

**MINISTRY OF COMMUNICATIONS AND
INFORMATION TECHNOLOGY
(DEPARTMENT OF TELECOMMUNICATIONS)**

**ROLE AND FUNCTIONING OF TELECOM SERVICE
PROVIDERS IN MOBILE TELEPHONY**

**COMMITTEE ON ESTIMATES
(2011-2012)**

FIFTEENTH REPORT

FIFTEENTH LOK SABHA



सत्यमेव जयते

**LOK SABHA SECRETARIAT
NEW DELHI**

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**‘Role and functioning of Telecom Service Providers
in Mobile Telephony’**

Presented to Lok Sabha on 26.04.2012



सत्यमेव जयते

**LOK SABHA SECRETARIAT
NEW DELHI**

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COMPOSITION OF THE COMMITTEE ON ESTIMATES (2011-12)

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4. Dr. Yumnam Arun Kumar - Deputy Secretary

INTRODUCTION

I, the Chairman of Committee on Estimates (2011-2012) having been authorized by the Committee to submit the Report on their behalf, present this Fifteenth Report (Fifteenth Lok Sabha) on 'Role and Functioning of Telecom Service Providers in Mobile Telephony' pertaining to the Ministry of Communications and Information Technology (Department of Telecommunications).

2. The subject was selected for detailed examination by the Committee on Estimates (2011-2012), taking into account the advantages and benefits that a world class telecom infrastructure and services can bring to education, commerce, health and numerous other sectors to enable all Indians to benefit from telecom technology.

3. The Committee held three sittings on the subject. The Committee have been briefed by the representatives of Ministry of Communications and Information Technology (Department of Telecommunications) on 11 October, 2011 on the subject. The Committee took the oral evidence of the Ministry on 05 January, 2012 and 14 February, 2012 respectively.

4. The Report was considered & adopted by the Committee at their sitting held on 19 April, 2012.

5. The Committee wish to express their thanks to the representatives of the Ministry of Communications and Information Technology (Department of Telecommunications), who appeared before them and placed their views on the subject. The Committee also wish to thank them for furnishing the information required in connection with examination of the subject during the briefing and oral evidences.

6. The Committee would also like to place on record their deep sense of appreciation for the invaluable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

7. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters at the end of the Report.

NEW DELHI;
24th April, 2012
Vaisakha 04,1934 (Saka)

FRANCISCO SARDINHA,
CHAIRMAN,
COMMITTEE ON ESTIMATES.

REPORT
ON
**ROLE AND FUNCTIONING OF TELECOM SERVICE PROVIDERS IN MOBILE
TELEPHONY**
BACKGROUND ANALYSIS
CHAPTER – I

Introductory

In the present era of rising aspirations and expectations of the people, the thrust of the Governments all over the world has been to provide good telecom infrastructure and services to their citizens. It is seen that the provision of good telecom services act as a powerful medium to accelerate the economic growth and development of a country. The availability of world class telecommunication infrastructure and services is recognised as a good launching pad and base for the all round development and speedy progress of a Nation. The advantages and benefits that a world-class telecom infrastructure and services can bring to education, commercial, medical and Governmental activities are also numerous. With this recognition, the Department of Telecommunications (DoT) has experimented with various policy initiatives for having accelerated growth of telecommunication services in the country.

1.2 In the recent years, Indian telecommunication has shown a tremendous growth rate. It has emerged as one of the fastest growing markets in the world. With 926.55 million telephone connections at the end of December, 2011, India has become the country having the second largest network in the world after China. With its 893.86 million wireless connections, it is also the second largest wireless network in the world. The share of wireless telephones/ mobile telephony in the network expansion is 96.47 per cent of the total connectivity in the country. As on 31 December, 2011, the overall teledensity has reached 76.86 per cent. The urban teledensity is said to be 167.46 per cent whereas the rural teledensity stood at 37.52 per cent during the said period. The penetration of internet and broadband has also improved with 20.99 million internet subscribers and 13.30 million broadband subscribers across the country.

1.3 Indian Telecommunication sector has undergone major transformation through various important policy reforms particularly beginning with the announcement of National Telecom Policy-1994 which mandated on universal service and qualitative improvement in telecom services by opening of private sector participation in basic telephone services. However, the most significant landmark in the telecom history of the country came with the announcement of New Telecom Policy-1999 which allowed the service providers to migrate from fixed license fee regime to a revenue sharing regime. Another landmark in the growth and development of Indian telecommunication is the announcement of the Broadband Policy 2004, which came into force from October, 2004. The proposed National Telecom Policy 2011, under finalization in consultation with various stakeholders, is a step forward for bringing the rapid and requisite growth of telecom sector in India.

Under National Agenda for Information and Communications Technology (ICT), three draft Policies have been envisaged viz. (i) draft Telecom Policy of 2011, (ii) draft policy for electronic manufacturing, and (iii) draft IT Policy. These three policies can have a significant bearing on the future of mobile telephony in India.

Organizational Setup

1.4 The Ministry of Communications and Information Technology is responsible for policy formulation, performance review, monitoring, international cooperation, Research & Development (R&D) and grant of licenses to service providers for providing basic and value added services in various cities and Telecom Circles as per the approved policy of the Government of India. The Department also allocates frequency and manages radio communications in close coordination with the International Bodies. It is also responsible for enforcing wireless regulatory measures and monitoring the wireless transmission of all users in the country. The office of Administrator, USO as an attached office of DoT was set up with effect from June 1, 2002 for the purpose of implementation of Universal Service Support Policy (USSP). The planned expansion of telecom services by the Government is mainly carried out through its Public Sector Undertakings *i.e.* Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL). It is evident that the fruits of the liberalization efforts of the Government are evident in the growing share of the private sector.

The private sector is now playing an important role in the expansion of telecom services in the country.

1.5 The positive impact of liberalization can be seen from the rapid growth in the telecom network which has resulted in the overall growth teledensity in the country. The achievement has surpassed the targeted teledensity of 15 per cent by 2010 as per New Telecom Policy (NTP) 1999. Further, the target of 500 million connections by December 2010, has already been achieved by September, 2009. It is seen that this growth is attributable not only to the proactive and positive policy initiatives of the Government but also to the entrepreneurial spirit of the various Telecom Service Providers both in Public and Private Sectors.

Growth of Mobile Telephony and Network Expansion

1.6 A landmark in the Indian telecom history is the starting of the first mobile telephone service on non-commercial basis on 15 August, 1995 in Delhi. The exponential growth of the telecom sector in India can be attributed to the growth of the wireless/mobile telephony. The percentage share of wireless phones vis-à-vis the overall telecom connectivity is stated to be 96.47 per cent at the end of December, 2011, as against 95.40 per cent at the end of December, 2010. The following Table indicates the growth of mobile telephony during the last five years in the country.

Growth of Mobile Telephony during the period March, 2007 to December, 2011

Month and Year	Growth of Mobile Telephony	Share percentage of Mobile Telephony to the total telephone connections
March, 2007	165.09	80.19
March, 2008	261.08	86.88
March, 2009	391.76	91.16
March, 2010	584.32	94.05
March, 2011	811.60	95.89

1.7 The above Table indicates that mobile telephony has contributed immensely in the growth of telecom sector in India. From 165.09 million in 2007 it has grown to 893.86 million at the end of December, 2011. In terms of percentage share, the mobile telephony has increased from 80.19 per cent in 2007 to 96.47 per cent at the end of December, 2011

National Telecom Policy, 1994

1.8 As per the Department of Telecommunications (DOT) the thrust of the National Telecom Policy, 1994 was on universal service and qualitative improvement in telecom services and also for attracting private sector participation in basic telephone services. It outlined certain important objectives which *inter-alia* include availability of telephone on demand, provision of world class services at reasonable prices, improving India's competitiveness in global market and promoting exports. Several path-breaking achievements were made under the National Telecom Policy, 1994, nevertheless, some of the thrust areas/ objectives of NTP 1994 remained unfulfilled. In this background, the Government announced a New Telecom Policy (NTP) on 1 April, 1999.

New Telecom Policy 1999

1.9 The guiding principles of the NTP inter-alia include (i) to make available affordable and effective communications for all citizens; (ii) to 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; (iii) to encourage development of telecommunication facilities in remote, hilly and tribal areas of the country; (iv) to create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, telecom and consumer electronics and thereby propelling India into becoming an IT superpower; (v) to convert PCOs, wherever justified, into Public Teleinfocentres having multimedia capability like ISDN services, remote databases access, Government and community information systems etc.; (vi) to transform in a time bound manner the telecommunications sector into a greater competitive environment in both

urban and rural areas providing equal opportunities and a level playing field for all players; (vii) to strengthen research and development efforts in the country and provide an impetus to build world-class manufacturing capabilities; (viii) to achieve efficiency and transparency in spectrum management; (ix) to protect the defence and security interests of the country; and(x) to enable Indian telecom companies to become truly global players.

1.10 In order to cope with several changes both in the National and Global scenario in the telecom sector as well as to simplify licensing rules, encourage mergers and acquisitions, and bring greater transparency to telecom sector, the Draft National Telecom Policy, 2011 was released by the Government on 10 October, 2011 for consultations with various stakeholders to address the vision, strategic direction and the various medium and long term issues related to telecom sector.

Vision of Draft National Telecom Policy (NTP), 2011

1.11 As per DoT, the vision of NTP 2011 is to empower the people of India by providing secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere and inter alia include the following objectives:

- To provide affordable voice telephony and high speed broadband services to every citizen in India with special focus on rural and remote areas.
- To improve the broadband experience by enhancing the speed of delivery.
- To make India a global hub of manufacturing for all electronic products including telecom equipment with substantial value addition within the country and safeguard security concerns of the nation.
- Simplification and rationalization of licensing regime, transparent system for allocation of spectrum and enable efficient usage of spectrum.
- Discovery of price of spectrum through market related processes.
- To achieve One Nation-Full Mobile Number Portability.
- To enable free roaming throughout the country.

- To harness full potential of mobile phones by enabling provision of citizen centric services related to education, health, employment agriculture, entertainment, banking & insurance services, skill upgradation, vocational training etc.
- To encourage indigenous manufacture of cost effective mobile devices.
- Fast rolling out of high speed and reliable broadband in rural and urban areas will enable decentralize governance, participate democracy and delivery of basic services such as health and education to every citizen of the country. The thrust on manufacturing will promote entrepreneurship, create more job opportunities, reduce imports and improve security. Efficient usage of scarce resources like spectrum will result in better quality of service to the customers at affordable cost.
- The new policy regime will be beneficial to end consumers/citizens, Telecom Service Providers, Value Added Service Providers, Government and Manufacturers.

1.12 Regarding the reform measures and policy initiatives envisaged in the draft NTP, 2011, the Secretary, Department of Telecommunications (DoT), Ministry of Communications and Information Technology, during the briefing meeting held on 11 October, 2011 stated as under:

“On the 10th of October, 2011, a draft Telecom Policy of 2011 was unveiled by the Minister. Comments have been invited over a period of four weeks on this draft policy before it is taken up for finalisation and approval of the competent authority. We expect that process to happen over the next three months or so. I also wanted to mention in passing that earlier in the previous week the Minister had unveiled a draft policy for electronic manufacturing on the 3rd of October and on the IT policy on the 7th of October. All these three policies have been covered in the form of National Agenda for ICT because they are in a way interlinked. There are inter-linkages between these different policies. For example, electronics manufacturing does support the telecommunication equipment manufacturing, etc. But I will confine myself for now to the Telecom Policy and what are the major provisions and implications of that policy. I must also mention that this is the third telecom policy and the first one was in 1994. Prior to 1994 we had only the public sector. In fact, it was only the DoT, not even the BSNL. Only the MTNL was there. Till 1994 telecom sector was not opened to the private sector. It was opened up in 1994 and two mobile operators were allowed initially in metro circles and subsequently in other areas as well. At that time, the public sector was not allowed to go into the mobile services. Later, in 2001, the fourth operator was brought in. That was in addition to the first two. The third one is the BSNL and the MTNL. So, they came in five to six years later because it was a

conscious policy decision in order to provide the new entrants some kind of a start so that they would be able to find their feet. So, that was the history of the policies....Also, many new opportunities have arisen and the belief is that these opportunities fundamentally impact all aspects of the economy, all aspects of development and many other fields as well. So, it was felt that it was necessary to come up with a new policy which not only addresses some of the issues and problems which had arisen over the years through the implementation of the past policy, but also which addresses a pro-active approach to utilising and having the advantage of all these capabilities that technology affords for the country in an orderly manner and a clear roadmap and vision so that investments would flow into the sector. Sir, today the position is that 88 per cent of the market share is held by the private sector. So, the new policy was also intended to lay out a very clear roadmap to enable investments to flow into the sector with an understanding of the direction in which the policy is going”.

1.13 From the above, it is seen that various reform measures and policy initiatives have been brought by the Government of India to improve the network expansion in the country. However, there have been various bottlenecks in the process of expanding the outreach of telephone connectivity / mobile telephony in the country. Some of the pertinent areas that need special focus for objective analysis include the declining share of Public Telecom Service Providers vis-à-vis the Private Telecom Service Providers in the network expansion both for wireless and wireline, limited outreach of Broadband connectivity, slower growth rate of rural telephony when compared to urban telephony, instances of setting up of illegal telecom towers/networks, conformity of norms for radiations from telecom towers, inconclusive findings of harmful effects of the radiations from mobile and telecom towers on human beings, birds and bees, limited growth of indigenous telecom equipments and its impact on mobile telephony, over dependence on imported telecom equipment and National security risks, problems related to licensing to various Telecom Service Providers and roll-out obligations.

1.14 In this background, the Committee deemed it fit to take this subject for detailed examination and Report to Parliament. In the process, the Committee obtained background notes, Annual Reports, Outcome Budget of Department of Telecommunications and written replies on various points from the Ministry of Communications and Information Technology (Department of Telecommunications). The Committee had a briefing meeting by the

representatives of the Ministry on 11 October, 2011. The representatives of the Ministry appeared before the Committee for tendering evidence on 5 January, 2012 and 14 February, 2012. Based on consolidated written and oral information, the Committee examined the subject in detail and identified certain critical issues as enumerated in the succeeding Chapters of this Report.

CHAPTER – II

TELECOM NETWORK EXPANSION THROUGH MOBILE TELEPHONY

2.1 Globally, in the recent years, the telecommunication sector has experienced high growth rate as a result of rapid and innovative technology development, culminating into an increasingly competitive and networked world. The same is true of the growth of telecommunication in India. From a mere 22.81 million telephone subscribers in 1999, the number has increased to 846.33 million at the end of March, 2011. The total number of telephones stands at 926.55 million at the end of December, 2011 showing an addition of 80.22 million during the period from April to December, 2011.

Growth of Telecom Connectivity over the years

2.2 As per the DoT, out of the total of 926.55 million telephones in India, the percentage share of wireless / mobile phones is 96.47 per cent i.e. 893.86 million telephone subscribers whereas the wireline phones account for 4.46 per cent i.e. 32.69 million telephone subscribers as on December, 2011. The growth of wireline connectivity has declined in the last five years. The percentage share of wireline connectivity vis-à-vis the total connectivity was 19.80 per cent at the end of March, 2007 but it had sharply declined to 3.53 per cent as on December, 2011. The situation is just the opposite in case of the growth of wireless connectivity in the country. During the year 2007, the percentage share of wireless telephones vis-à-vis the total connectivity was 80.19 per cent, but it had shown a tremendous growth of 96.47 per cent as on December, 2011. The following Table highlights the growth of telephones over the last five years in the country:

Growth of Telephones over the Last Five Years

	March, 2007	March, 2008	March, 2009	March, 2010	March, 2011	(in million) December, 2011
Wireline	40.77	39.41	37.97	36.96	34.73	32.69
Wireless	165.09	261.08	391.76	584.32	811.60	893.86

Gross Total	205.87	300.49	426.73	621.28	846.33	926.55
Annual Growth %	44.88 %	45.96%	43.01%	44.58%	36.22%	9.48%

The position of telephone connectivity in different States and four metro cities of India as on 31 March, 2011 and 31 December, 2011 is given at **Annexure-I** of this Report.

Trends in Teledensity

2.3 Teledensity indicates the status of telecom penetration in the country. As per the Annual Report 2011-12, over the last five years, India has shown rapid growth in the network expansion which has resulted in the overall teledensity of 77.57 per cent at the end of January, 2012. The teledensity which was 18.22 per cent in March, 2007 increased to 70.89 per cent as on March, 2011 and 77.57 per cent as on January, 2012. The following Table indicates the growth of teledensity i.e. the number of telephones per hundred persons in the last five years.

