Chapter 4.

LITERATURE REVIEW.

4.1. Telecommunication Planning - India.

The telecommunication planning in India can be analyzed with reference to following 5 year plans, telecom policies and the literature review pertaining to the same time by various authors and publications.

8th Five Year Plan - 1992 to 1996.

In the 8th Five year plan, importance of communication was mentioned as “Efficient and well developed communication system has become synonymous with modernity and economic growth. For developing countries like India, it is one of the critical inputs which would determine the pace of socio economic transformation of society”. (1).

1. 8th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 10.1.1.
The plan gives importance to telecommunication and attributes telecommunication network as one of the essentials for economic development of the country. At the time of planning the status of telecommunication was "moderate". The teledensity was recorded at 0.52 which was less than many Asian countries in comparison. The same is illustrated in following table. (2)

**Table - 17. Teledensity comparison.**

<table>
<thead>
<tr>
<th>Country</th>
<th>Teledensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>0.78</td>
</tr>
<tr>
<td>Iran</td>
<td>3.43</td>
</tr>
<tr>
<td>Brazil</td>
<td>5.5</td>
</tr>
<tr>
<td>Egypt</td>
<td>5.1</td>
</tr>
<tr>
<td>Philippines</td>
<td>1.01</td>
</tr>
<tr>
<td>Malaysia</td>
<td>7.37</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.7</td>
</tr>
<tr>
<td>Singapore</td>
<td>35.42</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.84</td>
</tr>
<tr>
<td>India</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Although this comparison makes India to lag behind, there was one more interesting observation. India had the highest annual growth rate of direct exchange lines, which was more than the world average. The following table illustrates the same. (3)

**Table - 18. Direct exchange line growth comparison**

<table>
<thead>
<tr>
<th>Country</th>
<th>Annual Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>5.00 %</td>
</tr>
<tr>
<td>The America</td>
<td>3.5 %</td>
</tr>
<tr>
<td>Europe</td>
<td>5.7 %</td>
</tr>
<tr>
<td>Asia</td>
<td>6.2 %</td>
</tr>
<tr>
<td>India</td>
<td>8.4 %</td>
</tr>
</tbody>
</table>

2. 8th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 10.5.3.
3. Ibid., point no 10.5.3.
During the 7th plan, the total spend on telecommunication was Rs. 8,122.41 crores as against the original outlay of Rs. 4,010 Crore. The seventh plan objective was to reduce waiting period. Hence additional switching capacity was planned and as a result 16.98 lakh direct lines were provided as against planned 16.00 lakh lines. One more focus area was Research & Development in the telecom sector. And with the help of C-DOT there has been substantial progress on that front. (4)

The 8th plan had focused on following as below. (5)

- To achieve teledensity to 6 or 7. Since there was ever increasing demand for the telephone lines, the objective was to reduce waiting period to less than 2 years. Rural and tribal areas were targeted to provide telephone on demand. The plan objective was to ensure by the way of installing additional switching capacity of 93 lakh lines in order to provide 75 lakh new connections.

- The goal not only focused on equipping additional capacity, but also on accessibility, connectivity and reliability which also took into account, Gram Panchayats and PCO (Public Call Office), STD (subscriber trunk dialing), linking of head quarters etc.

4. 8th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 10.6.1 to 10.6.6.
5. Ibid., point no 10.7.1 to 10.7.7.
One of the objectives was to throw open value added services through franchising. Value added services included *cellular mobile services*, voice and electronic mail services, audio and video conferencing services, radio paging and video text. Today cellular mobile services are the key contributor to the telecommunication revolution in India. As of June 2007 the total wireless subscriber base in India was 184.92 million. The total subscriber base growth year on year can be illustrated with the help of a diagram as follows. As per Monthly review, Center for monitoring Indian economy, India has added 5.9 million subscribers alone in September 2007. (6), (7).

To achieve the above objective, there was a requirement to increase availability of switching and transmission equipment. This was planned to be fulfilled by new economic policy initiatives which included deregulation of industries including the telecom sector. It was nice to notice that manufacture of telecom equipment has been thrown open to the private sector. Other new strategic initiatives that are worth noticing in the plan were. (8)

- Involvement of private sector in the telecommunication.
- Importance of quality of services to end users.

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6. 8th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 10.7.5.
8. 8th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 10.8.2 and 3.
During this period we can comment on evolution of regulatory and policy framework in India as follows. (9)

**Table - 19. Evolution of regulatory and policy framework in India.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Access</td>
<td>Government monopoly</td>
<td>Open for private players but only four entrants and less than 1% market share</td>
</tr>
<tr>
<td>National Long Distance</td>
<td>Government monopoly</td>
<td></td>
</tr>
<tr>
<td>International Long Distance</td>
<td>Government monopoly</td>
<td></td>
</tr>
<tr>
<td>Wireless</td>
<td>No wireless</td>
<td>• Private sector license (2 per telecom circle)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 13 private operators started service. Considerable M&amp;A activity</td>
</tr>
<tr>
<td>Key Events</td>
<td>None</td>
<td>• New Telecom Policy 1994 licked off regulation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Licenses issued based on fixed payments.</td>
</tr>
</tbody>
</table>

From the above table we can say that, the telecommunication revolution started from 1994 onwards.

