A STUDY OF GOVERNMENTAL POLICIES OF TELECOMMUNICATION SERVICES IN INDIA DURING THE PERIOD 1991 TO 2018

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Introduction:

The LPG Policy radically changed the regulatory and institutional mechanisms the observed of telecom in India. Telecom sector has regularly spectacular shift in regulatory framework as well as fast technological changes with the advent of new economic policy since 1990s in India.

Therefore a comprehensive and suitable framework of telecom policy was felt necessary for fast growth of country. The information and communication industry is for essential exchange of information, data and knowledge because these considered important for economic, social and cultural benefits of country. The telecom sector has seen widespread changes since 1990s. Indian government has undertaken various policy initiatives in different stages to bring radical reforms in telecom sector. India has adopted distinct reforms policy by taking competitive advantage through privatization as well as achieving universal telecom service across the country (Bhattacharaya: 2004). Due to strong public policy, telecommunication industry grew at faster pace in nineties and beyond in comparison to pre-liberalization period (TRAI: 2012). Some of the important policy initiatives are Broadband Policy 2004, National Telecom Policy 2011 and the National Telecom Policy 2012 and recently National Digital Communication Policy-2018 which has larger impact on our country is telecommunication.

Under new economic reforms policy the Government of India adopted certain agenda which aims at improving India's competitiveness in the global market and rapid growth of exports including attracting foreign direct investment and stimulating domestic investment. Telecom sector of country was also given top priority. That is why, National Telecom policy, 1994 was adopted by the government of India with following objectives.

The objective of this Telecom Policy will be telecommunication for all telecommunication within the reach of all. This means ensuring the availability of telephone and its related service on demand as early as possible.

Second objective will be to achieve universal service covering all villages as early as possible. This objective clearly indicated that service of universal service is the telecom should reach to all people for certain basic telecom services at affordable and reasonable prices. (Document Telecom Policy 1994).

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

Basic Services:

With a view to supplement the strong effort of the Department of Telecommunications in providing telecommunication services to the people, companies registered in India had been allowed to participate in the expansion of the telecommunication network in the area of basic telephone services also. These companies had required to maintain a balance in their coverage between urban and rural areas.

Telecommunication is considered to be an important infrastructure. It is also technology intensive. Therefore, it was felt necessary that the administration of the policy in the telecom sector should be such that the inflow of technology is made easy and India should not lag behind in getting the full advantage of the emerging new technologies. An equally important aspect was the strategic aspect of telecom, which has capacity to affect the national and public interests. Therefore it was necessary to encourage indigenous technology and set up a suitable funding mechanism for indigenous R&D so that the Indian Technology can meet the national demand and also compete across the world.

The Government of India had accepted that provision of world class telecommunications infrastructure and information is the key to fast socio-economic development of India. It is important not only for the development of the Information Technology industry, but will have widespread impact on the entire economy of the country. It also contributes a major part to the GDP of the country. Therefore it is considered to be an important for the country and hence, we need a comprehensive and forward looking telecommunications policy.

New Telecom Policy, 1994 also accepted 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. Therefore, the Government invited private sectors 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) with a mechanism of competitive bidding process, licenses were awarded to eight CMTS operators in the four metros, fourteen CMTS operators in Eighteen state circles, Six BTS operators in Six state circles and to paging operators in Twenty-seven cities and eighteen state circles. CSAT services were started for providing data services to closed user groups. Licenses were also issued to fourteen operators in the private sector out of which only nine licencees were found to be operational. The Government had announced the policy for Internet Services Provision (ISP) through private operators and started licensing of the same. The Government had also announced opening up of Global Mobile Personal Communications by Satellite (GMPCS) and had issued one provisional license.

The Government of India accepted that the result of the privatisation has so far not been entirely satisfactory and it will take time. While there had been a rapid rollout of cellular mobile networks in the metros and states with over 1 million subscribers and most of the projects today are facing problems. The main cause behind problems had been the fact that the actual revenues realized by these projects had been for short of the projections and the operators were 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 issued. 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 observed slower than what was envisaged in the NTP 1994.

The government took the above developments with concern as it has adversely affected the further development of the sector and accepted the need to take a fresh look at the policy framework for this sector.

The new telecom policy framework was also needed to facilitate India's vision of becoming an IT superpower and develop a world class telecom infrastructure in the country.