Growth of Overall Teledensity of the Country from March, 2007 to January, 2012 (In percentage)

Month & Year	Overall teledensity of the country
March, 2007	18.22
March, 2008	26.22
March, 2009	36.98
March, 2010	52.74
March, 2011	70.89
December, 2011	76.86
January, 2012	77.57

Analysis of the State / Circle-wise Position of Teledensity vis-à-vis the Overall Teledensity

2.4 An analysis of the State / Circle-wise position of teledensity when compared to the overall teledensity of the Country as on December 2011 indicates that the States/Circles like Himachal Pradesh (118.64 per cent), Punjab (112.70 per cent), Kerala (107.24 per cent), Tamil Nadu (105.96 per cent), Karnataka (94.3 per cent) followed by Gujarat (87.67 per cent), Haryana (85.80 per cent) and Andhra Pradesh (79.65 per cent) have teledensity higher than the National average of 76.86 per cent. Further, the metropolitan cities have very good telephone connectivity. Delhi has a teledensity of 235.63 per cent followed by Mumbai with 188.95 per cent, Kolkata with 163.76 per cent and Chennai with 163.41 per cent. Whereas States like Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, North East States, Orissa, Rajasthan, Uttar Pradesh, West Bengal have teledensity much lower than the National average.

Comparative Growth of Urban and Rural Teledensity with special reference to Network Expansion through Mobile Telephony

2.5 Out of the total of 926.55 million telephone subscribers in the country as on December 2011, 315.39 million subscribers are in rural areas (i.e. 34.04 per cent of the total phone subscribers) and the remaining 611.16 million subscribers are in urban areas (i.e. 60.96 per cent of the total phone subscribers). The increase in the rural teledensity from 31 March to December 2011 is stated to be from 33.83 per cent to 37.52 per cent whereas the urban teledensity has shown growth from 156.94 per cent to 167.46 per cent during the same period. In the last five years, the rural teledensity has shown a positive growth rate of 39.28 per cent whereas the urban teledensity has shown growth rate of 34.45 per cent. The following Table from the Annual Report 2011-12 of Department of Telecommunications highlights the growth of rural teledensity and urban teledensity in the last five years i.e. from March, 2007 to March, 2011.

Growth of Rural and Urban teledensity in India during the period March, 2007 to March, 2011

Status as on	Rural	Urban	Growth rate of rural	(In percentage) Growth rate of urban
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	Teledensity	Teledensity	Teledensity	Teledensity
March, 2007	5.89	48.1	-	-
March, 2008	9.46	66.39	60.61	38.02
March, 2009	15.11	88.84	59.73	33.82
March, 2010	24.31	119.45	60.89	34.46
March, 2011	33.86	156.94	39.28	34.45

2.6 As per the DoT, the rural telephone connections increased from 47.10 million at the end of March 2007 to 282.29 million during March, 2011 and further to 315.39 million in December, 2011. The percentage share of rural phones has constantly increased. From a percentage share of 22.88 per cent in 2007 it had increased to 34.04 per cent in December, 2011. The wireless connections have contributed substantially to the total rural telephone connections. Their percentage share in the rural telephone connections has increased from 73.33 per cent in March, 2007 to 96.90 per cent in March, 2011 and further to 97.53 per cent in December, 2011. During 2011-12 (upto December), the growth rate of rural telephone was 11.73 per cent as against the growth of 8.35 per cent of urban telephones. The Private Telecom Service Providers have also contributed immensely to the growth of rural telephones, as its percentage share stood at 86.78 per cent at the end of December, 2011.

Analysis of the State/Circle-wise Position of Urban Teledensity as compared to the National average of Urban Teledensity

The classification of State / Circle-wise for the purpose of licence is given at **Annexure-II** of this Report.

2.7 An analysis of the State/Circle-wise position of urban teledensity when compared to the overall urban teledensity of the Country as on 31 December, 2011 indicates that State/Circle Areas like Jammu & Kashmir (115.40 per cent), Maharashtra (123.92 per cent), Gujarat (141.57 per cent), North East States (145.51 per cent), Assam (144.72 per cent) are

below the National average of 167.4 per cent. The best performing Licence Areas when compared to the National average are Himachal Pradesh (467.10 per cent), Kerala (254.97 per cent), Orissa (212.20 per cent) and Punjab (181.61 per cent).

Analysis of the State/Circle-wise Position of Rural Teledensity when compared to the Overall Rural Teledensity of the Country

2.8 An analysis of the State/Circle-wise position of rural teledensity when compared to the overall rural teledensity of the Country as on 31 December, 2011 indicates that License Areas like Bihar (24.27 per cent), Madhya Pradesh (25.46 per cent), Assam (28.21 per cent), Jammu & Kashmir (29.27 per cent), Orissa (32.91 per cent) are below the National average of 37.52 per cent. The best performing States / Circles when compared to the National Average are Himachal Pradesh (74.91 per cent), Punjab (63.66 per cent), Kerala (56.63 per cent), Tamil Nadu (53.95 per cent), Haryana (53.65 per cent) and Gujarat (50.86 per cent).

2.9 In the above context, when the Committee desired to know about the major reasons for slower growth of rural teledensity when compared to urban teledensity. The Department of Telecommunications in their written reply stated as under:

“The main reasons for slow growth of teledensity in rural and remote areas are: (i) the areas are diversely located and are not financially viable and the Average Revenue per User (ARPU) in these areas is very low; (ii) the CAPEX (Capital Expenditure) and OPEX (Operational Expenditure) for development of telecom infrastructure in these areas is very high; (iii) many of the rural and remote areas of the country, wherein the telecom infrastructure to be developed, are not connected by roads and public transport; (iv) non availability/irregular availability of electricity connection; (v) lack of backhaul connectivity; (vi) difficulties in getting Right of Way (RoW) and other permissions from State Government Agencies; (vii) many infrastructure sites/areas are falling in forest land/tribal land and getting clearance from related Departments take much longer time; (viii) many of the areas are disturbed, affected by law and order problem; (ix) the revenue record of the land in many of the rural areas/ villages is incomplete or inconsistent resulting into delay in conversion of land from agriculture to commercial, acquiring of land and signing of lease deeds and its registration thereof etc and (x) some of the infrastructure sites/areas falling in forest areas, hilly terrain, snow bound with no transport and transportation of requisite equipment requires pony/head carrying.”

Right of Way

2.10 Regarding the issue of 'Right of Way', the Committee were informed that as per the existing policy of the Government, Wireless Planning and Coordination (WPC) Wing of DoT issues siting clearance for installation of mobile towers for each and every site from the point of view of interference with other wireless users, aviation hazards and obstruction to any other existing microwave links. The siting clearance is issued without prejudice to applicable bylaws, rules and regulation of Local Bodies such as State Government/Municipal Corporation/Gram Panchayat etc. Accordingly, before installation of mobile towers, the Telecom Service Providers are required to obtain necessary permission from Local Bodies such as Municipal Corporation/Gram Panchayat etc. Further, as per terms and conditions of the Cellular Mobile Telephone Service (CMTS) and Unified Access Service (UAS) license and Infrastructure Providers Category-I (IP-I) registration, the responsibility of obtaining Permission/Right of Way for establishing towers lies with the Telecom Service Providers/IP-I companies. DoT is not maintaining such records.

Compensation to Land Owners

2.11 As far as the compensation to the land owners whose land has been used by the Government for installation of mobile towers is concerned, the Committee were informed that mobile towers are installed by the Telecom Service Providers and Infrastructure Providers Category-I (IP-I) as per their Radio Frequency (RF) Network Planning. For installation of mobile tower, the Telecom Service Providers and Infrastructure Providers (IP-I) acquire the land or buildings as per their need. Acquisition/renting of land or building for the purpose of installation of mobile tower is carried out by a mutual commercial agreement between land/building owner and the Telecom Service Provider. It was stated that DoT is not acquiring any land for installation of mobile towers and, therefore, there is no issue of compensation by DoT.

2.12 With regard to the measures taken for expansion of mobile telephony in rural areas, the Committee were apprised by the Ministry that as per an analysis of the current network coverage provided by various service providers, presently there are 37,184 uncovered

villages which do not have any fixed wireless or mobile coverage. Elaborating on the issue, the Committee were informed about a proposal of the Government to launch a new scheme to facilitate creating infrastructure and provision of mobile communication services (including access & backhaul) in those villages which have hitherto not been covered by any Service Provider as far as provision of fixed wireless or mobile coverage is concerned. Besides, there is plan to cover the Left Wing Extremism (LWE) affected locations through the scheme under Universal Service Obligation Fund (USOF). The tender for this scheme was planned to be floated by 20 February, 2012 and the process of evaluation and signing of agreements with the successful bidders for provision of services was likely to be finalized by 31 May 2012.

Public and Private Telecom Service Providers

2.13 When asked about the major Telecom Service Providers who are playing a significant role in increasing the rural teledensity, the Department furnished the following information:

Position of Telecom Service Providers in providing Wireless telephones as on 31 December, 2011

S. No.	Name of the service area	Total Wireless telephones		
		Rural	Urban	Total
1	Bharati Airtel	72666809	102986007	175652816
2	Tata Teleservices Ltd	17446634	66046192	83492826
3	Sistema Shyam Teleservices Ltd	2463677	12542851	15006528
4	HFCL Infotel Ltd	7479	1187417	1194896
5	Loop Mobile	0	3236381	3236381
6	Aircel	21711526	39932885	61644411
7	Reliance Telecom Ltd + Reliance Communications Ltd	33364797	116714131	150078928
8	Vodafone Essar	57554577	90192179	147746756
9	Idea Mobile Communications	56275026	50105085	106380111
10	STEL	1635449	1913932	3549381
11	Uninor	10561351	25745514	36306865
12	Etisalat DB Telecom	0	1670086	1670086
13	Videocon	0	5442883	5442883
	PRIVATE TOTAL (1-13)	273687325	517715543	791402868
	PSUs			
14	BSNL	33906273	62855532	96761805

15	MTNL	0	5697805	5697805
	ALL INDIA TOTAL (1-15)	307593598	586268880	893862478

2.14 The above Table indicates that the Bharati Airtel has played a significant role in the expansion of mobile telephony in the rural areas. Out of the total wireless connections provided in the country, Bharati Airtel has a percentage share of 23.62 per cent followed by BSNL (11.02 per cent), Vodafone Essar (18.71 per cent), Idea Mobile Communications (18.92 per cent), Reliance Telecom Ltd. and Reliance Communications Ltd. (10.85 per cent) and Aircel (7.06 per cent) as on 31 December, 2011. The Private Telecom Service Providers not operating in the rural areas include Loop Mobile, Etisalat DB Telecom and Videocon and the Private Telecom Service Providers who are making an inroad in the rural areas are Sistema Shyam Teleservices Ltd., HFCL Infotel Ltd., Stel, Uninor etc.

2.15 Further, the above Table indicates that Reliance Telecom Ltd. and Reliance Communications Ltd. are playing a significant role in the expansion of mobile telephony in the urban areas. Out of the total wireless connections provided, both have contributed a percentage share of 19.90 per cent followed by the Bharati Airtel (17.56 per cent), Vodafone Essar (15.30 per cent), Tata Teleservices Ltd. (11.26 per cent), BSNL (10.72 per cent), Idea Mobile Communications (8.5 per cent) and Aircel (6.81 per cent) as on 31 December, 2011. The Private Telecom Service Providers which have not made a significant break-through include HFCL Infotel Ltd. (0.02 per cent), Etisalat DB Telecom (0.28 per cent), Stel (0.33 per cent), Loop Mobile (0.55 per cent) and Videocon (0.92 per cent). Another significant revelation of the analysis is that the percentage share of MTNL has only 0.97 per cent.

2.16 On a specific query from the Committee with regard to M/s Bharti Airtel, M/s TATA, and M/s Reliance for making wrong disclosures about their income to DoT, the Committee have been informed that show-cause notices have been issued to them. However, all the licencees have sought extension for six weeks time, on the plea that the show-cause notices pertain to the years 2006-07 and 2007-08 and their examination involves extensive exercise. Further, the Committee have been informed that extension of six weeks time has been granted to the licencees to submit their replies, however, no replies have been received from

any of the licencees till date. The Department also stated that the last date for the receipt of reply to the show-cause notice(s) was 2 April 2012.

Universal Service Obligation Fund (USOF) and Rural Telephony

2.17 Recognizing the significance of telecom development in rural areas, the Government announced the Universal Service Support Policy on 27 March, 2002 under which a separate fund for providing access to telegraph services to people in the rural and remote areas was set up. The resources for implementation of Universal Service Obligation (USO) are raised through a Universal Service Levy (USL) which has presently been fixed at 5 per cent of the Adjusted Gross Revenue (AGR) of all Telecom Service Providers except the pure value added service providers like Voice Mail, e-mail service providers etc. The activities being undertaken by DoT under USO are geared towards augmenting the infrastructure and increasing telecom coverage in the rural and remote areas.

2.18 As per DoT, initially the thrust of the activities undertaken by USO Fund was on providing public access to rural and remote areas which include operation and maintenance expenses towards Village Public Telephones (VPTs), support for provision of new VPTs in uncovered villages and for Rural Community Phones (RCPs). Subsequently, the individual telephones (RDELs) were also provided subsidy support from USOF. To broaden the scope of USOF and to include mobile services, broadband, general infrastructure and pilot projects for induction of new technological development in its ambit, the Indian Telegraph Rules were amended on 17 November, 2006 to enable support for providing various telecom services in the rural and remote areas of the country. With the amendment to the Indian Telegraph Rules and Act in 2006, USOF has been enabled to launch a number of new schemes for rural telecommunications.

Universal Service Levy Collection and Fund Disbursement Status as on December, 2011

2.19 Regarding the fund raised to the Universal Service Levy (USL) since the inception of USOF till 2011-12, the Department has informed that the total funds collected as USL till 31

December, 2011 is ₹ 40574.16 crore. Out of this, the total funds allocated and disbursed during the said period are ₹ 15121.44 crore and ₹ 15059.46 crore respectively. An analysis of the service area-wise disbursement of USOF across Financial Years since inception till December, 2011 indicates that States like Maharashtra (₹ 1296.99 crore), Rajasthan (₹ 769.70 crore), Madhya Pradesh (₹ 764.50 crore), Andhra Pradesh (₹ 743.38 crore), Gujarat (₹ 661.13 crore), Karnataka (₹ 620.99 crore) have got the major share of financial allocation from USOF. Whereas States like North East States (NE-I ₹ 82.80 crore, NE-II ₹ 64.49 crore), Jharkhand (₹ 75.36 crore), Uttarakhand (₹ 147.88 crore), West Bengal (₹ 163.75 crore) have got very less allocation made from the USOF.

2.20 In response to a query regarding the existing mechanisms to ensure optimum utilization of funds provided under USOF, the Department informed the Committee as under:

- Financial support from USOF is provided under various schemes to Infrastructure Providers/Universal Service Providers who are selected through an open bidding process for implementing the USOF supported schemes and who have signed agreement(s) with the Administrator, USOF.
- The maintenance of services rolled out by the Service Providers under USOF supported schemes is governed by relevant License agreement and Quality of Service (QoS) is regulated by TRAI.
- For maintenance of various records, appropriate conditions exist in USOF Agreements. These records may be inspected/examined by the Administrator or the Designated Monitoring Agency at any time.
- USOF agreement(s) provide for imposition of liquidated damages in case of not meeting the rollout obligations within the specified period.
- USOF agreement(s) provide for deductions in subsidy if the facilities are non-functional on account of faults, disconnected for non-payment etc.
- In accordance with the stipulations in the USOF agreement(s), the service providers have to submit fault/downtime details etc. while submitting the subsidy claims in the Proforma prescribed, besides self-certification to the effect that claims are being submitted in accordance with terms and conditions of Agreement.
- There are adequate safeguards in the Agreements to take care of eventualities such as excess/underpayment of subsidy at any stage. Provisions also exist for

recovery of interest in case subsidy payments are found to be made in excess of 10 per cent of admissible amount.

- Sample verification of the claims against installation of facilities is also carried out by the offices of Controller of Communication Accounts (CCAs) which are the field units of Department of Telecommunications. Where it is required, special checks and procedures including hundred per cent verification exercises are undertaken/prescribed.

2.21 When enquired about the various Telecom Service Providers who are associated with the various schemes/projects carried out under the USOF, it has been stated M/s BSNL, M/s Bharti Airtel, M/s Reliance Communications, M/s Reliance Telecom Ltd., M/s Idea, M/s Aircel and M/s Vodafone are providing their services for the schemes implemented under USOF.