During the early 60’s telecom was a status symbol. Today it is one of the essential infrastructures of the Indian economy. An article by K.R.G Nair mentions, telecommunication is contributing in efficient production and distribution of goods in any economy. The same is true in Indian case too. (10)

1991 to 1997: Evolution of the Regulator. This the period when Indian telecom regulator was created. This time was the time of competition Vs opposition by incumbent operators. The point to note in the era is privatization and competition arrived before the regulation. (11)

During the initial stages, the focus was on manufacturing of telecom equipments by private sector. This started reform in India’s telecommunication sector in 1991, when Government offered private sector to manufacture telecom equipments and opened doors for the foreign investments. As mentioned in the article Telecommunication reforms in India, by Rafiq Dossani, India Review, vol 1, no 2, April 2002, pp.61-90. Published by Frank Cass, London, the possible motivator for this step by the government was - China’s opening up of telecom equipment market by allowing foreign players. (12)

1994 was the year where Government of India came out with the first ever telecom policy for the country. Till such time 5 year plans of India were deciding factors for telecommunication growth in India. This first national telecom policy of India had revised targets on telecommunication growth.

The policy has a linkage with the new economic policy adopted by the Government of India. As per the new economic policy one of the objectives was to improve India's competitiveness in the global market and to increase exports along with attracting foreign direct investments. In this context telecommunication was looked at a very strong requirement to facilitate FDIs and stimulate domestic investments. Therefore highest priority was given to telecommunication development in India. (13)

"The NTP (National Telecom Policy) was the first attempt to delineate an exclusive policy for the telecommunication sector. This document, only 3 pages long, marked the beginning of a process of liberalization of the telecommunication sector" - Competition in Telecommunication in India by Dr. Subhashish Gupta's article page no 1. (14)

This clearly indicates that NTP 1994 was the first move towards telecom revolution in India.

Objectives of NTP 1994 - During 1990's telecommunication was the luxury and was not in the hands of common persons. Hence the policy objective was very clear "telecommunication for all and telecommunication within the reach of all". This policy aimed at providing connectivity to all by making telephone available to everyone who wish to own it. (15)

NTP 1994 laid emphasis to provide communication facilities to common man. At the same time equal emphasis was given to quality of services and the availability across India. NTP 1994 has multifold objectives. (16)

- As mentioned above, "telecommunication for all and telecommunication within the reach of all" was one of the focus areas. During that time telephone connectivity was not on demand. There used to be waiting and Qs to get telephones. Hence the plan had the objective of providing telephone on demand as early as possible. This was estimated to be met with increasing capacity of telecom network.

- Another important objective of the policy was to ensure villages were given connectivity as part of universal services. Since rural India was not connected with the telephones, in the policy, villages were under the focus to ensure connectivity and telecom services.

NTP 1994 was very clear on standard of communication services. It was a good move to ensure quality and service standards while offering telecom services.

And most importantly, NTP 1994 also took care of interests of defense and security aspects.

Telecommunication facts during NTP 1994 - Telecommunication development had a humble beginning in India. (17)

- During the time India's teledensity was 0.8 which was below average in comparison with any other developing nation.
- Total installed lines were 8 million.
- Waiting list was 2.5 million.
- Total villages with connectivity were 1.4 lakh.
- There were about 1 lakh public call offices in urban areas.

As mentioned earlier NTP 1994 had linkage with 5 year plan of India. During that time, 8th Five year plan of India was being implemented. To ensure telecommunication growth happens in line with the plan, the targets were revised for National Telecom Policy. This was an excellent move to ensure both have similar objectives.

The revised targets of NTP 1994 were, (18)

- Telephones to be made available on demand by 1997.
- Coverage to all villages by 1997.
- The urban PCO ration to be 1 PCO for every 500 persons by 1997.
- International standard value added services to be offered within the VII plan.

Telecommunication was growing rapidly during the VIII plan period. There was nearly 50% demand increase for telephones from 7.03 million in 1992 to 10.5 million in 1994, in the same ratio growth were expected to be 15.8 million by 1997. This had called for additional capacity planning at additional expenditure. As per planned outlays of VIII plan, there was a resource gap of Rs. 7,500 Crore. This gap was expected to be filled up by the private participation in telecommunication fields. The resource gap of Rs. 7,500 Crore was the trigger to allow private participation in telecommunication area.