Internet Policy- 1998:

In November 1997, the Government of India took decision to privatise internet and to increase the number internet users. In view of the above fact, the government of India constituted a committee under the Chairmanship of Bimal Jalan to suggest policy for privatization of internet services. The Committee was comprising of inter-department members. The main objective of committee was to suggest ways for encouraging internet usages in the country. The committee submitted its report in 1998. In the light of above report, the followings are the features of Internet Policy 1998.

This policy was liberal in nature wherein there was no entry barrier and the policy was supposed to be customer friendly. Subsequently internet telephony was partially permitted when calls from personal computer (PC) to

PC was made legal. Again, an international call from PC to phone was also permitted.

New Telecom Policy 1999:-

Access to telecommunications is of utmost need to achieve the country's social and economic goals. Availability of affordable and effective communications for the

New Policy Framework and Attraction of Investment:

The New Policy framework focused on creating an environment, which enables continued attraction of investment in this sector and allowed creation of communication infrastructure by leveraging on technological development. The New Policy Framework looked at the telecom service sector as under:-

Fixed Service Providers and Cable Service Providers Cellular Mobile Service Providers Collectivity referred to as 'Access Providers' National Long Distance Operators Radio Raging Services Providers International long Distance Operators

Public Mobile Radio Trunking service Providers

V-SAT based Service Providers

Global Mobile Personal Communication by Satellite (GMPCS) Service Providers

Access Providers:

The cellular Mobile Service Providers (CMSP) were allowed 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 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 were also allowed. Interconnectivity between service providers in different service areas were reviewed in consultation with TRAI and the same was announced by August 15, 1999 as a part of the structure for opening up national long distance.

CMSP was granted separate licence, for each service area. It was stated that licenses would be awarded for an initial period of twenty years and would be extendible by additional periods of ten years. Service areas were categorized into the four metro circles and Telecom circles as per the existing policy for this very purpose. CMSP was empowered to obtain licenses for any number of service areas. Based on the immediately available frequency spectrum band, apart from the two private operators already licenced, DOT/MTNL was issued licence to be the third operator in each service area. In order to ensure level playing field between different service providers in similar situations licence fee was paid by DoT also. Since DoT being national service provider having immense rural and social obligations, the Government ultimately reimbursed full licence fee to the DoT.

It was proposed to make a review of the spectrum utilization from time to time keeping in mind the emerging scenario of spectrum availability, optimal use of spectrum requirements of market and competition. The entry of other operators in a service area was based on the recommendation of the TRAI. CMSP operators were directed to pay a onetime entry fee. It was also stated that entry fee and the ground for selection of additional operators has be to be recommended by the TRAI.

Fixes Service Providers:

The Fixed Service Providers (FSP) were freely permitted to establish 'last mile' linkages to provide fixed services and carry long distance traffic within their service area without obtaining an additional licence from the government. Direct interconnectivity between FSP's and any other type of service provider (including other FSP) in their areas of operation and sharing of infrastructure with any other type of service provider was permitted. Interconnectivity between service providers in different service areas were allowed to review in consultation with TRAI and the same had seen announced by August 15, 1999 as a part of the structure for opening up of national long distance. The FSP was allowed to directly interconnect with the VSNL after the opening up of national long distance from January 1, 2000. It was also stated the FSP may utilize last mile linkages or transmission links within its service area make available by other service providers. The FSP allowed to provide, all types of fixes 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 within its jurisdiction of operation.

Cable Service Providers:

Cable Service Providers (CSP) permitted to provide 'last mile' linkages and switched services within their service areas of operation and operate media services, which were essentially one-way and entertainment related services. In addition to above 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 was also permitted.

Internet Telephony:

Internet telephony was not permitted by that point of time. However, Government took decision to monitor the technological innovations and their impact on national development and also directed to review this issue at an appropriate time.

Radio Paging Service Providers:

The Radio Paging Service Providers (RPSP) were permitted to provide paging services within their service area of operation and Direct interconnectivity between licenced RPSP's and any other type of service provider in their area of operation including sharing of infrastructure was also permitted. It was also stated that Interconnectivity between service providers in different service areas will be reviewed in consultation with TRAI of the structure for opening up of national long distance. It was taken decision that the RPSP shall be granted separate licence, on a non-exclusive basis, for each service area of operation. Licenses were awarded for an initial period of twenty years and it was made clear that an additional period of ten years will be extended.