2.22 In the above context, the Committee desired to know the scheme-wise and the names of the Telecom Service Providers who are involved in implementing them. The Department in their post evidence reply has stated as under:

“The information on telecom operators who are implementing the various USOF supported schemes is as under:

S.No.	Name of the Scheme/Project	Name of Infrastructure Providers/ Universal Service Providers, who are implementing the scheme
1	Provision of Village Public Telephones (VPTs) in 62302 uncovered villages [Bharat Nirman-1)	Bharat Sanchar Nigam Limited
2	Provision of Village Public Telephones (VPTs) in 62443 Newly Identified villages of Census 2011	Bharat Sanchar Nigam Limited
3	Replacement of Multi Access Rural Radio (MARR) based VPTs	Bharat Sanchar Nigam Limited
4(A)	Shared Mobile Infrastructure Scheme [Part-A of the scheme for setting up of infrastructure sites (mobile tower sites)]	Bharat Sanchar Nigam Limited KEC International Limited Reliance Communications Infrastructure Ltd Viomnetworks Limited GTL Infrastructure Limited Vodafone Essar Cellular Limited
4(B)	Shared Mobile Infrastructure Scheme [Part-B of the scheme for provisioning of mobile services using infrastructure sites set up under Part-A of the Schemes]	Bharat Sanchar Nigam Limited Reliance Communications Limited Reliance Telecom Limited Bharti Airtel Limited Bharti Hexacom Limited Dishnet Wireless Limited [Aircel] Aircel Limited Idea Cellular Limited BTA Cellcom Limited

		Idea Mobile Communications Limited Vodafone Essar Cellular Limited Vodafone Essar South Limited Vodafone Essar Gujarat Limited
5	Rural Broadband Scheme for expanding provision of Wireline Broadband Connectivity upto village level	Bharat Sanchar Nigam Limited
6	Optical Fibre Network Augmentation, Creation and Management of Intra-District SDHQ-DHQ OFC Network in service area of ASSAM	Bharat Sanchar Nigam Limited
7	Optical Fibre Network Augmentation, Creation and Management of Intra-District SDHQ-DHQ OFC Network in service area of NE-I	Railtel Limited
8	Optical Fibre Network Augmentation, Creation and Management of Intra-District SDHQ-DHQ OFC Network in service area of NE-II	Railtel Limited
9	Provision of Rural Community Phones (RCPs)	Bharat Sanchar Nigam Limited (BSNL) Reliance Infocom Limited (RIL)
10	Provision of Rural-household Direct Exchange Lines (RDEIs) in specified Short Distance Charging Areas (SDCAs) [Scheme has closed on 31.03.2010]	Bharat Sanchar Nigam Limited (BSNL) Reliance Infocom Limited (RIL) Tata Teleservices Limited (TTL) Tata Teleservices Maharashtra Ltd. [TTL(MH)/ TTSL]
11	Operation and Maintenance of Village Public Telephones, which were provided before 01.04.2002 [Scheme has closed on 31.03.2010]	Bharat Sanchar Nigam Limited (BSNL) TATA, Reliance, Bharti Airtel, Hughes, HFCL

2.23 When asked about the constraints/difficulties in implementing the USOF schemes, the Department apprised the Committee that one of the major constraints is that the schemes are being carried out at diversely located areas and are also financially not viable. Besides, the Average Revenue Per User (ARPU) in these areas is very low. The Capital Expenditure and Operational Expenditure (COPEX) for development of telecom infrastructure in these areas is very high. Lack of backhaul connectivity and difficulties in getting Right of Way (RoW) and other permissions from State Government Agencies are some other constraints cited by the Department.

2.24 In the above context, the Committee asked about the measures/steps taken to address the constraints/difficulties. In response, the Department stated as under:

“To address the issue of financial unavailability, USOF has provided financial support for provisioning of Rural-household Direct Exchange Lines (RDEIs) in specified Short Distance Charging Areas (SDCAs) wherein revenue was less as

compared to the expenditure. USOF has also provided financial support for operation & maintenance of Village Public Telephones. A subsidy support of ₹ 2000 Crore per annum is also provided to BSNL for a period of three years with effect from 18.07.2008 for operational sustainability of their Rural Wire lines installed prior to 01.04.2002 in lieu of ADC having been phased out. A financial support of ₹ 6,000 crore has already been provided by USOF to BSNL in this regard.

To address the issue of higher capital expenditure and operational expenditure, USOF has launched various schemes with financial support from USOF e.g. Shared Mobile Infrastructure Scheme, Rural Wireline Broadband Scheme etc.

To address the issue of lack of backhaul connectivity, USOF is providing financial support for augmentation, creation and management of Intra-District SDHQ-DHQ Optical Fibre Cable (OFC) Network in Assam and North East Telecom Circles. Further, there is plan to connect all the 2,50,000 Gram Panchayats (GPs) in the country through optical fibre utilizing existing fibers of PSUs viz. BSNL, RailTel and Power Grid and laying incremental fiber wherever necessary. Dark fiber network thus created will be lit by appropriate technology, thus creating sufficient bandwidth at GPs level. This will be called National Optical Fibre Network (NOFN). The project will be funded by Universal Service Obligation Fund (USOF) and initial estimated cost of the project is ₹ 20,000 crore in two years. The project will be executed by a Special Purpose Vehicle (SPV), M/s Bharat Broadband Nigam Limited (BBNL) which is a company, incorporated under Indian Companies Act 1956. This company initially will be fully owned by Central Government, with equity participation from Government and interested Central Public Sector Units (CPSUs) (BSNL, Railtel, Powergrid, GAILTEL, etc.).

To address the issue of Right of Way (RoW) and other permissions from State Government Agencies, USOF is taking up the matter with State Governments whenever required. In case of (NOFN), a tripartite agreement between Government of India, State Governments and the Implementing Agency shall be signed for free RoW.”

2.25 When enquired about the plan to increase the teledensity in the terrorist/naxalite affected areas, the Department has stated that these areas are proposed to be covered under the USOF schemes. The Department further added that as per the information furnished by the Ministry of Home Affairs (MHA), 2199 locations in 9 States do not have any coverage by any Telecom Service Providers. However, the locations have been identified for installation of towers and mobile equipments, keeping in view the security and maintenance considerations in these areas. Elaborating on the issue, the Department informed that the USOF is to extend support to BSNL on nomination basis for providing and maintaining mobile service in these areas. The maintenance of these sites and networks will be done by BSNL

for a period of 5 years with USOF subsidy and the subsidy amount shall be decided on the basis of operational expenditure with respect to expected revenue.

Broadband and Mobile Telephony

2.26 It is widely known that Broadband connectivity is increasingly being seen as an integral driver for the socio-economic development of a country. The Government of India is making sincere efforts so that every individual in the country have access to Broadband. It is also a recognized concept that Broadband services empower masses and gives an individual an opportunity to access new career and educational opportunities. Besides, it helps businesses to reach new markets and improve efficiency and at the same time it also enhances the Government's capacity to deliver critical services like health, banking and commerce to all of its citizens.

2.27 As per the DoT, the provision of Broadband in rural and remote areas will help in bridging the digital divide and its widespread adoption would have a multiplier effect in the long-run. It is an established fact that wireless is the quickest and most efficient medium to provide Broadband services in the access network. To ensure Broadband coverage, the Government has approved a project for creating of National Optical Fibre Network (NOFN) for providing Broadband connectivity to 2.5 lakh Village Panchayats.

2.28 Regarding the Broadband Coverage up to Village Panchayats, the Department has furnished the following data:

State of Broadband Coverage of Village Panchayats under Bharat Nirman-II Upto 31-12-2011

S.No.	State/ UTs	
1	Andaman & Nicobar	56
2	Andhra Pradesh	14034
3	Assam	2062
4	Bihar	7788
5	Chhattisgarh	2150
6	Gujarat (including Dadra Nagar Haveli & Daman Diu)	7599
7	Haryana	5651
8	Himachal Pradesh	1862

9	Jammu & Kashmir	1308
10	Jharkhand	4460
11	Karnataka	3779
12	Kerala	997
13	Lakshadweep	5
14	Madhya Pradesh	4171
15	Maharashtra (including Goa)	10294
16	Tripura	1190
17	Mizoram**	
18	Meghalaya**	
19	Arunachal Pradesh	1410
20	Manipur	
21	Nagaland**	
22	Orissa	2372
23	Punjab	11100
24	Chandigarh	16
25	Rajasthan	2946
26	Tamil Nadu	9308
27	Pondicherry	98
28	Uttar Pradesh	43003
29	Uttarakhand	2474
30	West Bengal	2475
31	Sikkim	66
	Total	142674
	** Equivalent Rural Local Bodies	

2.29 According to DoT, various broadband schemes for taking communication facilities to the rural and remote areas are under implementation. These schemes include provision of broadband connectivity to the rural areas under the purview of the USOF. In this regard an agreement has been signed with BSNL on 20 January, 2009 under the Rural Wireline Broadband Scheme to provide wireline broadband connectivity to rural and remote areas by leveraging the existing rural exchanges infrastructure and copper wire-line network.

2.30 As per DoT, the Rural Broadband Scheme will cover Institutional Users, such as Gram Panchayats, Higher Secondary Schools and Public Health Centers, as well as Individual Users, located in the villages. Under this scheme, BSNL will provide 8,88,832 wireline Broadband connections to individual users and Government Institutions and will set up 28,672 kiosks by 2014.

2.31 Regarding the status of Broadband coverage in Schools and Public Health Centres, the Department has furnished the following data:

Status of broadband coverage of Schools and Public Health Centers Connectivity (up to 31 December, 2011) as per USOF

Circles	Secondary schools	Higher Secondary schools	Primary Health Centre	Total
	Total	Total	Total	
Andaman & Nicobar	41	42	27	110
Andhra Pradesh	18776	5199	2654	26629
Assam	611	101	96	808
Bihar				
Chhattisgarh				
Chennai	1621	938	0	2559
Gujarat	5356	2838	1204	9398
Haryana	1719	1445	1000	4164
Himachal Pradesh	1577	1104	799	3480
Jammu & Kashmir	815	2094	118	3027
Jharkhand	234	157	130	521
Karnataka	2780	2873	624	6277
Kerala	2811	1911	696	5418
Kolkata	104		265	369
Madhya Pradesh				
Maharashtra	19287	5301	1816	26404
North East I	1945	428	252	2625
North East- II	859	740	3352	4951
Orissa	4095	846	281	5222
Punjab	2064	1455	877	4396
Rajasthan	14816	7424	1503	23743
Tamil Nadu	7583	3802	1539	12924
Uttar Pradesh (East + West) 2 SSAs	8672	2470	582	11724
Uttaranchal	1239	696	105	2040
West Bengal				
Total	97005	41864	17920	156789

Analysis of the Broadband Subscribers State / Telecom Circle-wise

2.32 As per DoT, the total Broadband subscribers have increased from 6.8 million at the end of 31 August, 2009 to 12.65 million as on 31 August, 2011. Out of the total subscribers of 12.65 million, Maharashtra including Goa with 17.52 per cent has the highest Broadband subscribers in the country followed by Tamil Nadu (12.55 percent), Karnataka (10.10 per cent), Andhra Pradesh (9.85 per cent) and Delhi (7.98 per cent). The State/Circle which has poor Broadband penetration includes Andaman & Nicobar Islands (0.04 per cent), Jammu and Kashmir (0.45 per cent) followed by North-East States viz. Meghalaya, Mizoram, Arunachal Pradesh, Manipur, Nagaland and Tripura (0.38 per cent), Himachal Pradesh (0.56 per cent) and Assam (0.64 per cent)

Analysis of Providing Broadband Connectivity by various Telecom Service Providers

2.33 An analysis of providing Broadband Connectivity by various Telecom Service Providers reveals that the top ten Telecom Service Providers in the country are the BSNL which has provided 8.08 million subscribers followed by Bharti Airtel Ltd. (1.40 million), MTNL Mumbai (0.54 million), MTNL Delhi (0.45 million), Hathway Cable and Datacom Private Ltd. (0.36 million), BG Broadband India Pvt. Ltd. (0.26 million), Tikona Digital Networks Pvt. Ltd. (0.23 million), Reliance Communications Infrastructure Ltd. (0.19 million) and Beam Telecom Pvt. Ltd. (0.15 million).

2.34 On the issue of broadband connectivity in rural areas, the Committee desired to know the steps initiated to have a realistic assessment of the requirement of Broadband in the rural and remote areas, the Secretary, Department of Telecommunications during the briefing meeting held on 11 October, 2011 stated as under:

“Today technology has moved to an area where they can be and they need to be converged so that we can get through the same device whether it is a mobile or a television or a computer, or a tablet or any hand-held device, any or all the different kinds of services and technologically that is possible and we should be able to get it anywhere within the country. I understand the anguish of many of the hon. Members that rural areas may not be having the same level of facility today. But the clear emphasis is to ensure that by 2015, broadband on demand is available throughout the country – whether it would be a wireless or wireline, it would be a combination. The

question is that there are certain circumstances where a wireline maybe preferred and there are certain circumstances where the wireless maybe preferred. For example, when you require very high levels of bandwidth of let us say, 10 mbps or even 100 mbps or so, then the conventional wisdom is that you actually would be better off with an optical fibre. But the wireless in the short run is the best possible way for area coverage and, in fact, initially, in most of the areas wireless coverage would be first mode of coverage. Today, according to the data which has been collected by the TRAI by aggregating the data of all the service providers, well over 90 per cent of the villages have coverage. It does not mean that all the operators have coverage in all the villages. But one or the other has in the area; it is over 95 per cent today. But this is not broadband. For example, even you have a smart phone and try to access a news channel or down load from the internet something, that will not be possible or at least the performance will be so bad that it would not be worth it. So, broadband will, to some extent, change that and as the speed keeps going up, you will be able to do more and more things.”

2.35 In the same context, the Secretary, further elaborated as under:

“The definition of broadband also, therefore, keeps getting revised by different countries at different points of time based on their needs and the evolution of technology. Today, the definition of broadband in India is 256 kbps which is quite low by global standards. The TRAI has already recommended changing it to 512 kbps immediately. That is being agreed to. In the same recommendation, it has been suggested that by 2015 we will adopt 2 mbps and the policy lays down that by 2020 we will further revise this to higher levels and not less than 100 mbps. There are countries where it has gone up to even one gigabyte per second which is thousand megabytes per second, which is 1000 kilobytes per second, viz, one million kilobytes per second. So, there is no end to this.”

2.36 In this background, the Committee desired to know as to how far the target set by Broadband Policy, 2004 has been achieved. In response, the Department has stated that the total number of Broadband connections as on December 2011 is 13.35 million out of the target of 20 million Broadband connections by the end of year 2010 set by the Broadband Policy, 2004.

2.37 Regarding the various reasons affecting the positive growth of broadband connectivity, the non- availability of backhaul connectivity up to the villages, non- availability of content in vernacular languages, affordability of customer premises equipment (CPE), Right of Way

(ROW), International bandwidth prices, affordability of broadband etc. are some of the areas of concerns identified by the Department.

2.38 In the above context, the Committee enquired how the Department would address the issue of accessibility to Broadband services in rural areas. In response, the Department has stated that some of the important measures to address the issue include setting up of broadband access centres, tele-centres, kiosks, and other public access points and PCOs; connecting educational institutions to broadband networks; providing wireless internet services as primary means of rural Broadband access; utilizing existing infrastructure of Private, Government (Central & State), Cable operators to provide broadband service in rural areas; training all citizens to access and use broadband through digital literacy programmes.

2.39 When asked about the changes that have been brought both in rural and urban areas in terms of Mobile Telephony with the expansion of Broadband connectivity during the last five years, the Department stated that the number of registered mobile data subscribers in India has seen significant growth with the expansion of Broadband connectivity during the above period.

Broadband – National Optical Fibre Network

2.40 As per DoT, the optical fibre presently has predominantly reached State capitals, Districts and Blocks and there is plan to connect all the 2,50,000 Gram Panchayats in the country through optical fibre utilizing existing fibres of PSUs viz. BSNL, Railtel and Power Grid. According to DoT, Dark fiber network would be carried out through appropriate technology for creating sufficient bandwidth at Gram Panchayats level. The scheme would be called National Optical Fibre Network (NOFN).