Value added services were given importance in the policy. In order to ensure world class standard value added services are made available to consumers, these services were opened for private investments. The listed value added services were as below. (19)

1. Email services.
2. Voicemail services.
3. Data services.
4. Audio text services.
5. Video text services.
8. Cellular mobile services. During the policy mobile services were considered as value added services. Today mobile services are an integral parts of telecommunication services. It can even be quoted that all the telecommunication revolution in India today revolves around the cellular mobile services.

The first 6 value added services were open for private companies as long as they are registered companies which were given license on non exclusive basis to offer services. For Radio paging and Cellular mobile services, the qualification criterion was different. Over all a well balanced policy which was looking forward for growth and inviting private participation. NTP 1994 opened doors to competition in the field of telecommunication.

The 9th Five Year Plan describes telecommunication as “telecommunications is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. Although the sector has grown rapidly in recent years, its growth needs to be accelerated further in the Ninth plan. It is equally important to accelerate structural changes in this sector in line with trends in other countries to ensure that telecommunication services are not only made available on the scale needed to sustain rapid growth in the economy as a whole but also that the quality and cost of these services come up to the requirements of modernizing economy”. (20)

The underlined words indicate that, during this time telecommunication started gaining importance. Telecommunication had potential to fuel growth to other sector. Benchmarking was also a key factor to be considered in order to ensure the learnings from other economies can also contribute to refinement to the strategic initiatives in the sector.

The telecom status of India during planning of 9th five year plan was as below.

- There were about 23,400 + working telephone exchanges working in the country.
- Total telephone connections in the country were about 178 lakh. Out of which about 20% was rural share.
- Out of the total connection, 90% subscribers could avail STD/ISTD services.
- Urban areas had 4.28 lakh PCOs.
- Options available to business customers were, Mobile Radio Telephone, Radio Paging, Facsimile, Data Transmission, Integrated Services Digital Network (ISDN) etc.
- 4 Metros and all other circles had cellular services, except in Andaman and Nicobar Islands and Jammu and Kashmir.
- Six licenses for basic services were granted for Madhya Pradesh, Andhra Pradesh, Gujarat, Rajasthan and Maharashtra.
- M/s Bharati Telenet Ltd. in Madhya Pradesh and Hughes Ispat Ltd. in Maharashtra were offering services as private service providers.

Policy framework of the plan included, (22)

- Importance of telecommunication - It was evident that telecommunication sector in India was gaining importance. Telecommunication infrastructure was required for economic development of India. The same had tremendous growth and prospect. Due to its growth, telecommunication gained importance for allowing private sector participation and the most apt candidate for privatization.

- The framework also speaks of improving service standard of government run organization with the introduction of competition.

- At the same the public sector was allowed to play a dominant role in the provision of basic services during the ninth plan. Value added services were targeted to be serviced by private players along with public sector undertakings. Opening up of value added services to private sector was one of the objectives of National Telecom Policy 1994 too. (23)

- Private investment - Value added services were targeted to be provided by private sector.

22. 9th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 7.2.
• The policy framework also takes into consideration, that The National Telecom Policy had objectives of making India as a major manufacturing base and major exporter of telecom equipment. There was a requirement open technology transfers, financing, Joint ventures etc.

• TRAI - The Telecom Regulatory Authority of India (TRAI), was setup in 1997.

To summarize, the policy framework of the 9th five year plan covered the important factors like, Importance of telecommunication, focus on Public sector undertakings, Introduction of competition, encourage private investments, have common objectives with National Telecom Policy and introduce TRAI.

Consideration of above factors illustrates that there was a vision. Telecommunication viewed as an important segment in days to come as it is going to be an essential factor in day to day life. One can observe elements like privatization, opening up of telecommunication to new technologies etc are being considered. This clearly indicates emphasis and importance given to telecommunication during policy framework stage.

Although competition, opening up of sector, privatization etc are aimed at fuelling the growth of this sector, at the same time equal importance was give to the public sector undertakings. The growth plan and outlays proposed to these public sector undertakings justifies the "balancing act of public vs. private" perspectives.
Introduction of competition ensures end user benefits, new technology services, etc. Introduction of competition will ensure both private and public sector undertakings will focus on improving their efficiencies and bringing the best of services to the end users.

This plan was inline with the objectives and goals of NTP (New Telecom Policy). Both NTP and 9th plan were complementing each other keeping the end objective of "telecommunication growth" in India. The introduction of TRAI is a well noted as once the telecommunication field is thrown open to competition, private participation, new technologies, value added services etc, and there will be a requirement of regulation. Introduction of TRAI is a strategic step towards regulation. Since the new approach encompasses new and unknown elements, as a result of opening up of the sector, there has to be a strong regulation mechanism to monitor, regulate and intervene, as and when required.