Public Mobile Radio Trunking Service Providers:

It was made clear that the Public Mobile Radio Trunking Service Providers (PMRTSP) shall be allowed to provide mobile radio trunking services within their jurisdiction of operation. Direct interconnectivity between licenced PMRTSP's and any other type of service provider in there are of operation shall be permitted after examining the legal position involved in view of the CMSP licenses.

It was made clear that the ground for determining the entry fee and the ground for selection of additional operators will be recommended by the TRAI.

National Long Distance Operator:

It was under policy decision that National long distance service beyond service area to the private operators will be opened for competition with effect from January 1, 2000 and 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 had to specify the number of operators, licence conditions on revenue sharing ground and other related matters.

International Long Distance Services:

This service includes tele-banking, tele-medicine, tele-education, tele-trading, e-commerce and other service providers were allowed to operate by using infrastructure provided by various access providers. No licence fee will be charged out registration for specific services being offered will be needed.

Global Mobile Personal Communication Services:

As per NTP, the Government has opened up the GMPCS market in India and has issued a provisional licence. The terms of the final licence was needed to be finalized in consultation with TRAI by June 30, 1999. All the calls originating or terminating in India had to pass through VSNL gateway or in case of bypass, it will be possible to monitor these calls in the Indian gateways. VSNL was compensated in case gateway in bypassed.

SATCOM Policy:

It was taken decision that the SATCOM Policy shall be for users to avail of transponder capacity from both domestic and foreign satellites. However, the same has to be in consultation with the Department of Space.

VSAT Service Providers:

It was stated that 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 for an additional periods of ten years. It was also said that Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same was to be announced as a part of the structure for opening up national long distance by August 15, 1999.

Electronic Commerce:

As per decision under NTP, on line Electronic Commerce was encouraged to pass information seamlessly. This needed to develop adequate bandwidth of the order of 10 Gb on national routes and even terabytes on certain congested important national routes.

Restructuring of DoT:

World-wide, the incumbent, usually the Government owned operator plays a major role in the development of the telecom sector. In our country, DoT is responsible for better growth in number of lines from 58.1 lakhs on April 1, 1992 to 191 lakhs in December 1998, showing CAGR of 20%.

Before 1999 the licensing, policy making and the service provision functions were under a single authority. Under NTP, the government had decided to separate the policy and licensing functions of DoT from the service provision functions as a precursor to corporatization. This was 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 corporatized Dot was based on best commercial principles.

Spectrum Management:

In view of the growing demand for telecommunication services and the demand on spectrum has increased manifold. Therefore, it was observed 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 NFAP was reviewed and the revised NFAP-2000 was decided to made public by the end of 1999, in containing information regarding allocation of frequency bands for various services, without including security information.

Formation 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 telecom consumer's interests. The Government is committed to a strong and independent regulatory with comprehensive powers and clear authority to perform its functions in a effective manner.

Remote area Telephony:

It was policy decision regarding Rural Telephony and areas of North East, Jammu & Kashmir and other hilly areas, tribal blocks, etc. will be indentified as a special thrust area for accelerated development of telecommunications. The Ministry of Defence was identified to play a more active role in the development of telecommunications in such remote areas for accelerated development of telecommunications.

Export of Telecom Equipment and Services:

New Telecom Policy clearly recognizes the need of Export of telecom equipment and services. For this purpose the various telecom players (manufactures and service providers) would be exploited and used to provide integrated solutions for exports. This would increase revenue and employment opportunity.

Thus, we find an interesting feature of NTP, 1999 that the growth rate of teledensity during period (1976-1998) was just 1.92 percent. However, post NTP 1999 various study show that teledensity in growing at much faster rate in comparison to earlier growth rate.

Broadband Policy- 2004

The government of India recognized the importance of Broadband service in the country with a view to increase in the GDP and enhancement in quality of life through various ways like tele-education, tele-medicine, e-governance and entertainment. It was also accepted by the government that broadband service may be helpful in employment generation through high speed access to information and web-based communication. In view of the above fact the government of India decided to adopt a policy to accelerate the growth of Broadband service in India.

It was observed that demand for broadband service is primarily driven by Internet and PC penetration. It was also accepted by that point of time that the level of Internet and Broadband access in India was much lower as compared to other Countries of Asia. In fact penetration of Broadband, Internet and Personal computer (PC) was observed to be 0.02%, 0.4% and 0.8% respectively by the end of December, 2003. The adoption of Broadband policy, 2004 had made a great enhancement in all such things. Recently, high speed Internet access is available at various speeds in the country from 64 kilobits per second (kbps) onwards. In the current situation an always on high speed Internet access at 128 kbps is considered as "Broadband". Therefore, the government visualized an accelerated growth in Internet penetration and PC as the success of broad and it would largely depend on their fast spread. In the light of above facts and condition, the following framework of Broadband policy 2004 was adopted by the government of India.

