b. Compatibility of the technology

c. Usefulness of the technology being offered for future development

d. Protection of national security interests

e. Ability to give the best quality of service to the consumer at the most competitive cost

f. Attractiveness of the commercial terms to the Department of Telecommunications.



Basic Services :

To supplement the effort of the Department of Telecommunications in providing telecommunication services to the people, companies registered in India will also be allowed to participate in the expansion of the telecommunication network in the area of basic telephone services. These companies will have to maintain a balance in their coverage between urban and rural areas. Their conditions of operation will include agreed tariff and revenue sharing arrangements. Other terms applicable to such companies will be similar to those indicated above for value-added services.

Pilot Projects :

Pilot projects will be encouraged directly by the Government in order to access new technologies and systems in both basic as well as value-added services.

Technology and Strategic Aspects :

Telecommunication is a vital infrastructure. It is also technology intensive. It is, therefore, necessary that the administration of the policy in the telecom sector is such that the inflow of technology is made easy and India does not lag behind in reaping the full advantage of the new technologies. An equally important aspect is the strategic aspect of telecom, which affects the national and public interests. So it is necessary to encourage indigenous technology, set up a suitable funding mechanism for indigenous R&D so that the Indian technology can meet the national demand and also compete globally.

Implementation :

In order to implement the above policy, suitable arrangements will have to be made (a) to protect and promote the interests of the consumers and (b) to ensure fair competition.

A-2 NEW TELECOM POLICY 1999

A-2 NEW TELECOM POLICY 1999

1.0 PREAMBLE :

1.1 Importance of Telecommunication :

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. It is also anticipated that 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 telecommunication policy which creates an enabling framework for development of this industry.

1.2 NTP 1994 – Objectives and Achievements :

In 1994, the Government announced the National Telecom Policy which defined certain important objectives, including availability of telephones on demand, provision of world class services at reasonable prices, ensuring India's emergence as a 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 VIII 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. Licenses to other prospective GMPCS operators are under consideration.

The Government recognizes that the result of the privatization has 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 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. 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.

1.3 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 world-wide. 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 wireline 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.

2.0 OBJECTIVES AND TARGETS OF THE NEW TELECOM POLICY 1999 :

The objectives of the NTP 1999 are as under:

- 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 that recognizes the convergence of IT, media, telecom and consumer electronics and thereby propel India towards 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 telecommunication sector in to a greater competitive environment in both urban and rural areas providing equal opportunities to 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 and 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 lakh by the year 2002.

3.0 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

- National Long Distance Operators

- International Long Distance Operators
- Other Service Providers
- Global Mobile Personal Communication by Satellite (GMPCS) Service Providers
- V-SAT Based Service Providers.

3.1 Access Providers

3.1.1 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 licence. Direct interconnectivity between licensed CMSPs and any other service providers (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.

The CMSP would be granted separate licence, for each service area. Licences would be awarded for an initial period of twenty years and would be extendable to 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. The 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 a level playing field between different service providers in similar situations, licence fee would also be payable by DoT. However, as DoT is the national service provider having immense rural and social obligations, the Government will reimburse full licence fee to DoT.

It is proposed to review the spectrum utilization from time to time in view of 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.

3.1.2 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 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) / Tele-communication Engineering Center (TEC) standards.

The FSP shall be granted separate license, 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, in view of the objectives of the New Telecom Policy.

3.1.3 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 CSPs 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 amount 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 have to obtain FSP licence and be bound by the licence conditions of the FSPs, to ensure level playing field.

3.2 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.

3.3 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 this 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 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.

3.4 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 PMRTSPs 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 a 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.

3.5 National Long Distance Operator

National long distance service beyond service area to the private operators will be opened for competition from January 1, 2000. To promote long distance bandwidth capacity in the country, provide a choice to consumers and promote competition, all NLDOs should be able to access subscribers. To achieve the above, all access providers shall be mandatorily 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 these 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 tile 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 alongwith the opening up of national long distance by August 15, 1999. Resale on international long distance will not be permitted till the year 2004.

3.6 International Long Distance Services

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

3.7 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.

3.8 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 the VSNL gateway or in case of a bypass, it should be possible to monitor these calls in the Indian gateways. VSNL is also to be compensated in case a 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

3.9 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 the use of Ku frequency band shall be allowed for communication purposes.