2.41 Explaining about their plan for laying optical fibre upto Panchayats for expansion, the Secretary, during the briefing meeting held on 11 October, 2011 stated as under:

“Today the USO Fund has a balance of close to around ₹ 16,000 crore and they are getting approximately around ₹ 6000 crore a year. So, if you take over the next three years, they would have a little over ₹ 30,000 crore at their disposal. Of course, this is

not sitting in a bank account. I must also make it clear that it comes out of the Budget. So, while this may be the accruals, what actually they get is what the Budget provides. But the plan for optical fibre up to the Panchayats and in addition to that certain programmes for wireless which are also being looked at, through this the total outlay is of the order of ₹ 30,000 crore, all these programmes together. So, we have made a concerted plan to actually use that entire money to spread this infrastructure and create the facility for broadband. The proposal to the Cabinet for this Broadband plan is now at the final stage. We expect the approval also in the month of October itself. In any case, without waiting for that, we have already started preparatory steps over the least three to four months. The arrangements for rolling it out are already under way. In fact an Empowered Committee has been set up by the DoT which is jointly chaired by Mr. Pitroda and Mr. Nandan Nilekani and all of us are also Members in that. We have been working out the action plan to implement this in three years. I must mention also that while the PSUs may have their limitations, this whole broadband rollout is being done by PSUs”

2.42 Regarding the same Network, the Secretary, DoT during the evidence held on 14 February, 2012, deposed as under:

“Sir, there is today a big emphasis on the broad band. As a part of this broad band the Government is laying optical fiber infrastructure to all the rural areas, reaching up to every Panchayat in the country. So, in all the 250,000 Panchayats the coverage through optical fiber would be possible. In October 2011 the Cabinet had approved a scheme, which is expected to cost around ₹ 20,000 crore, to lay optical fiber from the nearest point where optical fiber is already available right up to the Panchayat level. This will have two impacts: one is that it will provide a much higher bandwidth and much higher availability in terms of reliability in the rural areas. It will also provide back haul for the operators to be able to provide their services. There are many opportunities to use this optical fiber, for example using technologies such as Wi-Fi to provide access within those rural areas. Since this is being funded by the Government and it is not being seen as a purely commercial exercise but one which will provide these services to other service provider it will make it much easier for the service providers to go into the rural areas. So, over the next two years as it rolls out, the timeframe given by the Cabinet is 24 months, we expect also that it will have a consequential impact in the coverage in rural areas.”

2.43 In connection with the economic benefits of the scheme, the Department has stated that in economic terms, the benefits include through additional employment, e-education, e-health, e-agriculture etc. and reduction in migration of rural population to urban areas. NOFN will also facilitate implementation of various e-governance initiatives such as e-health, e-banking, e-education etc. thereby facilitating inclusive growth. It will also provide high

bandwidth connectivity for electronic delivery of services to citizens. The proposed NOFN will enable effective and faster implementation of various mission mode e-governance projects amounting to approx. ₹ 50,000 crore initiated by Department of Information Technology as well as delivery of a whole range of electronic services in the above areas by the private sector to citizens in rural areas.

2.44 When asked about the broad areas that have been proposed in the draft National Telecom Policy 2011 with regard to Broadband, the Ministry in a note informed the Committee as under:

- Increase in rural teledensity from the current level of around 35 to 60 per cent by the year 2017 and 100 by the year 2020.
- To recognize telecom and broadband connectivity as a basic necessity like education and health and work towards 'Right to Broadband'.
- Provide affordable and reliable broadband on demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.
- Provide high speed and high quality broadband access to all village Panchayats through optical fibre by the year 2014 and progressively to all villages and habitations.

CHAPTER III

COMPARISON OF PERFORMANCE OF PUBLIC AND PRIVATE TELECOM SERVICE PROVIDERS

3.1 The net effects of the liberalization efforts of the Government are evident in the growing share of the private sector. In the telecom sector too private sector is now playing an important role in the network expansion. According to DoT, operator-wise classification of share percentage of Public & Private Telecom Service Providers reveals that as on December, 2011, PSUs like BSNL and MTNL still have a large share of nearly 80.95 per cent in the wireline segment. Private service providers, on the other hand, have a share of 88.54 per cent in the wireless segment. Bharti Group has the highest share of 19.65 per cent in the wireless segment followed by Reliance Group (16.79 per cent) and Vodafone Essar (16.53 per cent). PSUs contribute 11.46 per cent in this segment. Overall, Bharti Group with 19.32 per cent of the total telephones in the country has the largest share followed by Reliance Group (16.33 per cent), Vodafone Group (15.95 per cent), BSNL (12.93 per cent) and Idea Group (11.48 per cent). The Public Telecom Service Providers witnessed an increase of 0.51 lakh phones whereas the Private Telecom Service Providers achieved an addition of 87.12 lakh phones during December 2011. For the fiscal year April 2011 to December 2011, the number of additions by the Public Sector was 29.15 lakh as against 773.05 lakh by the Private Sector. The share of Private Sector in the number of telephones has gone up to 86.09 per cent (7976.31 lakh) in December 2011 while the share of public sector is pegged at 13.91 per cent (1289.17 lakh).

An overview of Bharat Sanchar Nigam Limited

3.2 Bharat Sanchar Nigam Limited (BSNL) is a 100 per cent Government of India owned public sector undertaking. In pursuance of National Telecom Policy, 1999, BSNL was formed on 1 October, 2000 by corporatization of the erstwhile Department of Telecom Operations and Department of Telecom Services. The company has taken over the erstwhile functions of the Department of Telecom in respect of provision of telecom services across the length and breadth of the country excluding Delhi and Mumbai. The company has been incorporated as

a company with limited liability by shares under the Companies Act, 1956 with its registered and corporate office in New Delhi.

3.3 As per DoT, BSNL is a technology-oriented company and provides all types of telecom services namely telephone services on landline, WLL and GSM mobile, Broadband, Internet, leased circuits and long distance telecom Service. The company has also been in the forefront of technology with 100 per cent digital new technology switching network. BSNL's nation-wide telecom network covers all District headquarters, Sub-Divisional headquarters, Tehsil headquarters and almost all the Block Headquarters.

Physical Performance of BSNL

3.4 As per the DoT, BSNL has 1197.66 lakh customers. During 2011-12 (upto 31 December, 2011), it has added 27.07 lakh customers at the end of March, 2011, BSNL had 37,963 wireline telephone exchanges with equipped capacity of 444.80 lakh lines and customers base of 252.25 lakh. The wireline status as on 31 December, 2011 is 37,653 telephone exchanges with equipped capacity of 431.24 lakh lines and 230.04 lakh connections. During the same period, BSNL had 862.69 lakh GSM Mobile connections. It had also added 61.59 lakh GSM Mobile connections raising the GSM Mobile customer base to 924.28 lakh during the same period. There were 55.65 lakh WLL connections as on 31 March, 2011, however, the number of connections declined to 43.34 lakh as on 31 December, 2011. It had provided 36.78 lakh Internet connections but the number of internet connections also declined to 35.76 lakh connections as on 31 December, 2011.

3.5 Regarding the non-procurement of any GSM equipment in the past four years by the BSNL, the CMD, BSNL during the briefing meeting held on 11 October 2011 deposed as under:

“So far as procurement of GSM equipment is concerned money was not the constraint then and is not even now. But somehow the repeated attempts for tenders which the BSNL floated for procurement of equipment failed because of one frivolous complaint or the other... the tenders floated during the period 2007 until 2010 could not succeed. Now, in 2011, we have again floated a tender and this time we are taking due and we are hopeful that it will succeed.”

Financial Performance of BSNL

3.6 As per DoT, the assets and liabilities of the erstwhile DTS/DTO stand transferred to Bharat Sanchar Nigam Limited with effect from 1 October, 2000. The assets (fixed assets, CWIP, Debtors and Inventory etc.) taken over by BSNL as on 1 October, 2000 were valued at ₹ 63.366 crore in lieu of the capital structure which consists of equity of ₹ 5000 crore, ₹ 7500 crore preference equity, ₹ 7500 crore Government loan, ₹ 3,056 crore loan from MTNL and surplus of ₹ 40,310 crore as capital reserve. BSNL earned total revenue of ₹ 29,688 crore in the financial year 2010-11. However, due to intense competition and sharp decline in Average Revenue Per User (ARPU), the company had registered a loss of ₹ 6,384 crore. The Net Worth of the company at the end of the year 2010-11 was ₹ 80,069 crore.

Achievements made by BSNL during 2011-12:

Sl. No.	Parameter	Unit	Target for the year 2011-12	Achievement (upto 31.12.2011)
1.	Mobile Connections	Lakh Nos.	200.00	61.59
2.	Broadband Connections	Lakh Nos.	75.00	10.91
3.	Wireline + WLL Connections	Lakh Nos.	0.00	-34.52

Note:- From 01.04.2011 onwards all 2G customers have been offered 3G facility.

An overview of Mahanagar Telephone Nigam Limited (MTNL)

3.7 Mahanagar Telephone Nigam Limited (MTNL) was formed on 01 April, 1986 to assume responsibility for the control, management, operation of the telecommunications Networks in Delhi and Mumbai. It is the principal provider of fixed-line telecommunication service in Delhi and Mumbai and for GSM Mobile services (four peripheral towns Noida, Gurgaon, Faridabad and Ghaziabad along with Delhi city) and the areas falling under the Mumbai Municipal Corporation, New Mumbai Corporation and Thane Municipal Corporation along with Mumbai city. As per DoT, the authorized capital of the Company is ₹ 800 crore.

The paid up share capital is ₹ 630 crore divided into 63 crore share of ₹ 10 each. At present, 56.25 per cent equity shares are held by the President of India and her nominees and remaining 43.75 per cent shares are held by Foreign Institutional Investors (FIIs), Financial Institutions, Banks, Mutual Funds and others including individual investors.

3.8 According to DoT, MTNL is providing dial up internet services in Delhi and Mumbai under separate non-exclusive license agreement. It launched Broadband service based on the state-of-the-art ADSL 2+ technology in the year 2005 and is providing Triple play services i.e. voice (including VOIP), high speed internet and Internet Protocol Television (IPTV) on this broadband network. In June 2008, MTNL was granted the International Long Distance (ILD) license for providing international long distance services. In August, 2008, MTNL was granted spectrum for 3G and BWA services.

Physical Performance

3.9 According to DoT, the last decade and a half has been an eventful period in the existence of MTNL. There has been all-round development and growth and improved operational efficiency. In the present scenario, the Company is facing competition from other private telecom service providers and is successfully adapting to new regulatory environment.

3.10 During 2011-12 (upto December 2011) a total of 2.83 lakh net new connections (including fixed line, WLL GSM and broadband) have been added by MTNL, taking the total connections to 91.52 lakh.

Financial Performance

3.11 According to DoT, despite stiff competition from other service providers, MTNL has achieved a financial turnover of ₹ 3673.95 crore during the year 2010-11, as compared to the previous year's turnover of ₹ 3656.10 crore. During the said period, MTNL posted a loss of ₹ 2801.91 crore. During 2011-12, as on December, 2011, it has incurred a loss of ₹ 1714 crore. The outstanding arrears to be collected as on December, 2011 is ₹ 1129.17 crore.

A Comparison of Public versus Private Telecom Service Providers in network expansion

3.12 As per the background note furnished by Department of Telecommunications, the total share of Public Telecom Service Providers in the network expansion has declined in the last five years from 34.69 per cent in 2007, to 14.42 per cent by the end of July, 2011. In case of Private Telecom Service Providers, the total percentage share has increased from 65.32 per cent to 85.58 per cent during the same period. A comparative data of the share percentage of Public and Private Telecom Service Providers both for wireline and wireless is given in the following Table:

Telecom Network Expansion of Wireline and Wireless by Public & Private Service Providers during the period from 2007 to July, 2011.

Year	Number of Telephones (in million)						Total	% age Share of PSUs'
	PSU's Network			Private Network				
	Wireline	Wireless	Total	Wireline	Wireless	Total		
2007	37.46	33.93	71.39	3.31	131.16	134.48	205.87	34.68
2008	35.23	44.32	79.55	4.19	216.76	220.94	300.49	26.47
2009	32.92	56.63	89.55	5.04	335.13	340.18	429.73	20.84
2010	31.33	74.54	105.87	5.63	509.75	515.38	621.25	17.04
2011	28.69	97.31	126.00	6.04	714.29	720.33	846.33	14.89
July, 2011	28.03	100.68	128.71	6.15	757.70	763.85	892.56	14.42

3.13 In the light of the above, the Committee enquired about the reasons of declining share of the PSUs from 34.68 per cent in 2007 to 17.04 per cent in 2010. In response, the Department has stated that the reasons for decline in the market share have been predominantly due to surrender of landline and limited growth in mobile. The surrender in landline has been due to customer preference for mobile service against fixed service resulting in shift of fixed lines traffic to mobile of multiple service providers and service interruption due to frequent and heavy damages done to telephone cables owing to different developmental activities undertaken by Government as well as private agencies. As far as the limited growth in mobile telephony is concerned, it has been attributed to hyper competitive mobile market; number of service providers on an average are six to eight with

few circles having more than 10 service providers; delay in capacity augmentation resulting in congestion and poor quality of service; lack of marketing activities and poor visibility of BSNL products; distribution network is weak particularly in rural areas as franchisees are doing very little to encourage sales and uptime of BTSs is adversely affected due to indifferent attitude of IP vendors.

3.14 In a subsequent note, the Department of Telecommunications furnished the comparative statement of the share percentage of Public and Private Service Providers in network expansion of mobile telephony in the country during the last five years as under:

As on 31 March	Wireless Telephones				Total Wireless Telephones
	Public	Share in %	Private	Share in %	
2007	33929956	20.55	131163699	79.45	165093655
2008	44320751	16.98	216758216	83.02	261078967
2009	56626746	14.45	335133823	85.55	391760569
2010	74544028	12.76	509779374	87.24	584323402
2011	97310270	11.99	714285047	88.01	811595317
31 January 2012	103381841	11.44	800354552	88.56	903736393

3.15 The above Table indicates that the share percentage of BSNL & MTNL in the overall wireless telecom network expansion has declined over the last five years. The share percentage of BSNL & MTNL during the year 2007 was 20.55 per cent; however, it has shown a decline by about 50 per cent i.e. as on 31 January 2012 its share percentage has gone down to 11.44 percent. The situation is opposite for the Private Telecom Service Providers. From a share percentage of 79.45 per cent during 2007, it has grown to 88.56 per cent as on 31 January 2012.

3.16 When asked to furnish the comparative data of percentage share of Private and Public service providers in terms of increasing the rural teledensity during each year of the last five years, the Department in their written reply stated as under:

As on 31 March	Rural Wireless Telephones				Total Rural Wireless Telephones
	Public	Share in %	Private	Share in %	
2007	10106614	29.26	24430540	70.74	34537154
2008	13952413	21.51	50921082	78.49	64873495
2009	18658389	16.52	94258680	83.48	112917069

2010	25258195	13.23	165669517	86.77	190927712
2011	32771356	11.98	240779533	88.02	273550889
31 December 2011	33906273	11.02	273687325	88.98	307593598

[Ref: LOP (3) pg 8]

3.17 The above Table indicates that BSNL has performed poorly in its mission to increase the rural telephony in the country. Its share percentage has decline from 29.26 per cent during 2007 to 11.02 per cent as on 31 December 2011. Whereas the Public Sector Telecom Service Providers have shown an increase in the share percentage during the same period. During the year 2007, their share percentage was 70.74 percent but it has grown to 88.98 as on 31 December 2011.

3.18 In this regard, the representative of BSNL during the briefing meeting held on 11 October 2011 also stated that lack of power was one of the reasons for the PSUs erratic service. He explained as under:

“We do have generators and batteries but they have their own limitations. So, what happens is that this is one bottleneck due to which we see the service becomes erratic because if there is power cut and if the generators are not able to continue, then, you see a BTS going off, etc. in a particular area. Another challenge is the spectrum which is fragmented into many operators. The lesser the quantum of spectrum the more number of handovers will be there. Every handover has the probability of call drop, and call failure. That is one reason where the call drops are there. We have the same world class vendors who are providing networking in other countries like Motorola, Alcatel, these are world renowned vendors. So, there is no reason why they will not provide that quality of service which is available elsewhere but for the challenges which I am saying relating to spectrum, power, infrastructure, and also another thing is, the problem the PSUs face is because we are late entrant by five or six years. By the time we entered, the public had become so conscious, and we are not getting sites easily. Many of the RWAs, local municipalities are not permitting us to set up sites. So, there are some gaps where we want to put equipment, and we are not able to do that because we do not get sites. That is another bottleneck we are facing. In spite of that, if I may say, TRAI is regularly conducting our surveys. We meet most of their quality parameters. Our competitors are also not meeting some of the parameters. It is not that we are way off and they are exactly on the mark.”

3.19 Regarding the action taken by BSNL to increase the subscriber base in the wake of increasing competition from private players, the Committee were apprised of the following steps:

- (i) Fortification of stable revenue streams through concerted focus on broadband Digital Subscriber Line (DSL)/3G/Fibre to the Home (FTTH), Next Generation Network (NGN) voice and enterprise business with major focus on Government projects
- (ii) Focusing on top 100 cities for monitoring purpose
- (iii) Sustained operational focus on customer care, service delivery, service assurance, revenue management and asset management
- (iv) Aggressive push on Data usage and value added services
- (v) Clear cut segregation of commercial activities from social obligation to ensure sustainable growth
- (vi) Progressive migration of BSNL's current network to Next generation network thereby ensuring convergence, consolidation and seamless delivery of various services to end customers across different technologies
- (vii) Realignment of work force along with introduction of various measures to reduce the spiraling salary and wage cost
- (viii) Implementation of Enterprise IT systems such as ERP to enable centralized monitoring and faster dissemination of information.