Role of Some Important Agencies:

The government decided that Broadband and Internet Services should accelerate decentralized governance at Panchayat level.

The role of other important facilitators like Department of Education, Department of Health and family Welfare, electricity authorities, Department of Its of various statements, Department of Local Self governments and Panchayats are very important drivers to carry the advantage of Broadband services to the users particularly in rural and hilly areas.

Fiscal Matter:

The department of Telecommunication is highly conscious of the fact that Broadband Service should reach to the urban as well as rural people at affordable price and easy terms. Therefore, Department of Telecommunication decided to work out on package in consultation with ministry of Finance and related department and also service providers to make the things easy.

"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 (DOT, 2004).

This is clear from the above statement that broadband policy, 2004 has proved to a mile stone for telecommunication service for both-public and private service providers.

The National Telecom Policy (NTP) 2011 includes multiple aspects of communications to enhance efficiency, convenience and access across the length and breadth of the country. The policy was committed to reliable, secure affordable and high quality converged telecom services anytime and anywhere to the people of India.

In view of above facts the NTP 2011 recognizes the following facts:-

Telecom as an Infrastructure: NTP 2011 accepted the need to consider telecom as an infrastructure sector. Various infrastructure companies like power, natural gas, roads, ports etc. enjoy tax holidays under sector 80IA of Income tax act, 1961. Since telecom is also an essential infrastructure company. Therefore telecom Infrastructure Company should also be given same incentives such as, reduction in customs duty on raw material for manufacture of telecom equipment handsets, optical fiber and reduced important duty on non-electronic parts for manufacture of telecom equipment.

Telecom Equipment Manufacturing in India:

The induction of next generation technology has given a rise to the demand for telecom equipment as telecom operators have introduce 3G and broadband wireless access services. Telecom domestic equipment manufacturing companies failed to meet the demand of the telecom equipment. Therefore most of the equipment manufacturing companies need expansion of domestic telecom network to import from abroad like, Finland, South Korea, China and the USA. Many other factors which have obstructed development of a positive environment for telecom manufacturing in India include lack of skilled workforce, lack of R&D activities, competition from low-cost Chinese

equipment and unfavorable tax as well as duty structure. In addition to above non-availability of long term finance and brain drain in India are available for above facts.

Villages and Broadband Access:

"NTP 2011 had a vision of connecting all the village panchayats with high speed broadband through national broadband network. Government had approved a project for National Optical Fiber Network in November, 2011 for the purpose of providing broadband connectivity to all 2.5 lakh Gram Panchayats in the country. The Policy included an idea to extend the existing optical fiber network up to village Panchayats for providing various services like e-education, e-health, e-entertainment, e-commerce, e-governance etc. to people and businesses."

The Policy aims at making mobile devices as tools for social empowerment particularly for rural areas. This issue was to be obtained through enabling participation of citizens in e-governance and m-governance projects in key sectors such as health, education, skill development, employment, governance and banking on mobile devices. Cloud-computing had an objective to enable social networking and participative e-governance. One Nation and Full Mobile Number Portability was taken into consideration One Nation. Free Roaming system was also adopted under this policy.

The main components of NTP, 2012 are discussed below:

Broadband Rural Telephony and Universal Service Obligation Fund:-

The Policy states for a robust and secure telecommunication service rural and remote areas. In order to bridge the digital gap between the Policy also stressed for affordable and high quality broadband connectivity and telecom service throughout the nation and this objective had to be achieved through combination of technologies such as- optical fibre, wireless, VSAT and others. Optical fibre networks were directed to be laid down to the village panchayats, using USOF funding. It also aims at high speed broadband access to all the village panchayats by the of 2014 and access to all villages and habitation by 2020. It had an objective to increase the rural tele-density from 29-70 by 2012 and 100 by 2020. (Singh Shalini, 2012).

It was recognized to promote domestic manufacture of telecom equipments and new telecom Policy sought to support electronic design and manufacturing cluster for design, development and manufacture of telecommunication equipment. The NTP, 2012 also aims to provide incentive for export of telecom equipment and also give fiscal incentives for domestic manufacturer of telecom equipments under the scheme of Modified Special Incentive Package (M-SIPS).