3.9.1 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 licences would also have 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, in view of the objectives of the New Telecom Policy.

3.10 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 terabytes on certain congested national routes will be immediately addressed so that growth of IT as well as electronic commerce will not be hampered.

3.11 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.

4.0 RESTRUCTURING OF DoT :

World-wide, 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 lakhs on April 1, 1992 to 191 lakhs in December 1998, showing CAGR of 20%. DoT is

expected to continue to play an important, and indeed, dominant 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 function as a precursor to corporatisation. The corporatisation of DoT shall be done in the interests of all stakeholders by the year 2001.

All the future relationships (competition, resource raising etc.) of MTNL / VSNL with the corporatised DoT would be based on the best commercial principles.

All the future relationships (competition, resource raising etc.) of MTNL / VSNL with the corporatised DoT would be based on the best commercial principles.

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

5.0 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 utilised efficiently, economically, rationally and optimally. There is a need for a transparent process of allocation of frequency spectrum for use by a service and to make 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 so that it becomes 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 the International Telecommunication Union.

Relocation of Existing Spectrum and Compensation:

- Considering the growing need of spectrum for communication services, it is necessary 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 the 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 need for an effective, efficient and transparent process of allocation of frequency spectrum. This would be examined further in the light of ITU guidelines. For the present, the following course of action shall be adopted :

- A spectrum use fee shall be charged.

- An empowered Inter-Ministerial Group to be called Wireless Planning Coordination Committee (WPCC) as part of the Ministry of Communications for periodical review of spectrum availability and broad allocation policy will be appointed.

- ❖ Massive computerisation in the WPC Wing will be started during the next three months time so as to achieve the objective of making all operations completely computerised by the end of 2000.

6.0 UNIVERSAL SERVICE OBLIGATION :

The Government is committed to providing access for all to 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 2.9 lakh 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 licences. 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 will also be encouraged to participate in USO provision subject to technical feasibility and will be reimbursed from the funds from the universal access levy.

7.0 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 field, it will be clarified that the TRAI has the powers to issue direction 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 the Government (in its role as service provider) and any other service provider.

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

- The Government will invariably seek the TRAI's recommendations on the number and timing of new licences before taking decisions on the issue of new licenses in future.

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

8.0 OTHER ISSUES :

8.1 Standardisation

To enable the establishment of an integrated telecommunication network, common standards with regard to equipment and services would be specified by the Telecom Engineering Centre (TEC). TEC

would also continue to grant interconnect and interface approvals for various service providers.

8.2 Telecom equipment manufacture

To promote 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 service providers utilising indigenous equipment.

8.3 Human resource development and training

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

8.4 Telecom research and development

Recognising that telecommunications is a prime pre-requisite for the development of other technologies, telecommunication 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 multi-dimensional R&D activities in telecommunications and information technology.

8.5 Disaster management

International co-operation in the use of terrestrial and satellite telecommunications technologies in the prediction, monitoring and early warning of disaster, 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.

8.6 Remote area telephony

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

8.7 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.

8.8 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 this.

9.0 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.

A-3 QUESTIONNAIRE

No. PERSONAL PROFILE

1 Name

2 Address

3 Cellular Phone Number

4 Age

5 Sex 1 – Male 2 – Female

6 Monthly income (Approximately)

1 Below Rs. 5000
2 Rs. 5001 – 10000
3 Rs. 10001 – 20000
4 Rs. 20000 – above

7 Education Qualification

1 Below 12
2 Undergraduate
3 Graduate / double graduate
4 Postgraduate and above
5 Others (Pl. Specify)

8 Occupation

1 Business / Self employed
2 Service (Private Sector)
3 Service (Government/Semi government)
4 Professional
5 Housewife
6 Student
7 Retired
8 Others

GENERAL INFORMATION

No.	Question	Category	Code
9	Which mode of telecommunication do you use? (Multiple responses)	1 Landline	☐
		2 WII (Fixed)	☐
		3 WII (Mobile)	☐
		4 Cellular Service	☐
10	Which brand of handset do you use?	1 Motorola	
		2 Panasonic	