3.20 As far as the specific initiatives that have been taken for marketing strategy, the Committee have been informed that some of the initiatives for sales and marketing have been taken which *inter-alia* include: strengthening of sales and distribution channel of mobile through Project Vijay, weekly meeting with Franchisees/Retailers and Sales teams of BSNL at SSA head level, motivating franchise and retailers, fixing of target to sales team and ensuring delivery of material, fixing and monitoring retailer manager-wise target, use of IT tools for monitoring performance for sales channels, enhance effective marketing through BTL (Below the Line), special camp to interact with customer willing to port out for their retention by sorting out their problems, opening new sales channels in rural areas, implementing agreement with Postal department to increase rural reach, aggressively push smart devices bundled with 3G Data plans as well as wireless broadband with 3G and EVDO data cards, availability of products in organized retail stores, malls, neighborhood markets etc., internal marketing among BSNL officials to make them aware of product and tariffs etc., identify the GSM BTS with low traffic and special efforts to sell more connections, close

monitoring of distribution network for sale of connection and revenue, efforts to restore disconnected WLL connections.

3.21 As far as thrust on Value Added Services, BSNL has initiated to increase uptake of VAS and other data services offering. It has also initiated innovative new services such as m-financial services, m-health services and rural VAS etc.

3.22 For the thrust on operation and maintenance, the Committee have been informed by the Department about the following steps:

(i) Enhancement in quality of service/customer care through revamped call centres and improved network operations across critical parameters such as BTS availability, congestion, (ii) Speedy redressal of complaints through call centers, (iii) Special efforts for improving uptime of Mobile Network, (iv) Rearranging TRXs, as per traffic, in BTX, (v) Replacement of poor batteries and improving condition of DG and A/Cs, (vi) Efforts to bring the BTSs on ring, and (vii) Tender for augmenting GSM capacity by 14.37 million lines has been floated.

3.23 With regard to Consumer Fixed Access, the Committee have been apprised that BSNL has taken the following steps:

- Strengthening of sales and distribution channel of landline and broadband connections through Project Udaan.
- Fortification of stable revenue streams through concerted focus on broadband;
- Targeting bulk Government business like providing high speed broadband connectivity to Universities and colleges, providing broadband connectivity to Rural Common Service Centre (CSCs) and also spreading broadband in rural areas by getting USOF subsidy.
- Offering various value added services (VAS) such as Games on Demand, Music on Demand, Video/Movies on Demand, Education on demand, contents on health, religion etc.

- Arranging camps/Melas and approaching customers personally for restoration of disconnected landline and broadband connection.
- Rigorous monitoring of Quality of Service (QoS) parameters to adhere to the benchmarks stipulated by TRAI.
- Sorting out issues related to Call Detail Records (CDR) billing system by having close coordination between CDR billing vendor, ITPC team and field units.
- Introduction of various attractive tariff plans and improved marketing strategies.
- Formation of dedicated team for broadband maintenance.

3.24 Elaborating further on the reason for decline in the MTNL's market share from 34.68 per cent in 2007 to 17.04 per cent in 2010, the Department in a written note stated as under:

“Due to stiff competition, market share of MTNL telephone service has declined. However, the total subscriber base in absolute term has been increasing over the years from 80.55 lakh, as on 31 March, 2009, to 89.37 lakh, as on 31 March, 2011. With the entry of new competitors the market gets further shared and the market share is bound to further decline. Based on an internal analysis by MTNL, the reasons for decline of MTNL landline connections are as follows: (i) Surrender of additional telephones, (ii) Increased use of mobile phones, (iii) Closure of office/Company, (iv) Economic reasons, (v) Competitive Environment /taking telephone and mobile from other operators, (vi) Availability of faster wireless data communications through mobile communication and (vii) Not satisfied with service.”

3.25 In connection with the steps taken to increase its reach and subscriber base and to compete with private service providers, the Department in a written note informed the Committee that MTNL prepares and adopts long term plans for expansion of its existing services and for introducing new services in the fiercely competing environment. The Plan of MTNL to meet the various challenges during Twelfth Five Year Plan include the following:

For Upgradation of existing network:

- To provide telephone on demand in all the areas through land line and mobile within 24 hours.

- Expansion of broadband network to provide bandwidth on demand by deployment of ADSL/VDSL, MLDN/PON etc. Introduction of more broadband services such as video on demand, video conference for public.
- Deployment of new technology state-of-art exchanges and Next Generation Networks (NGN)/ IMS.
- Stress is to be given on the deployment and introduction of IP based technologies.
- Deployment of high speed end terminals to create more bandwidth using existing fiber.
- Extensive deployment of optical fiber in the access network reducing the subscriber loop length so as to create a fiber POP within 1 Km radius of the subscriber.
- To bring optical fiber near/ to subscriber's premises by introducing FTTC and reaching homes thereafter with FTTH on PON technology.
- Expansion of high capacity IP-MPLS based backbone network to migrate to NGN for establishing unified network for speech and data. Introduction of VOIP in the backbone and access network.
- Expansion/augmentation of existing 3G network of HSPA + to provide high speed internet and high quality video and other bandwidth demanding services.
- Introduction of new technology for decongestion/efficient utilization of radio frequency spectrum.
- Introduction of value added services such as SMS on landline, unified messaging managed Wi-Fi access etc.
- Providing facilitating environment to new entrants in various telecom services for promoting healthy practices for the benefit of end users.
- Expansion for FIN services to cater to high traffic of VCC, PRM and Tele voting services.
- Implementing programs for increasing awareness and demand for data services.

For Introduction/Upgradation of various IT based new services:

Some of the proposed IT based services are:

- Opening of more Call Centers and Data Centers.
- Data Warehousing & management system.
- Strengthening of Fraud Management System.

- Disaster Management Plan.
- Strengthening Billing Mediation.
- Implementation of ERP and Computerized inventory control system.
- Expansion of Internet and introduction of host value added services in internet such as e-commerce. IT enable services, website hosting etc.
- Strengthening Certification Authority operations.
- Migration from IPv4 to IPv6.

For Human Resource Development and Welfare measures:

- Introduction of more and more training courses on technology and management at its training centers. Upgrading training centre at Delhi for meeting training needs of executives and managers.
- Re-structuring of organization to suit the present needs.
- To identify and recruit people at entry level in E2 and middle level E-5 in Engineering, Finance and other disciplines.

For New Business Opportunities:

Participation in various overseas tenders for service providing license and other projects either independently or in consortium with other partners.

3.26 When asked to explain about the problems/difficulties faced by MTNL in its optimal functioning, in a written note the Committee have been informed as under:

“As far as call drop is concerned, MTNL is meeting the QoS benchmark of call drop as prescribed by TRAI. Further, functioning of international roaming is generally satisfactory. MTNL is having roaming agreement with 195 operators and covering 140 countries. No major complaints i.r.o. functioning of international roaming is reported in MTNL. There is no shortage of staff in MTNL.”

CHAPTER IV

LICENSING FOR MOBILE TELEPHONY

Organizational Arrangement for Licensing

4.1 As per DoT, the work relating to formulation of policy, issue of licences for various telecom services and spectrum allocation are under the overall control of Ministry of Communications and Information Technology. The Secretary, DoT, is the Chairman of the Telecom Commission which is a high powered commission, established in 1989, consisting of four full time members (Production, Services, Technology and Finance) and four part-time members (Secretaries of the Ministries of Finance, Industrial Policy and Promotion, Information Technology and Planning Commission). The major functions of the Telecom Commission include policy formulation, review of performance, licensing, wireless spectrum management, administrative monitoring of Public Sector Undertakings (PSUs), research and development, standardization/ validation of equipment and International Relations.

Issue of Licenses

4.2 The Committee have been informed that the service providers intending to provide telecommunication services have to obtain a license from the DoT. The guidelines for issuing new licenses for various Telecom Services as approved (December, 2005) stipulates that an applicant has to apply for a license along with the requisite processing fees. Applicants meeting the prescribed eligibility criteria are given the Letter of Intent (LoI). Thereafter, an applicant is required to deposit the prescribed entry fees, submit the requisite Bank guarantees and other necessary documents before the grant of license.

Cellular Mobile Telephone Service, Genesis of Licensing

4.3 As per the information furnished by the Department, the first phase of liberalization in Mobile telephone Service started with issue of 2 (CMTS) Licenses in each of the four Metro Cities of Delhi, Mumbai, Kolkata and Chennai to 8 Private Companies in November, 1994.

Subsequently, 34 Licenses for 18 Territorial Telecom Circle were also issued to 14 Private Companies during 1995 to 1998. State owned public sector undertakings i.e. MTNL and BSNL were issued Licenses for provision of CMTS as third service providers in the various parts of the Country. Further, 17 fresh Licenses have been issued to private companies as 4 Cellular service providers in September/October, 2001, one each in four Metro Cities and 13 Telecom Circles.

4.4 The Committee have been informed that Guidelines for Unified Access Service (UAS) license¹ for provision of basic as well as Mobile telephone services were announced on 11 November, 2003. Subsequently on enhancement of Foreign Direct Investment (FDI) limit from 49 to 74 per cent, detailed Guidelines for UAS license have been issued on 14 December, 2005. List of number of Access Services Licensees (CMTS & UAS) in the service area as on 31 August, 2011 is given in the following Table:

List of Number of Access Services Licensee in a service area as on 31.08.2011

Sl. No.	Name of Service Area	Number of Unified Access Services & Cellular Mobile Telephone Services Licensees
1	ANDHRA PRADESH	13
2	ASSAM	12
3	BIHAR	14
4	CHENNAI	2
5	DELHI	13
6	GUJARAT	12

- ¹Unified Licence for Telecommunications services permitting Licensee to provide all telecommunication/ telegraph services covering various geographical areas using any technology;
- Licence for Unified Access (Basic and Cellular) services permitted Licensee to provide Basic and/or Cellular Services using any technology in a defined service area.

7	HARYANA	13
8	HIMACHAL PRADESH	13
9	JAMMU & KASHMIR	12
10	KARNATAKA	13
11	KERALA	12
12	KOLKATA	12
13	MADHYA PRADESH	13
14	MAHARASHTRA	13
15	MUMBAI	12
16	NORTH EAST	12
17	ORISSA	13
18	PUNJAB	13
19	RAJASTHAN	12
20	TAMIL NADU (EXCLUDING CHENNAI SERVICE AREA)	2
21	TAMIL NADU (INCLUDING CHENNAI SERVICE AREA)	10
22	UTTAR PRADESH (EAST)	12
23	UTTAR PRADESH (WEST)	12
24	WEST BENGAL	12
	TOTAL	277

Note: One Basic Service License has been granted to M/s Bharat Sanchar Nigam Limited (BSNL) for All India except Delhi & Mumbai service areas and one Basic Service License has been granted to M/s Mahanagar Telephone Nigam Limited (MTNL) for Delhi and Mumbai service areas.

Licensing Liberalisation

4.5 Several important initiatives have been taken to further liberalize the licensing norms with the objective of making telecom services available at affordable prices. These include:

- FDI Ceiling increased from 49 per cent to 74 per cent in the telecom services.

- Annual licence fee for National Long Distance (NLD), International Long Distance (ILD), Infrastructure Provider-II, VSAT commercial and Internet Service Provider (ISP) with internet telephony (restricted) licences was reduced to 6 per cent of Adjusted Gross Revenue (AGR) with effect from 1.1.2006.
- Entry fee for NLD/ILD licenses was reduced to ₹ 2.50 crore and consequently the number of NLD licenses increased to 33 and ILD licenses to 27.

4.6 As per DoT, there were 240 Unified Access Service (UAS), 2 Basic Service and 37 Cellular Mobile Service (CMTS) Licenses as on December 31, 2011. Permission for usage of dual technology (both CDMA and GSM) under the same CMTS/UAS License has been granted to 8 companies as on December 31, 2011.

4.7 In the backdrop of Supreme Court canceling 122 Unified Access Service Licenses (UASL) issued in January, 2008, the Committee desired to know the reasons for their cancellation by Supreme Court. In response, the Department in a written note stated as under:

“The Hon’ble Supreme Court announced its judgment on 02.02.2012 in WP(C) No. 423 of 2010 in the matter of CPIL & Ors Vs UOI & Ors and WP(C) No.10 of 2011 in the matter of Dr. Subramanian Swamy Vs UOI & Ors., cancelling 122 UAS licenses issued in 2008. Some of the important observations and the directions of the Court are reproduced below:

(72) In conclusion, we hold that the State is the legal owner of the natural resources as a trustee of the people and although it is empowered to distribute the same, the process of distribution must be guided by the constitutional principles including the doctrine of equality and larger public good. ...

(73) ... We have no doubt that if the method of auction had been adopted for grant of license which could be the only rational transparent method for distribution of national wealth, the nation would have been enriched by many thousand crores.

(74) ... we have no hesitation to record a finding that the recommendations made by TRAI were flawed in many respects and implementation thereof by the DoT resulted in gross violation of the objective of NTP 1999 and the decision taken by the Council of Ministers on 31.10.2003.

(75) ... We do not find merit in the reasoning of TRAI that the consideration of maintaining a level playing field prevented a realistic reassessment of the entry fee.

(76) There is a fundamental flaw in the first-come-first-served policy inasmuch as it involves an element of pure chance or accident. In matters involving award of contracts or grant of license or permission to use public property, the invocation of first-come-first-served policy has inherently dangerous implications. ...

... while transferring or alienating the natural resources, the State is duty bound to adopt the method of auction by giving wide publicity so that all eligible persons can participate in the process.

(77) The exercise undertaken by the officers of the DoT between September, 2007 and March 2008, under the leadership of the then Minister of C&IT was wholly arbitrary, capricious and contrary to public interest apart from being violative of the doctrine of equality. ...

(78) The argument ... that if the Court finds that the exercise undertaken for grant of UAS Licenses has resulted in violation of the institutional integrity, then all the licenses granted 2001 onwards should be cancelled does not deserve acceptance because those who have got license between 2001 and 24 September, 2007 are not parties to these petitions and legality of the licenses granted to them has not been questioned before this Court”.

Main directions for quashing of licenses:

“(81) In the result, the writ petitions are allowed in the following terms:

(i) The licenses granted to the private respondents on or after 10.1.2008 pursuant to two press releases issued on 10 January, 2008 and subsequent allocation of spectrum to the licensees are declared illegal and are quashed.

(ii) The above direction shall become operative after four months.

(iii) Keeping in view the decision taken by the Central Government in 2011, TRAI shall make fresh recommendations for grant of license and allocation of spectrum in 2G band in 22 Service Areas by auction, as was done for allocation of spectrum in 3G band.

(iv) The Central Government shall consider the recommendations of TRAI and take appropriate decision within next one month and fresh licenses be granted by auction.”

4.8 When asked about the preparedness of the Telecom Regulatory Authority of India (TRAI) to make fresh recommendations for the telecom spectrum auction route within four months, Department in a written note stated as under:

“TRAI has issued a Pre-Consultation paper on “Allocation of Spectrum in 2G band in 22 Service Areas by auction” on 3 February, 2012. All the stakeholders were requested to provide their comments till 15 February, 2012 by TRAI. On the basis of

comments received from stakeholders and international practices, Consultation paper on "Auction of Spectrum was released on 7 March, 2012 by TRAI. Written comments on the issues raised in the consultation paper are invited from the stake holders by 21 March 2012 and counter comments by 28 March' 2012 by TRAI. The open house Discussion is likely to be held in first week of April, 2012 by TRAI. TRAI is expected to release its recommendations by the end of April 2012."

4.9 In this regard, the Secretary during the oral evidence held on 14 February, 2012 stated as under:

"These licenses which were cancelled by the Supreme Court relate to 122 licenses which were given in 2008. Today their total market share is approximately 8 per cent. So, 92 per cent of the subscribers are not affected by the order of the Supreme Court. As far as these customers are concerned, of course, as mentioned by the hon. Member also they have the option under the mobile number portability but for the licensees themselves we are working out what is the action to be taken consequent to the Supreme Court order. We will be working out a plan of action taking into account the situation of the customers, the licensees and the Government and we will work out a suitable plan of action, also keeping in mind the timeline which the Supreme Court has indicated. As far as matter raised with regard to the North East is concerned, I would like to assure the hon. MP that we are acutely concerned and aware of the special needs in the north east and as we go forward with various actions in the BSNL, all possible measures and special dispensations would be ensured to see that the interests of the consumers in the north-east who depend heavily on the BSNL are not adversely impacted."