Licensing, Convergence and Value Added Services:

The policy contains following facts regarding licensing -

To simplify the licensing framework in order to facilitate converged high quality services.

The NTP 2012 clearly speaks to strengthen institutional and legal and regulatory framework and also maintain transparency and efficiency in decision making process and also decided to implement web-based e-governance solution for online application, processing and issuance of licence by Department of Telecommunication.

Make use of fixed mobile convergence for the purpose of optimizing the delivery of services to the consumers irrespective of the device or the location.

The policy speaks for convergence of technology, for the purpose of enabling a single network for voice data and video, internet telephony (VoIP), value added services and broadcasting services.

To proceed for convergence between telecom, broadcast, IT service, networks, and technologies. It is also necessary to overcome hurdles such as "existing segregation of licensing, registration and regulatory mechanisms in these areas to enhance affordability, increase access, delivery of multiple services and cost reduction."

Spectrum Management as per NTP 2012:

The current policy has an objective to create framework for increasing the availability of spectrum for the purpose of telecom services. It also sought to implement a transparent process for allocation of spectrum as well as ensure availability of spectrum. The Policy wishes to make available additional 300 MHz for IMT (4G) services by 2013 and another 200 MHz by 2020 which is a strong decision.

The government has decided to promote efficient use of spectrum and will conduct periodical spectrum usage audit. It will also de-licence to un-used and additional frequency bands for public use. It has to conduct periodic audit of spectrum use to ensure optimum use of spectrum.

To promote use of white spaces with low power devices, without causing harmful interference to the licensed applications in specific frequency bands by deployment of Software Defined Radios (SDRs), Cognitive Radios (CRs), etc.

Quality of Service and Protection Consumer Interest:

The TRAI was given important role to play to maintain quality of service and protection of consumer interest.

The followings are Policy objectives with regard to protection of consumer interests:

Accountability in quality of service, tariff, usage and;

Communication Security and Network Security:

The objective of the current policy is to formulate a strategy to address the concerns related to communication security and network security. AADHAR based authentication framework was observed to be crucial in providing service such as m-payment.

The main strategies recognized by NTP 2012 to implement security measures are as below-

Telecom service providers must take adequate measures to ensure security of the communication send and received through their networks. The service provider will have to adopt contemporary network security standards and it is mandatory for service provider.

Telecom service providers have to provide communication assistance to law enforcement agencies. Within legal framework and also keeping in view the individual privacy and also follow international practices to the extent possible to meet national security needs.

Regulatory measures are to be adopted to ensure safe connect and devices are inducted on to the network.

Development of Telecom Sector Under Five Year Plans:

The objective of the government was to boost low teledensity prevailing in the country till the late 1990s. In fact Government was unable to finance the investment required to push the growth of telephones due to 1991 economic crisis in India. India played its required the important of technologies and telecom equipment. Private sector role effectively in the 2000s and had also started investing aborad. Table 4.2 shows the total outlay on telecommunications has increased from Rs. 47 crore in the First Five Year Plan to Rs. 2,58,439 crore in the Eleventh Five Year Plan (EFYP) (2007-12). Therefore, share of telecommunication in the total Plan outlay was increased from 2.27 percent to 7.09 percent during the same Plan period. The growth rate of the plan outlay on communications indicates a major change was made in the Sixth Five Year Plan. As per TRAI report, outlay on communication in Eleventh Five Year Plan increased more than two and a half times as compared to the previous Plan (TRAI: 2012).

Five year plan	Communication Outlay	Growth rate of Communication outlay	%age of communication outlay
First Five year	47		2.27
Second Five year	66	40	1.38
Third Five year	164	148	2.19
Fourth Five year	415	153	2.61
Fifth Five year	781	88	2.01
Sixth Five year	2722	249	2.79
Seventh Five year	8123	198	4.51
Eight Five year	25110	209	5.78
Ninth Five year	47280	88	5.50
Tenth Five year	98968	109	6.49
Eleventh Five year	258439	161	7.09

 Table- 1

 Total Plan Outlay and Outlay for Communication in Five Year Plans (Rs. crore)

Source: Telecom Regulatory Authority of India, Study paper, "Telecom sector in India: A decade Profile", 2012, New Delhi.

Telecom Sector under 12th Plan:

The telecom sector had registered an annual growth rate of more than 35 percent during 2008-11 and the growth has been predominantly impelled through voice based services. Hence, the twelfth plan focused on new technological developments for expanding the usage value added services at affordable rates. (12th Plan document) The overall teledensity has also reached to 78.66 percent during the Eleventh Plan period. However, the subscriber base for telecom services in India is observe to be skewed in favour of urban areas.