		3	Samsung
		4	Nokia
		5	Hyundia
		6	Siemens
		7	Sony / Ericsson
		8	LG
		9	Others, specify
11	How much did your handset cost ?		_____ Rupees
12	Where did you buy your handset from ?	1	From licensed dealer
		2	From grey market
		3	Second hand
13	Is your handset covered under a warranty ?	1	Yes
		2	No
14	Which cellular operators do you know of?	1	Fascel (Hutch)
	(Multiple responses)	2	Idea Cellular (Idea)
		3	Bharti Cellular (AirTel)
		4	BSNL (Cell / Excel One)
15	Which cellular services do you use?	1	Fascel (Hutch)
		2	Idea Cellular (Idea)
		3	Bharti Cellular (AirTel)
		4	BSNL (Cell / Excel One)
16	Which product (services) do you use?	1	Prepaid Card
		2	Postpaid Card
17	Why do you use a prepaid / postpaid card?		

_____

18	Since when you are using the current services?	Months _____
19	Since when you have been using a cellular phone?	Months _____
20	Have you,	
	1 Always used the same cellular services (Skip to 22)	
	2 Switched over	
21	If you changed your cellular service operator, why?	1 Poor schemes
		2 Coverage problem
		3 Poor quality of service
		4 Billing problems
		5 Pricing
		6 Others, specify
22	How much is your average monthly bill?	Rs. _____
23	Who pay's your bill? (Multiple Responses)	1 Yourself
		2 Family
		3 Company
		4 Others
24	Which of these factors influence your choice of services? Please rank them.	1 Price
		2 Network
		3 Scheme
		4 Others, specify
25	Whose opinion influences your decision to use a particular service? (Multiple Responses)	1 Operator / Salesman
		2 Friends

		3 Relatives
		4 Self
		5 Others
26	Rank the cellular service operators you have used?	1 Hutch
		2 Idea
		3 Bharti (AirTel)
		4 BSNL
27	How would you rank by the prices they offer?	1 Hutch
		2 Idea
		3 Bharti (AirTel)
		4 BSNL

CELLULAR SERVICES

A	SALES / PRESALES	
28	Are your dealers easily available?	1 Yes
		2 No
29	How long does it take for you to obtain a working prepaid/postpaid card connection?	_____ Hours
30	Do you find the offers and schemes easy to understand?	1 Yes
		2 No
		3 Can't say
31	From where do you learn about offers and schemes? (Multiple Responses)	1 Operator
		2 Relative
		3 Friend
		4 Advt
		5 Others

32	Are you satisfied with the promotional schemes your operator provides?	1 2 3	Yes No Can't say
33	Are you satisfied with the tariff and taxes collected?	1 2 3	Yes No Can't say
B	NETWORK AVAILABILITY, PERFORMANCE AND RELIABILITY		
34	Do you travel frequently?	1 2	Yes No
35	Does your cellular operator provide sufficient coverage?	1 2 3	Yes No Can't say
36	Have you faced any of the following problems related to your cellular network? a) In making calls b) In receiving calls c) In coverage/signal availability d) In voice quality e) In call drops (disconnectivity) f) In using SMS, g) Other problems, specify _____	1 2 3 0	Always Sometimes Never N.A.
C	CUSTOMER CARE		
37	Is your customer care agent easily accessible?	1 2 3	Always Sometimes Never
38	Does the customer care agent	1	Always

	respond		
	appropriately?	2	Sometimes
		3	Never
39	Why did you call customer care agent?		
	a) Network related problem		
	b) Billing / payment	1	Satisfied
	c) Activation	2	Not satisfied
	d) Roaming / STD	3	Some what
	e) Enquiry / clarification	4	No
	f) Don't really remember	0	N.A.
40	Are you satisfied by the solutions offered	1	Always
	by the operator?	2	Sometimes
		3	Never
D	BILLING :		
41	Is the presentation of the information on your	1	Always
	postpaid card clear and complete?	2	Sometimes
		3	Never
		0	N.A.
42	Would you like a statement of calls made for	1	Always
	a prepaid card?	2	Sometimes
		3	Never
		0	N.A.
43	Are you satisfied with the following?	1	Always
	a) Accurate billing	2	Sometimes
	b) Process of lodging / handling of billing	3	Never
	complaints.	0	N.A.
	c) Settlement of billing disputes.		