9th five year plan is complete in all senses when it comes to policy framework and planning. Given the fact that India is vast and varied with culture, social practices, and is highly diverse, population etc, 9th plan is well organized in considering these facts and coming up with a suitable and apt framework.
The objectives and targets of 9th plan were inline with the National Telecom Policy 1994. The major objectives for the Ninth Plan were, (24)

- Moving towards universal service by giving complete coverage and connectivity on demand.
- Connectivity to be made easily accessible.
- Offer telecom services which can match world class standards. Make communication services affordable.
- Give target to Department of Telecommunication.


New telecom policy 1999-2000, can be termed as the most thought after and intelligent policies till today in the field of telecommunication. The policy was focused to ensure telecommunication growth happens in the years to come.

The policy understood importance of telecommunication in the Indian context. Understanding of telecommunication and its importance in a situation where in it is poised to enormous growth is very important as the policy initiatives should revolve around this importance. The vision of telecom industry as a major GDP contributor and key contributor to the country’s economic growth was taken into account. We can mention NTP 1999 as a visionary telecom policy.

The need for a comprehensive policy had to consider the developments happening in the field of telecommunication and Information Technology. It was the time, technology transfers were happening at a very faster phase. There were separate licenses for Wireline and wireless services along with Internet Service Providers. Hence there was a requirement to ensure considering the business dynamics of above operators, the Government should give a future proof policy which enables growth and telecom prospect. And in the context of NTP 1994’s objectives not being met, the need for such a policy was inevitable.
The NTP 1999-2000 had objectives as below, (25)

- As mentioned couple of times, telecommunication access is the key for social economic development of India. In this context the objective was to provide communication to ensure the socio economic obligations are met.
- To provide telecom services across India including rural areas. Rural telephony was given equal importance including remote and tribal areas.
- The contribution of telecommunication was possible only when there is infrastructure available to serve the nation. This infrastructure also enables IT revolution and other related industries. Hence improvement telecom infrastructure was also a key objective.
- Public Call Offices were to be looked at not only to give connectivity but also offer ISDN services and to convert them into Information Centers.
- Encourage competition by ensuring both private and public sector service provider work in harmony and cover urban and rural areas under their telecom networks.
- Apart from the above equal emphasis was given to Research and Development, Spectrum management and ensure defense and security interests of the country.

The policy had a vision of making Indian companies global players.

If we take a look at the targets of NTP 1999 which focused on following, (26)

- By 2002, telephone was to be provided on demand.
- Achieve teledensity of 7 by 2002 and 15 by 2010.
- Focus on development of telecommunication in rural areas. This was to be backed up by obligation for fixed service providers to offer services in rural areas. One of the most optimistic targets was to give services to all villages in the country by 2002.
- All district head quarters to have internet access by 2000 and data and multimedia services to villages with more than 2 lakh population by 2002.

To ensure the objectives and targets are achieved, there was a requirement for a conducive environment. This environment should encourage and attract investments in the telecom sector. The NTP focused on attracting investments from the private participation. This policy framework encouraged major verticals to start operating in this environment. Some of the major verticals included were Wireline, wireless, National and International Long Distance services. (27)

The other issues covered under this plan were spectrum management and universal service obligation. This plan also looked at giving powers to TRAI which would help TRAI to come out with directives, recommendations and consultation papers.

During the 10th five year plan, telecommunication was in the evolving stage. Although 8th and 9th plans and telecom policies did the planning the best way they can, there was lot to be done. Along with the telecommunication other sectors like (Information Technology), ITES (Information Technology Enabled Services), etc were also experiencing the boom. These sectors were much dependent on telecommunication infrastructure to be more efficient. Indian services of IT and ITES had few advantages as compared to rest of the economies like English speaking manpower, lower cost of set up and operation. There was a requirement for telecommunication to realize its importance and gear up accordingly to serve much better.

For the first time, there was a strategic movement in assessing telecom reforms and comparing with other rapidly growing economies. Cost viability and return on investments were duly factored in while taking examples of other rapidly growing countries.

The 10th plan was equally focused on telecommunication connectivity in rural sector. (28)

The objectives of 10th plan had a modern approach. It started speaking of meeting the demands of modern economy at most optimum cost. The objectives focused on making communication available at affordable costs. The rural connectivity was still an issue as there the universal service mandated availability of telecom services even to rural areas. At the same time the requirement to offer converged telecom services was the need of time.

Some of the important contributions of this plan were, this plan identified issues like, factors and trends relevant for future policy initiatives, basic principles of regulation etc. The effort to identify these critical factors was a welcome move. The same not only enabled the policy maker and the regulators to understand the importance of these factors but also it became a reference for future thinking. Few are illustrated as below. (29)

Table 20 - Factors and trends relevant for future policy initiatives.