National Digital Communications Policy- 2018

The National Digital Communication Policy has been formulated, in place of the existing National Telecom Policy- 2012 and this new policy aims to facilitate India's effective participation in the global digital economy (The Indian express, 2018). In policy also aims to ensure digital sovereignty and the objective are to be achieved by 2022. **Key features of the policy:**

- To ensure connectivity to all uncovered areas.
- To provide universal broadband connectivity at 50 Mbps to every citizen.

- To provide 1 Gbps connectivity to all Gram Panchayats by 2020 and 10 Gbps by 2022.
- To Train one million manpower for building New Age Skill.
- To attract investments of USD 100 billion in the Digital Communications Sector.
- To establish a comprehensive data protection regime for digital communications that safeguards the privacy, autonomy and choice of individuals.
- To facilitate India's effective participation in the global digital economy.
- To enforce accountability through appropriate institutional mechanisms to assure citizens of safe and secure digital communications infrastructure and services.
- To Expand IoT ecosystem to 5 billion connected devices.

The National Digital Communication Policy, 2018:

The National Digital Communication Policy, 2018 has an objective to unlock the transformative power of digital communication networks – to achieve the goal of digital empowerment and improved well-being of the people of India. For this, attempts have been made to outline a set of initiatives, strategies, goals and intended policy outcome. The current National Communication Policy aims to fulfill the following Strategic Objectives by 2022:

- To make a provision of Broadband for All people and all parts of country.
- To create 4 million additional jobs in the Digital Communication sector5
- To enhance the contribution of the Digital Communication sector to 8% of India's GDP from- 6% in 2017.
- To propel India to the Top 50 Nations of the world in the ICT Development Index of ITU from 134 in 2017.
- To enhance India's contribution to Global Value Chains
- To maintain Digital Sovereign

Vision of Telecom Policy 2018:

To accomplish the information and communication needs of citizens and enterprises through the establishment of a resilient, secure, accessible and affordable Digital Communication Infrastructure and Services; India will proceed for a digitally empowered economy and society.

Missions of National Digital Communication Policy 2018:

For the purpose achieving these objectives by year 2022, the National Digital Communication Policy, 2018 will stress on three missions.

- (a) Connect India : To create Robust Digital Communication Infrastructure
 - To Provide Broadband service for all as a tool for socio-economic development, while ensuring service quality and environmental sustainability.
- (b) **Propel India:** To enable Next Generation Technologies and Services through Investment, Innovation and IPR generation.

To exploit the power of emerging digital technologies, including 5G, AI, IoT, Cloud and Big Data to enable provision of future ready products and services; and to speed up the fourth industrial revolution by promoting Investment, Innovation and IPR.

(c) Secure India: To ensure sovereignty, Safety and Security of Digital Communications.

To make secure the interests of citizens and safeguard the digital sovereignty of Govt. of India with a focus on ensuring individual autonomy and choice, data ownership, privacy and security; while accepting data as a crucial economic resource.

The objective of a national policy on digital communication is to prepare India and its people who are future customers. To achieve the goals it is necessary that the main stake holders- namely centre, the states, local government, Telecom Service providers, Internet Service providers, Infrastructure providers, academic community, the innovators, handset and equipment manufacture and others like start-ups come together to make a solid coalition to deliver this national policy and its mission in efficient manner.

To ensure effective implementation and monitoring of the National Digital Communication Policy, it was accepted to re-designate the Telecom Commission as the Digital Communications Commission to ensure that the expected objectives of National Digital Communication Policy, 2018 are achieved within stipulated period.

Conclusion:

Finally, the new Telecom policies contributed a lot to the development of Telecom Sector. New telecom policies adopted various new steps for the development of Telecom and arrival of new technologies have played significant role. TRAI was a strong instrument on behalf of government to look into various affairs of private players. Regulation in telecom market is an issue of great importance because without government regulation strong telecom players may have indulged in unfair practices which could cause monopoly or control over the various parts

of the market. In fact, the regulatory framework was essential to keep the check on market behaviour regarding pricing, interconnection, service performance and other aspects. The regulation significantly influences the performance and growth of telecom services. Regulatory and institution reforms in the telecom sector have resulted in reduction of the cost of transportation and faster information exchange system in the country to protect the interest of consumer.

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