Spectrum Allocations

4.10 As per DoT, Radio Frequency Spectrum is the entire range of wavelengths of electromagnetic radiation which is used as carrier of wireless transmission and thus a basic requirement for providing wireless services. It is a finite but non-consumable global natural resources and commands high economic value in the telecommunication sector.

4.11 The Wireless Planning & Coordination (WPC) Wing in the Department of Telecommunications deals with the policy of spectrum management, wireless licensing and frequency assignments. The spectrum allocation policy is contained in the National Frequency Allocation Plan (NFAP) which is based on the International Radio Regulations. The NFAP (1981) and its subsequent revisions in consultation with the National users through the forum of Standing Advisory Committee on Radio Frequency Allocation (SACFA)

provides the basis for assignment of frequency and Wireless license is an independent license and therefore any UAS license holder intending to offer mobile services has to obtain a separate wireless license from WPC wing.

4.12 In India, Mobile services which use Global System for Mobile (GSM) technology work in the frequency bands of 900 and 1800 MHz and those in Code Division Multiple Access (CDMA) technology work in the 800 MHz band. 800, 900 and 1800 MHz bands were earlier allotted to the Defence Services for their mobile communication usage. Presently, 25 MHz spectrum in 900 MHz band (890 -915 -960 MHz) and 75 MHz in the 1800 MHz band (1710-1785/1805-1880 MHz) are earmarked for GSM services.

4.13 As per the DoT, for CDMA services, 20 MHz spectrum in the 800 MHz band (824-844/869-889 MHz) is available. Spectrum for the roll out of 3G services (voice, data and video) were allotted through e-auction in the 2.1 GHz (1920-1980/2110-2170 MHz) band. All the above bands were historically allotted to the Defence sector for their mobile and point to point communication needs in India. Therefore, their cooperation was also required to make them available for commercial use. To facilitate the same, Government of India (GoI) has allocated funds from time to time to provide optical fibre cables for use by the Defence Sector.

4.14 In the background that Spectrum is a finite resource which means that larger the number of service providers, smaller will be the amount of spectrum available to each of the service provider, the Committee desired to know how the Department would deal with such situation. In response, the Committee have been informed as under:

“Additional spectrum for future requirements may be met by the following methods

- Vacating the spectrum from existing non mobile users in a time bound manner.
- Refarming the spectrum.
- Permitting spectrum pooling, sharing and trading for optimal and efficient utilization of spectrum.
- Periodic audit of spectrum utilization to ensure its efficient use”.

Spectrum Act

4.15 Regarding the 'Spectrum Act', the Committee have been informed that on 6 May, 2011, the Government constituted a Committee for formulation of "Spectrum Act" to review and analyse the existing legislations relating to Spectrum Management and formulate a new comprehensive and integrated "Spectrum Act" which will put in place a statutory mechanism for spectrum management and licensing.

4.16 In this regard it has also been stated that the Committee was to submit its report by 30 September. Three meetings have been convened. The first meeting was convened on 15 July, 2011 at Sanchar Bhawan, New Delhi, under the Chairmanship of Hon'ble Justice Shivraj V. Patil, Former Judge of Supreme Court. Subsequently, as desired by the Chairman of the Committee, further meetings were to be held in sub-group manner with the intention to prepare the draft Spectrum Act and obtain the legal vetting by legal expert Members on the Committee before placing the same before the Chairman of committee. Accordingly, the second meeting was convened at Sanchar Bhawan, New Delhi on 29 July, 2011 with some of the Committee members, and the third meeting was convened at IIT Powai on 16&17 August, 2011 with some of the Committee Members.

4.17 Elaborating further, the Department has informed that a preliminary draft "Spectrum Act" was prepared as a outcome of the above three meetings and another meeting was tentatively proposed on 23/24 September, 2011 in Delhi with a view to giving the Draft Spectrum Act the legal vetting. However, the meeting could not be held due to non-availability of Members. In the meanwhile, the Chairman of the Committee, Hon'ble Justice Shivraj V. Patil owing to personal reasons, expressed his inability to continue as Chairman of the Committee. The case was then put up to the competent authority on 28 September, 2011 for further guidance. The matter is still under consideration.

Role of Telecom Regulatory Authority of India (TRAI) and providing of Licensing

4.18 As per the DoT, TRAI was set up in March, 1997 and its mandate included making recommendations on need and timing for introduction of new service providers, terms and

conditions of the licenses to be given to service providers and efficient management of the available spectrum.

4.19 The NTP-99 stipulated that the Government will invariably seek TRAI's recommendations on the number and timing of new licenses before taking decision on the issue of new licenses. As per DoT, the original Act of 1997 under which it was set up was amended by the TRAI (Amendment) Act, 2000. The new Act provided for the establishment of two separate bodies i.e. the Telecom Dispute Settlement and Appellate Tribunal (TDSAT) for dispute settlements between the licensor and licensees, between two or more service providers and between service providers and consumers and TRAI for regulatory functions. Thus, TRAI as a regulator has only an advisory role in the Policy matters.

Role of TERM Cells and Licensing

4.20 As per DoT, in accordance with the license agreement, all the Access Service Licensees are required to roll out their services within prescribed time periods. For this, they licensees to offer their services in the districts selected by them for cross checking the quality/coverage and other parameters prescribed by Department of Telecommunications which is termed as Service Testing. Apart from this TERM Cells also compiled data pertaining to roll out obligation for imposing Liquidated Damage (LD) Charges on the Telecom Service Providers (TSPs) who are not complying to Roll-out obligation conditions.

Roll Out Obligations of 2G Spectrum

4.21 In connection with the roll out obligations of 2G Spectrum, the Committee enquired about the action taken against the telecom service providers who have failed to meet the roll out obligations within the stipulated time line. In response, the Department in a written note stated as under:

“Department of Telecommunications have issued demand notice for levying the liquidated damages(LD) charges against the Licensee(s) who have not rolled out their services within stipulated timeframe. In addition to LD demand notices, show cause notices for termination of license have also been issued to those licensees where delay in meeting the 1st year roll out obligation had been observed more than 52 weeks. Name of the licensees to whom LD demand notice or Show Cause Notices for termination of licenses had been issued recently include namely Aircel Ltd., Allianz

Infratech (P) Ltd., Dishnet Wireles Ltd., Etisalat DB Telecom Pvt. Ltd., Idea Cellular Ltd., S. Tel Pvt. Ltd., Sistema Shyam TeleServices Ltd., Spice Communications Ltd., Unitech Wireless (East) Pvt. Ltd., Unitech Wireless (Kolkata) Pvt. Ltd., Unitech Wireless (Mumbai) Pvt. Ltd., Unitech Wireless (North) Pvt. Ltd., Unitech Wireless (South) Pvt. Ltd., Unitech Wireless (Tamil Nadu) Pvt. Ltd., Unitech Wireless (West) Pvt. Ltd., Videocon Telecommunications Ltd., Vodafone Essar Spacetel Ltd.”

3G Services

4.22 The Committee have been informed that for the use of 3G Spectrum, the licensee is authorized to use the 3G spectrum block for provisioning of Telecom Access Services as defined in the 'Scope of the license' in the Schedule Condition 2 of the UAS License agreement from the date of award of right to commercially use the 3G spectrum i.e. 01 September, 2010 till the validity of the UAS license agreement or for a period of 20 years from 01 September, 2010 whichever is earlier subject to compliance of following conditions:

(i) Validity period for 3G Spectrum:

4.23 Regarding the validity period for 3G Spectrum, the Committee have been informed that the licensee is authorized to use this spectrum for a period of 20 years from the date of award of right to commercially use the allocated 3G spectrum block i.e. 01 September, 2010 for operation of Telecom Access Services as defined in the “Scope of the license” in Clause 2. Part I General Conditions of the UAS License agreement, subject to the condition of validity of the UAS license agreement. In case of UAS license is cancelled/terminated/revoked/surrendered for any reason, the spectrum usage rights shall stand withdrawn forthwith. If the validity period of the UAS license agreement expires before the expiry of the right to use the 3G Spectrum for 20 years, awarded by means of the said Auction, then the validity of the UAS license for operation of Unified Access Services by using the said 3G Spectrum only, shall be extended to make it coterminous with the validity of the right to use the 3G Spectrum without any charges and in such manner as the Licensor deems fit. The Committee have also been informed that the extension shall be done on the application of the licensee made three months in advance of expiry of the validity period of the UAS license. This does not include authorization or extension of period of validity of the

UAS license for providing Unified Access using wireline and/or spectrum allocated under Clause 43 of the UAS license agreement.

(ii) Roll-out obligations for 3G Spectrum:

4.24 As far as the Roll-Out-Obligation of 3G spectrum, the Committee have been informed that the Licensee shall ensure compliance of following network roll-out obligations for 3G Spectrum for respective category of the licensed service area(s):-

- (a) Applicable for Metro service area license(s): The licensee to whom the 3G spectrum is assigned shall be required to provide required street level coverage using the 3G Spectrum in at least 90 per cent of the service area within five years of the Effective Date.
- (b) Applicable for Category A, B and C service area license(s): The licensee to whom the spectrum is assigned shall ensure that least 50 per cent of the District Headquarters (DHQ) in the service area will be covered using the 3G Spectrum, out of which at least 15 per cent of the DHQs should be rural Short Distance Charging Areas (SDCA), within five years of the Effective Date. The Committee have been informed that SDCA is defined as per the definition used by the Census of India. Rural SDCA is defined as an area where 50 per cent of the population lives in the rural areas. Further, the operator shall be permitted to cover any other town in a District in lieu of the DHQ, coverage of a DHQ/town would mean at least 90 per cent of the area bounded by the municipal/local body limits should get the required street level coverage, the DHQ shall be taken as on the Effective Day, the choice of DHQs/towns to be covered and further expansion beyond 50 per cent the DHQs/towns shall be with the operator.

4.25 The Department of Telecommunications has apprised the Committee that the Effective Date shall be the date when the right to use awarded spectrum commercially committees i.e. 1 September, 2010. If the licensee does not achieve its roll out obligations, it shall be allowed a further period of one year to do so by making a payment of 2.5 per cent of the Successful Bid Amount (i.e. spectrum acquisition price) per quarter or part thereof as liquidated damages. If the licensee does not complete its roll out obligations even within the extended period of one year, the 3G spectrum assignment shall be withdrawn.

License Fee for 3G Spectrum:

4.26 With regard to the License Fee of 3G spectrum, the Committee have been informed that over and above the 'License Fees' payable of the licensee as per Condition 18.2 of the UAS licensee agreement, the licensee shall also pay the annual licence Fee as share of Adjusted Gross Revenue (AGR) from the services using 3G spectrum as per rates mentioned in Condition 18.2 of the UAS license agreement. All conditions contained in Part-III Financial Conditions of UAS License Agreement will continue to be applicable to the Licensees as amended by Government from time to time.

Spectrum Usage Charges

4.27 In connection with the spectrum usage charges, the Committee have been informed that notwithstanding anything contained in clause 18.3 of Part III of the Schedule of the license agreement, the spectrum charges in accordance with the following Tables shall be payable by the licensee on the AGR as defined in clause 19 of Part III of the Schedule of this license agreement:-

Schedule A: Charges for GSM service providers

Spectrum slab	Annual spectrum charges (as a percentage of AGR)
Up to 4.4 MHz	03
Up to 6.2 MHz	04
Up to 8.2 MHz	05
Up to 10.2 MHz	06
Up to 12.2 MHz	07
Up to 15.2 MHz	08

Schedule B: Charges for CDMA service providers

Spectrum slab	Annual spectrum charges (as a percentage of AGR)
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Up to 5 MHz	03
Up to 6.25 MHz	04
Up to 7.5 MHz	05
Up to 10 MHz	06
Up to 12.5 MHz	07
Up to 15 MHz	08

4.28 The Department also informed that it is made clear that while calculating AGR for a limited purpose of levying spectrum charges based on revenue share, revenue from wireline subscriber shall not be taken into account.

Merger of 3G Spectrum Blocks

4.29 The Department informed that unless otherwise notified by the Licensor in due course, if two or more licensees holding 3G Spectrum blocks in a service area merge then they shall be allowed to retain only one 3G Spectrum block and shall surrender the remaining 3G Spectrum blocks in that service area.

Breach, revocation and surrender for 3G Spectrum

4.30 The Committee were apprised by the Department that the 3G spectrum assignment may be revoked, withdrawn, varied or surrendered in accordance with the applicable license conditions or any other applicable laws, rules, regulations or other statutory provisions. The 3G spectrum assignment may also be revoked if the Licensor determines the user of the spectrum to be in serious breach of any of the conditions of the award of the spectrum (including adherence to the Auction Rules) and the consequent obligations. In case of less serious breaches, the Licensor may impose penalties at its discretion. Seriousness of the breach shall be determined by the Licensor at its sole discretion. The licensee may surrender the 3G spectrum, by giving notice of at least 60 calendar days in advance. In that case, it shall also notify all its customers of consequential withdrawal of service by giving 30 calendar days notice to each of them. The licensee shall pay all fees payable by it until the date on which the surrender of the 3G spectrum becomes effective. The effective date of surrender of

the spectrum shall be the later of the dates of expiry of the two notices mentioned in this clause. If at any stage, the spectrum allocation is revoked, withdrawn, varied or surrendered, no refund will be made.

Applicability of the Notice Inviting Applications (NIA) for 3G Spectrum

4.31 On the applicability of the Notice Inviting Applications (NIA) for 3G spectrum the Committee were informed that the amendment of the UAS license agreement is subject to all the terms and conditions of the Notice inviting Applications (NIA) for “Auction of 3G and BWA Spectrum”. As per this notification the licensee shall comply with all the terms and conditions of the Notice Inviting Applications (NIA) unless and otherwise amended by the licensor by way of amendment of the UAS license agreement from time to time.

4.32 When asked whether it is a fact that the Department of Telecommunications has recently sent notices to telecom service providers asking them to discontinue their 3G roaming agreements since service providers suppressed material documents, the Department in a written note stated as under:

“It has been brought to the notice by various Telecom Enforcement Resource and Monitoring (TERM) cells of DoT that companies having Cellular Mobile Telephone Service (CMTS)/ Unified Access Service (UAS) License in a particular service area but who have not been allocated 3G spectrum & their License have also not been amended for use of 3G spectrum are providing services using 3G spectrum. The matter was examined and it has been concluded that providing of service using 3G spectrum by such Licensee companies in service area is against the terms and conditions of license. Accordingly, instructions have been issued on 23.12.2011 to such companies for stopping of such services immediately. These companies have filed petitions in Hon’ble Telecom Disputes Settlement & Appellate Tribunal (TDSAT) against the instructions issued on 23.12.2011. Hon’ble TDSAT has ordered that DoT may not take any coercive action for enforcing the impugned order dated 23.12.2011. The matter is subjudice.”

National Telecom Policy, 2011 regarding licensing and spectrum management

4.33 Licensing, Convergence and Value Added Services as envisaged in the draft NTP, 2011 include:

- Strive to create One Nation - One License across services and service areas.

- Achieve One Nation - Full Mobile Number Portability and work towards One Nation - Free Roaming.
- To orient, review and harmonize the legal, regulatory and licensing framework in a time bound manner to enable seamless delivery of converged services in technology neutral environment. Convergence would cover:
 - Convergence of services i.e. convergence of voice, data, video, Internet telephony (VoIP), value added services and broadcasting services
 - Convergence of networks i.e. convergence of access network, carriage network (NLD/ ILD) and broadcast network
 - Convergence of devices i.e. telephone, Personal Computer, Television, Radio, inter-operable set top boxes and other connected devices.
- To allow sharing of Networks and delink the licensing of Networks from the delivery of Service to the end users.
- The technology neutral Unified Licenses are envisaged to be in two separate categories:
 - Network Service Operator (NSO)/ Communication Network Service Operator (CNSO)
 - Service Delivery Operator (SDO)/ Communication Service Delivery Operator (CSDO)
- To facilitate resale at service level – both wholesale and retail.
- To delink spectrum in respect of all future licenses. Spectrum shall be made available at price through market related processes.
- To frame an appropriate Exit Policy for the licensees.
- Facilitate consolidation in the converged telecom service sector while ensuring sufficient competition.
- To encourage digitalization of the local cable networks.
- To put in place an appropriate regulatory framework for delivery of VAS at affordable price, that can fuel growth in entrepreneurship, innovation and provision of region specific content in vernacular languages.