<table>
<thead>
<tr>
<th>Factors and Trends Relevant for Future Policy Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Growth of Mobile Services</td>
</tr>
<tr>
<td>2  Lower capital investments in coming years</td>
</tr>
<tr>
<td>3  Lower long distance call charges</td>
</tr>
<tr>
<td>4  Lower margins due to competitive environment</td>
</tr>
<tr>
<td>5  Data services to have more focus</td>
</tr>
<tr>
<td>6  Larger Universal Service Obligation Due to large uncovered areas</td>
</tr>
<tr>
<td>7  Convergence of services - a new trend in years to come</td>
</tr>
</tbody>
</table>

Table 21 - Basic principles of regulation. (30)

<table>
<thead>
<tr>
<th>Basic Principles of Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify time limits for various regulatory procedures, including dispute resolution, such as interconnection, quality of service, USO funding, etc.</td>
</tr>
<tr>
<td>Establish a clearly specified schedule of penalties for not meeting the licence conditions and the conditions under which they apply.</td>
</tr>
<tr>
<td>Developing benchmarks for self-regulation by the industry.</td>
</tr>
<tr>
<td>Developing a framework for interaction between regulator and consumer bodies so as to ensure continuous flow of information and feedback from the consumers to achieve desired standards of service quality and regulation.</td>
</tr>
</tbody>
</table>

30. 10th Five Year Plan, Planning Commission, Government of India. Vol 2, Point no 8.5.41.
4.2. Telecommunication Planning - The United Kingdom.

Planning of telecommunication can be best illustrated by analyzing annual plans of Ofcom. (Office Of Telecommunication) These plans will be - Ofcom’s Annual Plan 2005-06, Ofcom’s Annual Plan 2006-07 and Ofcom’s Annual Plan 2007-08. The analysis of which allows us to understand following.

- Objectives of telecommunication planning and regulation.
- Mechanisms to establish objectives and review them over a period of years.
- How a long term strategy is divided into yearly plans and how are they interlinked in subsequent years to ensure strategic objectives are met.

Most importantly analysis of these plans and their objectives / outcomes can throw some inputs which can be used as learnings for the Indian context.

Ofcom’s Annual Plan 2005-06.

Ofcom started working on a 3 year strategic framework. The objective of setting up a strategic objectives over a period of 3 years is to ensure following.

- Any policy or plans to be given at least 3 years of time in order to ensure the objectives are met. From the perspective of analyzing the effectiveness of policies it would be very appropriate that these objectives are spread across 2-3 years of time frame.
- From a regulatory perspective the acceptance of any new approach takes time as it will be a very slow moving process as the telecom market is occupied by many players under many segments.
Hence Ofcom has set up 3 year strategic framework. It also ensured the starting point of this approach was statutory framework of Communication Act 2003. (31)

In Ofcom's draft plan a 3 year framework was adopted which will guide the activities over the next three years. This approach has key tasks for all the 3 years. There have been clear responsibilities set for each year. Every year has its own role in ensuring the strategic objectives are met.

Expectation in year 2005-06 will be the focus on delivery, with particular emphasis on implementing the strategic reviews carried out in our first year of operation. Expectations from 2006/7 will be about sustaining progress, with a target of establishing a benchmark for best practice regulation. Expectation from in 2007/8 we will evaluate the impact of our first three years of operation, before re-focusing for the next three years.

A 3 year strategic framework is illustrated as follows. (32)

**Table 22 - 3 year strategic framework of Ofcom’s annual plan 2005-06.**

<table>
<thead>
<tr>
<th>2003/04 Laying the foundations</th>
<th>2004/05 Getting Started</th>
<th>2005/06 Driving Delivery</th>
<th>2006/07 Sustaining Progress</th>
<th>2007/08 Reviewing and Refocusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational design</td>
<td>Establishing Ofcom</td>
<td>Implementing strategic reviews</td>
<td>Continuing initiatives to embed the conclusions of reviews</td>
<td>Test and evaluate new policies / regulations</td>
</tr>
<tr>
<td>Legislative framework</td>
<td>Key strategic reviews</td>
<td>Opening up markets</td>
<td>Respond to the changing market place</td>
<td>Prepare Ofcom for the next three years</td>
</tr>
<tr>
<td>Merger</td>
<td>statutory duties and legacy regulation</td>
<td>Important citizen consumer issues</td>
<td>Establish benchmarks for best practice regulation</td>
<td>International engagement</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Reducing regulation</td>
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<td></td>
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<td></td>
<td></td>
<td>Working effectively</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Understanding future developments</td>
</tr>
</tbody>
</table>

From the above illustration it is clear that respective years have set targets and the review mechanism is well built within the framework of the strategy. The policy planning started in year 2003-04. This year was the year of foundations. The year where 3 important tasks were considered as below.