44	Did you face any of the following problems in billing?	1	Always	
		2	Sometimes	
	a) Wrong/double charges	3	Never	
	b) Delayed bills	0	N.A.	
	c) Payments made but not reflected			
	d) Wrong address			
	e) Delay in refunds			
	f) Others, Please specify _____			
E	VALUE ADDED SERVICES			
45	Which value added services do you know of?	1	Not Aware	Source
	How did you learn about these?	2	Aware and Do not Avail	1 Operator
		3	Aware and Avail	2 Relative
				3 Friend
				4 Others
	a) Short message services			
	b) Roaming			
	c) Voicemail			
	d) Video clips			
	e) Multimedia services			
	f) Paid services			
	g) Surf the web			
	h) Ring tones			
46	Rate the value added services provided by your cellular operator?			
	a) Short messaging services			
	b) Roaming services	1	Highly satisfied	
	c) Clip services	2	Satisfied	

	d) Voice mail	3	Neithersatisfied or
	e) Multi media services		dissatisfied
	f) Paid services	4	Dissatisfied
	g) Surf the web	5	Highly dissatisfied
	h) Other services	0	N.A.
F	SHORT EMSSAGE SERVICES		
47	How many times a day do you use the Short Messaging Service?	_____ Times	
48	Which of these difficulties do you face in sending Short messages?		
	a) Delayed delivery	1	Never
	b) Poor inter network delivery	2	Always
	c) Getting delivered	3	Sometimes
	d) Busy network	0	N.A.
	e) Poor network delivery		
49	Do you read SMS advertising given by your operator?	1	Always
		2	Sometimes
		3	Never
50	Have you bought a product based on SMS advertising?	1	Always
		2	Sometimes
		3	Never
	OVERALL CUSTOMER SATISFACTION		
51	Rate overall satisfaction on these aspects of cellular services		
	a) Presales / Sales	1	Excellent
	b) Network availability	2	Good
	c) Performance and reliability	3	Average
	d) Customer care	4	Below Average

	e) Value added services	5	Poor
52	What do you like the most about your service	1	Always
	operator?	2	Sometimes
	a) Short messaging services	3	Never
	b) Multimedia services	0	N.A.
	c) Video-clip		
	d) Coverage		
	e) Voice clarity		
	f) Customer care services		
	g) Surf the web		
	h) Track of business needs		
	i) Paid services		
	j) Billing accurately		
	k) Prompt solution to problem		
	l) Roaming		
53	What is your perception of cellular technology		
	related to mobile services?		
	a) Important to you/need of time		
	b) Add to your convenience	1	Strongly agree
	c) Provides safety and security	2	Agree
	d) Enhance status in society/luxury	3	Somewhat agree
	e) Good value for your money	4	Disagree
	f) Help in keeping pace with modern advancement	5	Strongly disagree
	g) Complicated and confusing		
54	For what do you mostly use your cellular		
	Phone? Please rank by frequency of use.		
	1 Receiving calls		

2 Keeping contact with family

3 Arranging business

4 Socializing with friends

55	Does the consumer get better value for money due to presence of multiple operators?	1	Yes
		2	No
		3	Can't say
56	What are the chances that you will switch from current cellular operator to another one?	1	Fair enough
		2	May be
		3	Do not know
		4	Not at all
57	If 1 and 2 code why? Multiple responses)	1	Poor schemes
		2	Coverage problem
		3	Poor service quality
		4	Billing Problem
		5	Pricing
		6	Others, specify _____
58	Is a government controlled landline services more reliable?	1	Yes
		2	No
		3	Can't say
59	Will the private sector be able to provide better services if there is no government intervention?	1	Yes
		2	No
		3	Can't say
60	Does your using a cellular phone compromise your privacy?	1	Yes
		2	No
		3	Can't say

61 Do you think cellular phone radiation is harmful to your health?

1 Yes
2 No
3 Can't say

62 If yes on what do you base your opinion?
(Multiple responses)

1 Information research
2 Friends
3 Personal experience / knowledge
4 Other sources, Please specify _____

63 Specify the side effects of using a cellular phone?

64 Your suggestions to improve existing services or your comments on best / worst features.