- To put in place a framework to regulate the carriage charges, which are content neutral and based on the bandwidth utilization. This will also encourage non value added services such as provision of data and information over the mobile platform.
- To *reposition the mobile phone to an instrument of empowerment* that combines communication with proof of identity, fully secure financial and other transaction capability, multi-lingual services and a whole range of other capabilities that ride on them and transcend the literacy barrier.

SPECTRUM MANAGEMENT

- Ensure adequate availability of spectrum and its allocation in a transparent manner through market related processes. Make available additional 300 MHz spectrum for IMT services by the year 2017 and another 200 MHz by 2020.
- To permit spectrum pooling, sharing and later, trading for optimal and efficient utilization of spectrum.
- To undertake periodic audit of spectrum utilization to ensure its efficient use.
- To move existing users of spectrum i.e. Government departments, public sector, private sector and telecom service providers to alternative frequency bands or media to make spectrum available for introduction of new technologies.
- To prepare a roadmap for availability of additional spectrum every 5 years.
- wireless (spectrum) licenses and their terms and conditions.

CHAPTER – V

TELECOM TOWERS AND MOBILE TELEPHONY

5.1 As per information furnished by the Department, the Wireless Planning and Coordination Wing (WPC) of DoT issues siting clearance for mobile towers for each and every site taking into account that it does not have interference with other wireless users, aviation hazards and obstruction to any other existing microwave links. The clearance is issued without prejudice to make applicable by-laws, rules and regulations of Local Bodies such as Municipal Corporation/ Gram Panchayat etc. As per the Guidelines, before installation of mobile towers, the Telecom Service Providers are required to obtain necessary permission from Local Bodies. However, obtaining Right of Way (RoW) from Government Agencies/ Local Bodies for installation of tower is the responsibility of operator/ IP-I providers. This policy is followed by Private and Public Telecom Service Providers.

Guidelines for Installation of the Mobile/Telecom Towers

5.2 The Environment (Protection) Act, 1986 and rules made there under, all mobile phone service providers are directed to follow the following Guidelines at the time of installation of the mobile towers:-

- Installation of Base Station Antennas within the premises of schools and hospitals may be avoided because children and patients are more susceptible to Electro Magnetic Field.
- Installation of Base Station Antennas in narrow lanes should be avoided in order to reduce the risks caused by any earthquake or wind related disaster.
- The Base Station Antennas should be at least 3 meters away from the nearby building and antennas should not directly face the building. Further, the lower end of the antenna should be at least 3 meter above the ground or roof.
- In case of multiple transmitter sites at a specific locality sharing of a common tower infrastructure should be explored, as far as possible, which can be coordinated through a nodal agency.

- Access to Base Station Antenna sites should be prohibited for general public by suitable means such as wire fencing, locking of the door to the roof etc. Access to tower site, even for the maintenance personnel, should be for a minimum period as far as possible.
- Sign boards/Warning Signs are to be provided at Base Station Antenna sites which should be clearly visible and identifiable. A warning sign should be placed at the entrance of such zone.
- The “Warning Sign” should discourage longer stay in the zone, even for the maintenance personnel. The sign board may contain the following text :

“The operators and maintenance personnel, who are dealing with radio frequency devices, specially with Base Station Antennas installed on towers and at any other outdoor sites, should be protected from electromagnetic radiations. It is required that operators and maintenance personnel should be educated for possible hazards from these devices.”

Shared Infrastructure Support (Towers & Mobile Services) – Phase I

5.3 As per DoT, a scheme has been launched by USO Fund to provide subsidy support for setting up and managing 7353 number of infrastructure sites/ towers (revised from 7863 as on 31 December, 2011) in 500 districts spread over 27 States for provision of mobile services in the specified rural and remote areas, where there is no existing fixed wireless or mobile coverage. Villages or cluster of villages having population of 2000 or more and not having mobile coverage are taken into consideration for installation of towers under this scheme. The number of towers is subject to change based on actual field survey and coverage achieved thereof as per the terms and conditions of the agreements. The agreements effective from 1 June, 2007 were signed with the successful bidders in May, 2007.

5.4 As on 31 December, 2011, 7296 towers i.e. about 99.22 per cent have been set up under this scheme. The infrastructure so created is being shared by three Telecom Service Providers for provision of mobile services. As on 31 December, 2011, 15686 BTSs (Base

Transreceiver Stations) have been commissioned by Service Providers and mobile service are being provided.

Telecom Enforcement Resource and Monitoring (TERM)

5.5 As per the Annual Report 2011-12 of Department of Telecommunications, with the increasing number of Telecom Service Providers in the country, the Government felt the need for presence of Telegraph Authority in all the Licensed Service Areas and Large Telecom districts of the country. As per the DoT, with the growth of access service providers and Internet Service Providers (ISPs), an increase in illegal/clandestine telecom operations have been observed. To tackle this, the Government has created Vigilance Telecom Monitoring (VTM) cells renamed as TERM (Telecom Enforcement, resource & Monitoring) Cells to reflect their entire gamut of functions.

TERM Cells and checking of compliance to Electromagnetic Force Radiation norms

5.6 With the increasing concern over harmful effects of Electromagnetic Force (EMF) radiations on human health, in the year 2010 it was decided that the TERM Cells may be entrusted the work of cross checking the compliance of (EMF) radiation norms as prescribed by the Government. In this regard, specific procedures along with testing fee have also been formulated. As per DoT, till 31 December, 2011 more than 13000 Base Transreceiver Stations (BTSs) have been tested for compliance to radiation norms which have resulted into a revenue generation of more than ₹ 13 crore as testing fee for the Department.

5.7 Asked about the Guidelines that have been laid down by the Government regarding Electromagnetic Force Radiation from mobile towers, the Department in a written note stated as under:

“Department of Telecommunications has laid down guidelines regarding electromagnetic radiation from mobile towers conforming to the norms prescribed by International Commission on Non-Ionizing Radiation Protection (ICNIRP). Directions were issued to the mobile operators and the following clause was inserted in the Access Service Licenses vide amendment dated 4 November, 2008. Licensee shall conduct audit and provide self certificates annually as per procedure prescribed by

Telecommunication Engineering Centre (TEC)/or any other agency authorized by Licensor from time to time for confirming to limits/levels for antennae (Base Station Emissions) for general public exposure as prescribed by International Commission on Non-Ionizing Radiation Protection (ICNIRP) from time to time. Further, DoT vide letter No. 800-15/2010-VAS dated 8 April 2010 has directed all Cellular mobile Telephone Service (CMTS)/Unified Access Service (UAS) licensees for compliance of the reference limits/ levels prescribed by ICNIRP by way of self certification of their Base Transmitting Station (BTS) for meeting the EMF radiations norms. As per the directions issued all existing BTSs should be ICNIRP guidelines compliant and all BTSs should be self certified as meeting the radiation norm. Self certification should be submitted to respective Telecom Enforcement Resource & Monitoring (TERM) Cells of DOT. All new BTS sites should start radiating only after self certificate has been submitted to relevant TERM Cells”.

5.8 When asked about the details of the prescribed limits/ levels by ICNIRP for EMF emission from Base Transceiver Stations (BTSs), the Department in a written note informed the Committee as under:

“As prescribed by ICNIRP and adopted by DoT, the following levels limiting EMF emission from Base Transceiver Stations (BTSs) as safe for general public:

Frequency Range	E-Field Strength (Volt/Meter (V/m))	H-Field Strength (Amp/Meter (A/m))	Power Density (Watt/Sq.Meter (W/Sq.m))
400MHz to 2000MHz	$1.375f^{1/2}$	$0.0037f^{1/2}$	$f/200$
2GHz to 300GHz	61	0.16	10

(f is the frequency of operation in MHz)

In India, the cellular GSM services are being operated at 900 MHz and 1800 MHz frequency band. For 900 MHz, Permissible Power Density is 4.5 W/Sqm, whereas for 1800 MHz, Permissible Power Density is 9 W/Sqm.”

5.9 Regarding the total number of BTSs that have been tested by TERM Cells for compliance of ICNIRP norms, the Committee have been informed that as on 30 September, 2011, TERM Cells had carried out the testing of radiation levels for 7120 BTSs out of the total of 6, 63,000 BTSs for which the telecom service providers had submitted the self-certification

to their respective TERM Cells. It was found that the radiations levels of all the 7120 BTSs are in compliance of ICNIRP prescribed levels.

5.10 In this regard, the representatives of Department of Telecommunications during the evidence held on 5 January, 2012 stated as under:

“The results of the 7,000 towers which have been tested is that most of them are very much below the old norms and most of them may also meet this new norm. What they are now required to do is that first they do technically a calculation that there are so many towers and how much it should be. Then, they go to the site and see which of the BTS transmitter is transmitting more and then, they have to adjust the power there. When they self-certify to us, they have to do it. Before they come to us and self-certify, we cannot go and test.”

5.11 Enquired about the levy of penalty in case a site fails to meet the Electromagnetic Force radiation criterion, the Committee were apprised that the instructions have been given *vide* letter dated 8 April, 2010 to all the licensees prescribing a levy of penalty of Rs 5 lakh per BTS per service provider in case a site fails to meet the Electromagnetic Force radiation criterion. Any site for which self-certificate is not submitted by the operator is to be treated as non-compliant and the penalty as prescribed will be imposed. Further, provisions for imposition of interest in case of delayed payment of EMF penalty amount and encashment of Financial Bank Guarantee (FBG) in case of non-receipt of penalty amount, in case of EMF radiation, non-compliance, have been made and instructions in this regard have been issued to all the telecom licensees on 11 January, 2012.

5.12 Asked about the details regarding the submission of self-certificates by the Telecom Service Providers with regard to their BTSs, the Department stated that the service providers were directed to submit self certificates against all BTSs by 31 March, 2011. The Department also informed the Committee that the service providers have to submit self-certificates once in two years. The current cycle of two years will end on 31 March, 2013 by which all the service providers will have to self-certify all of their BTSs. Operator wise status of self-certification as on 31 March, 2011 is given below:

Status of EMR self-certification as on 31 March, 2011

Sl. No.	Name of TSP (Generalised)	Total BTSs as on date i.e. as on 31.03.2011	Number of self certificate submitted till 31-03-2011
1	AIRCEL/DISHNET	50774	49722
2	Airtel/BHL	117743	116575
3	BSNL	80836	69091
4	Etisalat/Allianz	2287	2287
5	IDEA/ABTL	65250	64611
6	Loop	2238	2233
7	MTNL	3254	3254
8	QTL/HFCL	1939	1939
9	Reliance	76922	76760
10	SPICE TELECOM	8122	8122
11	SSTL (MTS)	9232	8681
12	STEL	3469	3469
13	TTSL/TTML	60493	59760
14	Uninor	24424	23812
15	Videocon	9521	8674
16	Vodafone	100337	99728
	Grand Total	616841	598718

5.13 The Committee have also been informed that any site for which self-certificate is not submitted by the operator is to be treated as non-compliant and the penalty as prescribed will be imposed. The Department, with regard to the modalities of imposition of penalty has stated that it is being finalized.

5.14 Enquired about the research work carried out by the World Health Organization (WHO) and its conclusive findings, it has been stated that WHO in its Fact Sheet No. 304, May, 2006 on Electromagnetic Fields and Public Health (Base Stations and Wireless Technologies) has concluded that considering the very low exposure levels and research results collected till date, there is no convincing scientific evidence that the weak RF Signals from base stations and wireless networks caused adverse health effects. From all evidence accumulated so far, no adverse short or long term health effects have been shown to occur from the RF Signals produced by based stations.

5.15 When asked about the constitution of an Inter-Ministerial Committee to examine the effect of EMF radiation from mobile and mobile towers, the Department in a written note stated as under:

“Department of Telecommunications has constituted an Inter-ministerial committee consisting of officers from Department of Telecommunications, Indian Council of Medical Research (Ministry of Health & Family Welfare), Department of Biotechnology and Ministry of Environment and Forest on 24.08.2010 to examine the effect of EMF Radiation from base stations and mobile phones. Inter-Ministerial Committee (IMC), in its report, has also examined the environmental and health related concerns and has indicated that most of the laboratory studies were unable to find a direct link between exposure to radio frequency radiation and health; and the scientific studies as yet have not been able to confirm a cause-and-effect relationship between radio frequency radiation and health. The effect of emission from cell phone towers is not known yet with certainty. Further, the committee has also suggested certain measures such as adoption of Specific Absorption Rate (SAR) level for mobile handsets limited to 1.6 Watt/Kg and lowering the BTS RF exposure limits to 1/10th of the existing prescribed limit. The recommendations of the IMC have been approved by the competent authority and necessary steps have been initiated for implementation of the same”.

5.16 Regarding the findings of the Inter-Ministerial Committee, the representative of Department of Telecommunications, during course of deliberations held on 5 January, 2012 deposed as under:

“The Inter-Ministerial Committee found that in the researches, which have been undertaken abroad as well as in India, there is no conclusive evidence of affect on health of EMF radiation. The cause and affect has not been established in any of the researches. What other countries are doing in such a situation is that they are taking precautionary measures. As a precautionary measure, we have indicated certain permissible limits of EMF radiation from the base stations as well as precautionary measures on mobile phone hand-sets, that is, SAR values. The Committee recommended to go for one-tenth of the existing standards. For example, in GSM services, where it is operated in 900 MHz, the operational power density limit was 4.5 w/sq. m. and in 1,800 MHz, the permissible limit was 9 w/sq.m. The Committee recommended to lower this limit to one-tenth. As a result, now the permissible limits will be 0.45 w/sq.m. and 0.9 w/sq.m. respectively. The Government has accepted this and we are now implementing these new standards and the operators have to abide by these new standards. Certain time will be given to them to go in for checking, and we will ask for self-certification in this regard.”

5.17 Elaborating further, the representatives of DoT informed that the norm has been notified on 17 November, 2011 and the recommendations given by the Inter-Ministerial Committee has been accepted by the Government for reducing the norm to one-tenth.

TERM Cells and busting of Illegal operations

5.18 One of the major purposes of creation of TERM Cells is to curb the illegal operations (not permitted under Indian Telegraph Act), and to catch hold of the culprits. As per DoT, till now more than 500 such illegal setups have been unearthed and raided with the help of Law Enforcement Agencies (LEAs) i.e. local police, CBI, DRI etc. to catch hold of the culprits. These cases have been handed over to Law Enforcement Agencies (LEAs) for further actions against the culprits.

5.19 To a specific query regarding the steps taken by the Department to stop illegal networks, the Committee were apprised that all the TERM Cells have been asked to monitor all the telecom networks in their License Servicing Area (LSA) to curb such operations. More than 540 raids have been undertaken so far to bust these illegal networks.

5.20 However, on being asked whether the Department possesses the required technical expertise to block/jam the illegal messages/calls, the Department has stated that there is no set technical method/procedure to block / jam illegal messages/ calls as these setups use the network resources like a normal subscriber. These setups can be caught through continuous monitoring only. The same is being done through TERM Cells.

5.21 When asked to furnish the details of the States in which raids were conducted, the Committee were informed that majority of the raids were conducted in the States of Andhra Pradesh, Tamil Nadu, Maharashtra and Delhi. In this regard, FIRs have been lodged against the culprits in grey market cases. However, no company has been blacklisted.

5.22 On being asked as to how many illegal service providers have been detected and penalties imposed on them, the representatives of the Department of Telecommunications during the briefing meeting held on 11 October, 2011 stated as under:

“From 2004 onwards, they have caught about 700 illegal operators. They were not telecom operators, but they took lines from operators or SIMs from the operators and connected some lease lines....they were caught in a raid. We conducted raids and handed over them to the Police and criminal cases are going on in respective courts. As soon as some complaint comes or when we recognize disturbing traffic flow because we monitor the networks, we detect such cases....the power of imposing penalties is not with the Department of Telecommunications. It is imposed by the courts under the Indian Telegraph Act or under any other criminal law....there is no fixed time because in the courts, the cases have been going on for many, many years. It is between the Police and the courts. It becomes a criminal case. They have been taking a lot of time.”

5.23 To a query about the quantum of loss being incurred due to operation of such illegal networks, the Department of Telecommunications in a note stated as under:

“The total notional loss occurred to the Country is approx ₹ 770 Crores. The loss is notional as the Government and the service providers have been deprived of revenue, which they could have earned, if the calls had been routed through legal route. In such cases the offender has setup illegal route and bypassed the legal route for incoming international calls. The notional loss that has occurred to the country, has been calculated by taking the complete CDR information/ metered units from the Service provider and finding the complete duration of usage of the lines used for local distribution in minutes. If CDRs/ metered units are not available, the duration of usage is calculated based on the number of days the setup has operated. The total duration so arrived is then multiplied by the average settlement rate and the approximate dollar exchange rate (settlement rates are in dollars). The Settlement rate is the rate at which the international service provider has agreed to bring in the incoming international call with the other country's operator i.e. from where the call is actually coming.”