- Organizational design. This was intended to come out with a strong organizational design which is very focused on strategic implications over a period of 5 years.

- A strong and robust legislative framework required to ensure organizational goals are supported in order to move towards desired strategic objectives.

- Mergers to ensure consolidation is brought in and which will be a very vital key which contributes to goals and objectives. Consolidation basically ensures all the operators are on a similar track and there is standardization among the service provider’s principles.

Year 2004-05 was viewed as a starting point after the foundations were established in previous year. The focus points of 2004-05 was listed as below,

- To establish Ofcom with clear evolution path for duties and regulation.

- Strategic review of key initiatives planned in previous years. This is an essential tool which links any unfulfilled objectives being met. Strategic review is an excellent method of analyzing the situation with respect to goals and objectives that were considered while formulating the strategic objectives. Reviews basically help to understand the current situations and also help in strengthening the way forward for a much better and enhanced means of achieving strategic objectives.

- Outlining of statutory duties of Ofcom and also keeping in view the legacy regulation. (33)

In the first two years the platform was set to take off on bigger challenges that are posed by ever increasing customer demands and competitive environments. This approach was carefully designed in order to ensure fundamentals are strong from regulatory perspective. This strategy was designed to ensure all the strategic implications were duly considered and appropriate provisions were made. The 2 years approach ensures no scope for any ambiguity for the next years and phases of telecom policy planning in the United Kingdom.

Moving further, for the year 2005-06 plan, the focus was on “Driving Delivery”.

Themes for year 2005-06 - There are 6 themes worked out under this plan.

**Theme 1 - Implementing the strategic reviews.**

- Preparation for a new approach of review which will facilitate the transition from analogue to digital and from switched-circuit fixed line networks towards next-generation networks based on Internet Protocol.
- Consider the response to phase 2 of the review and work on phase 3 statement.
- The conclusions of the review to focus on ongoing work in a number of areas, including, Ensuring the development of fit-for-purpose wholesale line rental and carrier pre-selection products to increase competition in voice services, implementing revised price controls for BT’s network services, Promoting network competition, facilitating the migration to BT’s 21st century Network, facilitating the development of new voice services, such as voice over broadband; and developing a framework for analyzing markets at a sub-national level which would enable geographic differences to be taken into account. (34)

Theme 2.

Opening up markets and encouraging innovation.

- The other initiatives to promote competition in telecoms will include reviewing of call termination, wholesale international roaming market, monitoring the provision of directory enquiry services through mystery shopping and market research conducted with the Independent Committee for the Supervision of Standards of Telephone Information Services and facilitating the provision of effective consumer information about the cost and quality of these services; and investigating allegations of anti-competitive behavior by communications providers and resolving disputes.

Theme 3.

Addressing important citizen and consumer issues.

This activity was ensured by addressing the following components.

- Promoting wide spread access of telecommunication services across.
- Protecting citizens and consumers.
- Clarity on citizen's interests.
- Addressing the complaints.

(35)

Theme 4.

International Engagement.

The major points covered under this theme were working in harmony with the EU regime governing electronic commerce and Contributing to the development of EU communications policy by strengthening engagement with the European Regulators' Group.

Theme 5.

Taking opportunities to reduce regulation. The focus was on reducing the regulation and better policy making.

Theme 6 and 7.

Effective working and understanding future developments were other key areas that completed the strategic view of the plan. 3 major future developments were considered under this plan. They are,

- Second generation broadband.
- Digital multi media platforms.
- Broadcasting the content production.

(36)
Ofcom's Annual Plan 2006-07.

The plan for 2006-07 had following 9 priorities. These are the result of strategic reviews of telecoms. The priorities are listed as below. (37)

1. **Spectrum release** - this was intended to release and liberalize spectrum and to facilitate spectrum trading.

2. **Implementation of the telecoms strategic review** - This was planned to promote competition and innovation on voice and broadband services.

3. **Continued deregulation** - A constant and sustained approach to reduce regulation as a barrier.

4. **Next-generation deployment** - An effort was made to understand how the next generation of telecoms networks and services are evolving and consider the implications for regulation of both core and access networks.

5. **Public service broadcasting: future developments.**

6. **Content delivery** - This was to examine how new methods of delivering internet and media content are creating opportunities for innovation. This will involve considering: the potential benefits for citizens and consumers; the implications for regulation; and how to ensure appropriate protection for children.

7. **Protection of citizens and consumers.**

8. **Availability and access.**

9. **International engagement.**

---

The plan was also divided into aims and activities for year 2006-07. The aims and activities are listed as under. (38)

**Aims.**

- Addressing citizen and consumer issues.
- Encouraging innovation.
- Promoting competition.
- Pursuing better regulation.

**Activities.**

- Engaging internationally.
- Providing key services.
- Understanding the sector and our stakeholders.
- Operating effectively.

**Table 23 - Aims and activities of Ofcom's annual plan 2006-07.**

<table>
<thead>
<tr>
<th>Aims</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addressing citizen and consumer issues</td>
<td>Engaging internationally</td>
</tr>
<tr>
<td>Encouraging innovation</td>
<td>Providing key services</td>
</tr>
<tr>
<td>Promoting competition</td>
<td>Understanding the sector and our stakeholders</td>
</tr>
<tr>
<td>Pursuing better regulation</td>
<td>Operating effectively</td>
</tr>
</tbody>
</table>

Further analysis of the aims and activities can be illustrated as below. (39)

Aims.

1. **Addressing citizen and consumer issues.**
   - The priority areas identified by the Ofcom under this category.
   - Public service broadcasting: future developments
   - Protection of citizens and consumers.
   - Availability and access.

2. **Encouraging innovation.**
   - Innovation will be encouraged in following 3 major areas.
   - Spectrum release - this was intended to release and liberalize spectrum and to facilitate spectrum trading.
   - Next generation deployments.
   - Content delivery.

3. **Promoting competition** - The thrust for competition will have many avenues which include one of priorities: implementing the telecoms strategic review.
   - Implementing the telecom strategic review. This will focus on the following initiatives.
   - Focus on both voice and broadband services.

• As this has to be monitored in relation with BT (British Telecom) analysis, there was the requirement to monitor the implementation of those aspects of the Undertakings that require BT to make changes to governance or organizational arrangements; and evaluate the impact of the Undertakings, in particular whether the expected benefits for consumers materialize.

• Other planned tasks to promote competition includes identification of certain projects to promote competition in the areas of, Voice telephony, Broadband, Business telecoms, Directory enquiries, Mobile services, Broadcasting, Competition law and Business rates.

4. **Perusing better regulation** - This was one of the important targets. This was intended to improve better market growth and reduce any possible obstacles arising of stringent regulation. Approach to the improved regulation was planned with the help of following determinants,

• Impact assessment.

• Evaluation.

• Media ownership. (40)

Activities. (41)

1. **Engaging internationally** - 3 major tasks were identified under international engagement.
   - EU framework for electronic networks and services.
   - EU directive on TV and other audio-visual content.
   - Spectrum issues.

2. **Providing key services** - 4 major key services outlined were as follows.
   - Supporting authorized use of spectrum.
   - Licensing access to spectrum.
   - Keeping spectrum free of interference.
   - Providing advice via Ofcom call center.

3. **Understanding sector and stakeholders.**

4. **Operating effectively.**

Ofcom's annual plan of 2007-08 recognizes 6 major changes that are occurring and contributing to the convergence. They are listed as below.

1. Wireless platforms and services are of increasing importance.
2. Greater competition between these platforms.
3. Traditional supplies are facing greater competitive pressure.
4. Attitude to communication services are changing.
5. Traditional business models are being challenged.
6. Services and technologies are becoming more complex.

In the annual plan again the 3 year strategy framework is being considered. (42)

The policy work program is illustrated as below. Detailed analysis of the plan is illustrated as below. (43)

Driving forward a market based approach to the spectrum.

Under this step Ofcom continues to a market based approach towards the spectrum management. For the year 2007-08 the focus will be on the following points.

Priority 1. - driving forward the spectrum liberalization and trading. A new approach is being adopted to allow the market to decide how much spectrum is required and there will be less regulation decision on spectrum management.

Priority 2. - releasing more spectrum to allow new services to develop.

Priority 3. - coordinating international spectrum policy.

42. Ofcom's Annual Plan 2007-08, Regulating for convergence, published on 3rd April 2007, Section 2, Figure 2.1, page no, 9.
Promoting competition and innovation in converging markets.

Priority 4. - understanding wireless platforms as convergence progresses.

Priority 5. - assessing new sources of market power that emerge through convergence.

Priority 6. - promoting competition in converging markets.

Delivering public outcomes as platforms and services converge.

Priority 8. - reviewing how we protect viewers and listeners through content regulation.

Priority 9. - promoting access and inclusion.

Priority 10. - maintaining diverse and high-quality content in public service broadcasting.

Improving compliance and empowering citizens and consumers.

Priority 11. - promoting media literacy and enabling consumers to make informed choices.

Priority 12. - making enforcement more targeted and effective.

Priority 13. - ensuring consumers can switch providers quickly and easily. (44)

Moving towards more consistent legal and economic frameworks.

As part of our three-year strategic framework, Ofcom will examine where it is desirable to move towards greater consistency between the legal and economic frameworks which govern different platforms. The focus on this issue will be during the second and third years covered by our strategic framework.

44. Ofcom's Annual Plan 2007-08, regulating for convergence, published on 3rd April 2007, Section 2, Point no 3.5, page no, 14 to 22.
Reducing regulation and minimizing administrative burdens.

Across all activities, Ofcom will explore the scope for removing regulation and easing the administrative burdens in the process.

Maximizing our impact on international policy development. (45)

Strategic review of telecoms - These reviews of telecoms in the UK have been initiated as a result of Ofcoms statutory requirement of reducing regulation wherever possible. In December 2003, Ofcom announced that it will conduct strategic review of telecoms. These reviews were spread over 3 phases. Each phase had its own importance.

Phase 1 was to evaluate the current position of telecoms in the UK. It also featured on evaluation of prospects of telecom sector. Phase 2 was to know, the options available for strategic approach to regulations. And phase 3 was to know what kind of approach Ofcom will have towards regulation.

Phase 1 and Phase 2 have been completed by year 2005. This systematic approach is to ensure, moving forward there will be less regulation in telecom in the UK. Since there are linkages established between each year, this ensures telecom regulation in the UK follows as systematic and structured path. (46)

45. Ofcom’s Annual Plan 2007-08, regulating for convergence, published on 3rd April 2007, Section 2, Point no 3.5, page no, 22 and 23.
46. Strategic review of telecoms phase 1, consultation document, released by Ofcom.
To continue the discussion on Indian telecommunication, Complete framework of “Evolution of regulatory and policy framework in India”, is illustrated in the following table. (47)

Table - 24. Evolution of regulatory and policy framework in India.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Access</td>
<td>Government monopoly</td>
<td>• Open for private players but only four entrants and less than 1% market share</td>
<td>• Licenses converted to revenue sharing • Market share of private sector around 5% in revenue terms</td>
</tr>
<tr>
<td>National Long Distance</td>
<td>Government monopoly</td>
<td></td>
<td>• Private sector licenses awarded to 2 players, no other takers</td>
</tr>
<tr>
<td>International Long Distance</td>
<td>Government monopoly</td>
<td></td>
<td>• Monopoly removed in April 2002</td>
</tr>
<tr>
<td>Wireless</td>
<td>No wireless</td>
<td>• Private sector license (2 per telecom circle) • 13 private operators started service. Considerable M&amp;A activity</td>
<td>• Licenses converted to revenue sharing • Falling prices spur dramatic growth • 3rd and 4th licenses per circle; 3rd license reserved for incumbent</td>
</tr>
<tr>
<td>Key Events</td>
<td>None</td>
<td>• New Telecom Policy 1994 licked off regulation. • Licenses issued based on fixed payments.</td>
<td>• NTP 1999 approved corporatization of DoT • Internet telephony allowed from April 2002 • Up to 49% of foreign equity participation in telecom services companies and up to 74% foreign equity participation in ISPs.</td>
</tr>
</tbody>
</table>

India offers lowest call charges per minute as compared to any other nation.

The following table illustrates call charges per minute comparison. (48)

**Table - 25. Call charges per minute comparison.**

<table>
<thead>
<tr>
<th>Country</th>
<th>Call charges per minute - in USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.24</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.11</td>
</tr>
<tr>
<td>China</td>
<td>0.04</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.45</td>
</tr>
<tr>
<td>Japan</td>
<td>0.33</td>
</tr>
<tr>
<td>India</td>
<td>0.03</td>
</tr>
</tbody>
</table>

The above table indicates that India is among one of the countries that offers lowest call charges per minute. Since the call charges are very low, this also indicates that there is huge potential which is untapped. But the mobile telecom coverage of India is one of the lowest. This means there is a huge market yet to be explored. As of 2002, India had covered only 20% of the population. Even today the coverage by most of the service providers is yet to reach rural areas. (49)

There is a huge untapped potential waiting to be opened. Our policy and regulation needs to gear up for the same by means of pro active approach. For example, Indian broadband policy had a negative impact, as due to lakh of policy initiatives like encouraging competition, tapping rural markets and increasing PC penetration among house holds, the investments worth billions of dollars for laying infrastructure was found to be not viable. (50)

If we notice the developments and evolution of Indian telecom sector, the policy making and regulation is reactive in nature. The proactiveness and vision is missing. Had there been a review system in place, then the developments could have been managed properly. This would have resulted in increased efficiency of policy making and regulation approach.

However, DoT commissioned mid term appraisal of 10th five year plan. This was a good initiative on behalf of DoT. Also the review of NTP 1999 could have been more appropriate as it's been 8 years since the policy was made, except for one amendment in November 2003. It's time for a new telecom policy. In this context, planning of a telecom strategy for the next decade is a necessity. The strategy enables us to achieve still better progress and widen the prospects Indian telecommunication.

The questionnaire analysis and propositions will follow in the next chapter (chapter 5).