CHAPTER VI

GROWTH OF MANUFACTURING OF TELECOM EQUIPMENT IN INDIA

6.1 In the recent times, telecom sector has witnessed tremendous growth which has paved the way for development of the telecom equipment manufacturing and other supporting industries in India. With the introduction of Next-Generation technologies such as roll out of 3G and broadband wireless access services, the need and demand for telecom equipment has increased manifold. It is said that the Indian equipment manufacturing sector has come a long way in the past few years. From being an import-centric industry, it is slowly but steadily moving towards becoming a global telecom equipment manufacturing hub. In 2002-03, India produced telecom equipment worth ₹ 144000 million, which increased to ₹ 520000 million in 2010-11, registering a tremendous growth rate of 265 per cent. As per DoT, the country is not only emerging as a manufacturing hub but is also planning to increase its telecom exports. In the year 2006-07, India exported equipment worth ₹ 18980 million, which increased by over 730 per cent to ₹ 158380 million in 2010-11.

6.2 The market is currently dominated by multinational companies which have set up their production facilities in the country over the past decade and many more are planning to set up. Also, with Indian as well as Multinational Companies setting up base in India, the country is not only emerging as a manufacturing hot spot but is also planning to increase its telecom exports each year. In mobile sector alone, domestic brands have established themselves in the market and are competing with International handset vendors.

6.3 As per DoT, to promote indigenous Research & Development and manufacturing for becoming self-reliant in telecom/ICT equipment manufacturing sector, various strategies have been proposed in the Draft National Telecom Policy, 2011. In order to ensure focused indigenous development in the telecom sector, efforts are being made towards a definite policy direction by creating a suitable road-map to align technology, demand, standards and regulations, after considered evaluation.

6.4 As per DoT, the Government is supporting the domestic equipment manufacturing industry and the growth of indigenous technology. With efforts from both the Government and the industry, India can build a conducive environment to boost the equipment manufacturing sector, which can lead to the creation of an industry that will compete with the best in the world.

6.5 As per the Annual Report (2011-12) of DoT, the export and import of telecom equipment during 2010-11 and projection for 2011-12 are as follow:

	(₹ in crore)
During 2010-11	
Telecom Equipment Production	14400
India's Export of Telecom equipments	15838
India's Import of Telecom equipments	53102
During 2011-12	
Telecom Equipment Production	52000
India's Export of Telecom equipments (Projected)	16500
India's Import of Telecom equipments (Projected)	53000

6.6 In the wake of the various initiatives taken by the Government to improve the telecom equipment manufacturing sector, the Committee enquired about the initiatives taken by the Department to boost domestic investments in the telecom manufacturing sector. In response it has been stated as under:

“To boost domestic investment in the telecom manufacturing sector and to enable the country to become the manufacturing hub for the telecom equipment, the following policy initiatives have been taken by the Government:

- In telecom manufacturing sector, 100 per cent FDI is permitted under automatic route.
- No Industrial license is required for telecom equipment manufacturing. Simple Industrial Entrepreneur Memorandum (IEM) has to be filed with Secretariat for Industrial Assistance (SIA).
- Payment for royalty, lump sum fee for transfer of technology and payments for use of trademark/ Brand name is on the automatic route.
- Further, the draft ‘National Telecom Policy, 2011’ has proposed the following strategies for R&D, to boost domestic Manufacturing of Telecommunication Equipment.

(i) To set up a council consisting of experts from Telecom Service Providers, Telecom Manufacturing Industry, Government, Academia and R&D institutions. The council will

- Carry out technology and product development forecast.
 - Evolve, and periodically update the national programme for technology/ product development.
 - Be a nodal group to monitor and ensure the implementation of various recommendations made for promoting indigenous R&D, IPR creation, and manufacturing and deployment of products and services.
- (ii) Create a suitable road map to align technology, demand, standards and regulations, after considered evaluation of candidate technologies and the emerging trends.
 - (iii) To spur the domestic telecom equipment manufacturing segment to meet the indigenous demands for becoming self-reliant in telecom/ICT equipment design and manufacturing.
 - (iv) To promote synergy of academia, R&D centres, manufacturers, service providers, and other stakeholders for achieving collaboration and reorientation of their efforts for creation of IPRs, development and deployment of new products and services suited to the Indian environment.
 - (v) To harness India's entrepreneurial energy and intellectual capital for the cause of R&D and manufacturing.
 - (vi) To encourage the young entrepreneurs by making available needed funding (pre-venture and venture capital), management and mentoring support.
 - (vii) To assist entrepreneurs to develop and commercialize Indian products.
 - (viii) To strengthen the links in the complete value chain from basic research to IPR generation, product design and development, product commercialization and simultaneously achieving economics of scale, thereby enabling the product to complete internationally.
 - (ix) To Create Fund to promote indigenous R&D, IPR creation, entrepreneurship, manufacturing, commercializing and deployment of state-of-the-art telecom products and services. Emphasis will be given to creation of India IPRs, which go into international standards as well as in product manufacturing in implementation of major programmes and projects as a vehicle to develop Branch India.
 - (x) To provide preferential market access for domestically manufactured products with special emphasis on Indian products for which IPRs reside in India to adequately address the strategic and security needs of the country consistent with international commitments.
 - (xi) To incentivize telecom service providers to use indigenous products by encouraging:
 - Commitment to purchase Indian products that are comparable in price and performance to imported products.

- Commitment to participate in trials of newly created Indian products, nurture them and place pilot orders.
 - Funding R&D and support Indian IPR creation and participate in creation of standards.
- (xii) To support Electronic Systems Design and Manufacturing Clusters for design, development and manufacture of telecommunication equipment.
- (xiii) To create suitable testing infrastructure not only for carrying out conformance testing and certification, but also to aid in development of new products and services.
- (xiv) To actively incentivize export of telecom equipment and services.
- (xv) To facilitate soft credit to the Indian product manufacturers for domestic deployment and exports”.

TRAI’s Recommendations on Telecom Equipment Manufacturing Policy

6.7 To bring the issues relating to telecom manufacturing in India, TRAI issued a pre-consultation in May 2010. Based on the comments received and further study, a consultation paper on ‘Encouraging Telecom Equipment Manufacturing in India’ was issued on 28 December, 2010 for obtaining views of the stakeholders. After analysis of the comments and OHDs, TRAI issued recommendations on ‘Telecom Equipment Manufacturing Policy’ on 12 April, 2011. In these recommendations, the specific targets that seek to achieve would be:

- To meet 45 per cent of the domestic demand through domestically manufactured products by the year 2015 and 80 per cent by the year 2020.
- To provide market access to Indian products to the extent of 25 per cent by the year 2015 and 50 per cent by the year 2020.
- To increase value addition in domestic manufacturer products to 35 per cent by the year 2015 and 65 per cent by the year 2020.

National Telecom Policy, 2011 and Research and Development, Manufacturing and Standardization of Telecommunication Equipment

6.8 When asked about the broad Guidelines of the draft National Telecom Policy, 2011 regarding Research and Development, manufacturing and standardization of telecom equipment, the Department in a written note stated as under:

- “Promote the domestic production of telecommunication equipment to meet 80% Indian telecom sector demand through domestic manufacturing with a value addition of 65% by the year 2020.

- To create fund to promote indigenous R&D, IPR creation, entrepreneurship, manufacturing, commercialising and deployment of state-of-the-art telecom products and services.
- To promote setting up of Telecommunications Standard Development Organisation (TSDO) as an autonomous body with strong participation of the industry, R&D centres, service providers, and academia to drive consensus regarding national requirements.
- To provide preferential market access for domestically manufactured products with special emphasis on Indian products for which IPRs reside in India to adequately address the strategic and security needs of the country consistent with international commitments”.

6.9 Regarding the problems associated with import of manufacturing of telecom equipment, the Secretary during the oral evidence held on 14 February, 2012 stated as under:

“.....the manufacturing of telecom equipment in particular and electronics in general within the country has been abysmally low. Today, China for example accounts for almost 33 per cent of global manufacturing in electronics. Indian manufacturing is at the level of just around a little over one per cent. So, we have a big problem....the second thing is our demand for electronic goods in general and for telecom equipment in particular is galloping at a huge pace and because of the growth in the Gross Domestic Product (GDP) in the country a lot of people spend whatever surplus money they have on electronic gadgets whether it is a transistor for a poor man or TV, laptop, tablet or a mobile device. So, the projections are that by 2020 the demand will go up from the current level of around 60 billion dollars to 400 billion dollars. At the same time during this period the projections are that the manufacturing within the country will, at best, go up to a little over 100 billion dollars. That means, by 2020 we would be importing more than 300 billion dollars, or close to 300 billion dollars worth of electronic goods, including telecom which forms a substantial part of this. This is a matter of major concern for the country and it has been recognised at the highest levels that this is a matter of major concern for two reasons. The first is purely economical. We cannot import 300 billion dollars of equipment. This is almost two to three times of our oil import bill. We cannot have such a large quantum of import.”

6.10 On the issue of national security and import of telecom equipment, the Secretary during the evidence further explained to the Committee as under:

“The second is from the point of view of cyber security and from the point of view of national security in general. Telecommunications and electronics have become the centre of all the security concerns because today traditional wars are becoming less and less frequent but cyber war and gaining control of the enemy’s infrastructure without actually any covert action is becoming more common and there are examples

in countries across the world whether it was in Estonia or in Korea or even in the US, examples of this have been there in the recent past. In many of these cases, these attacks are facilitated both by software and hackers sitting in third countries as well as in many cases by the electronics and the equipment which is installed and which has a origin from some other source. So, for example, the security agencies in the country have cited the Chinese equipment as a major cause for concern because some people believe that in such equipment there are hidden software and embedded software which enables all communications to be intercepted, diverted to a third location elsewhere. Frankly, it is not the Chinese alone who are doing that, there are other providers also including some of the Western providers are also suspected in some cases to have done that. There are celebrated cases with respect to Ericsson for example in Europe itself. So, the short point is that both for economic reasons and for security reasons and for our own strategic security of the country electronics manufacturing has now become extremely important. So, keeping this in mind, the Department of IT had formulated a draft National Policy on electronics which was announced by the hon. Minister in October, 2011. Public comments were invited and a large number of comments have been received and we are placing that for approval of the Government's and shortly we hope that it will be possible for us to get the Government approval on the policy. This policy does several things. Before I explain as to what are the interventions in the policy, let me talk about the problems, where is India when compared to China? What are the problems? Then that will put a perspective to the policy."

6.11 Elaborating on the issue, particularly pertaining to manufacturing in India vis-a-vis China, the Secretary, added as under:

"In the first instance our various trade agreements that we have, including the WTO, including Free Trade agreements, including Preferential Trade Agreements with various countries and trading blocks. Under these agreements we have foregone the right to impose any import duty on a large of electronic products, including most of the IT and telecommunications products. That means, under our international trade obligations we cannot put even one per cent of import duty on these items. The result of that is if somebody is manufacturing in India, then he cannot expect even one per cent duty protection from a foreign competitor. When you look at the way China has done their manufacturing, China has actually many ways of indirectly subsidising their products without even saying so and without its being obvious and inviting trade sanctions. So, in many cases we have been told by the industry people that the cost of the finished product from China is even lower than the cost of the raw material which is required. So, forget about competing there is no way that can be met. So, the other side is that even if somehow we are able to overcome this problem of artificial pricing, if you compare on like to like basis, the industry studies, they have various industry associations like Electronic Component Manufacturers Association and others, have studied the manufacturing in China and the manufacturing in other cases, two things come out of that. Number one is that pricing practices and costing practices in China are very opaque. It is very difficult to find out what is happening. Even after many studies they are still not exactly clear how this is being done".

6.12 Regarding the disadvantage of manufacturing in India when compared to other countries, the Secretary further stated as under:

“The second thing is that manufacturing in India in general, there are several disadvantages which the country has compared to other countries. For example, the cost of power and availability of power. If power is available, the cost is much more than the cost of power in those countries. China for example provides very high quality infrastructure at much lower cost than what is being provided in India. If power is not available, then they have to go for standby power which increases the cost. Second is the cost of finance. The finance cost is also extremely high. Today, in the telecommunication sector, most of the Chinese equipment which are penetrating the market also come with financing and they actually provide such easy terms that it is not only a question of purchase of equipment, it is also a question of purchasing financing. When both are combined together, then the temptation for any company which is in business to take that becomes extremely strong. So, cost of financing, cost of power and then cost of other infrastructure. If you see most of the electronics, these are manufactured through component sourced globally. So, the ease with which items can come in through ports and airports, the ease with which items can be exported is extremely important. Today in the electronics sector, the margins are very small. This sector is characterised by three characteristics. One is very low margins, as low as one per cent or two per cent. Second, very high velocity, that means, the speed with which transactions happen, the speed with which equipment is brought and fitted and sold is very high. Many companies work on inventory of 12 hours, not 12 days, not 12 months. So, the supply line has to be perfect and sure. Here we have a system where a truck can be in a Octroi at the check post for four days. How can this type of situation support this kind of manufacturing? Cost of such infrastructure, cost of finance, cost of power, these are some of the major factors and the estimates are that there is at least 8 to 20 per cent differential in the cost of adding value in India compared to China. This is the estimate. In the normal course, import duty would have helped to shield some of these things, but because of the trade agreements we are not able to do that. So, the net result is even the companies which are in India and designing electronic products in India are also manufacturing in China. This is the situation. Therefore, the Electronic Manufacturing policy has been formulated to try to counter this by using whatever tools are available within the limits that we have because of the international obligations.”

6.13 Elaborating on the issue further, the Secretary added as follows:

“We are trying to balance between these two to three factors because clearly in the long run we cannot, irrespective of the price, depend on subsidised Chinese products and also poor quality... There are five major elements of this Electronic Manufacturing Policy. The first element is to establish Wafer FAB facility which is the basic semi-conductors and chips which constitute the heart of all electronics. 30 per cent to 60 per

cent of the value addition comes from the semi-conductors. Today there is no FAB in India. There are many FABs in China. Setting up of a FAB is an important objective and already the Cabinet has constituted an Empowered Group to talk to various companies and suggest what is the best option available to ensure that a FAB manufacturing facility is set up in the country. There are not many companies around the world which have the technology for a FAB. The discussions are now at an advanced stage and we are hopeful that it would be possible to ensure that a FAB facility is set up in the country very soon. The second element of this policy is about providing preferential market access. The main strength that India has today, given all the disadvantages that I have already mentioned, is the size of the market. We have such a large market. Somehow we have to leverage that market. So, what is being done is that we are suggesting that there is a certain percentage of domestic sourcing which can be kept for the domestic market. Recently the Cabinet has approved that policy and on the 2nd of February, the Cabinet approved the Preferential Market Access policy and that is now in the process of being notified. Under this policy there is a certain minimum percentage of sourcing from the domestic market which has been specified for all electronic products which are either procured by the Government or which have a strong security implication. So, it is not for products of the common man. It is also not for items which are procured by the private sector which are not security sensitive. But if, it is either Government procurement or if there is security sensitivity, then this is the minimum percentage, 30 per cent, is the minimum percentage of domestic sourcing which has to be done. Second is that there is a certain percentage of minimum value addition in the domestic market which has to be fixed. This has also been laid down in the Cabinet decision. We feel that this will have a huge impact on manufacturing within the country and many of the international manufacturers as well as many of the companies within the country have expressed confidence and optimism that there will be significant manufacturing which will happen under this policy”.

6.14 Regarding the pricing policy and the special incentive scheme, the Secretary stated as under:

“... it is made very clear in the policy that (a) there will be no price preference (b) there will be no quality concession. So, the quality has to be global and the price has to be globally competitive. Subject to those two the preference would be there with these percentages. That is the essence of the preferential market access policy. The third element of this Electronics policy is the special incentive scheme for electronic products, called the SIPS (Special Incentive Package Scheme) under which for setting up manufacturing facilities within the country Government is providing some capital subsidy either in the form of capital grant or in the form of equity participation. By this method, the capital cost for manufacturing is brought down by 20 per cent and that enables the company to compete on the cost of the end product and also to offset some of the disadvantages that I have outlined. This proposal is currently under discussion with the Finance Ministry. Draft Cabinet Note has already been prepared and it is under discussion.”

6.15 On the issue of setting up of electronic manufacturing clusters, the Secretary, deposed as under:

“The corollary to this scheme is also setting up electronic manufacturing clusters which provide infrastructure. I mentioned about the high quality infrastructure in China. So, the electronic manufacturing cluster scheme aims to provide fully fitted and furnished infrastructure for electronic industries to come up because most of these companies come as a group and that is how they are able to manage this 12 hours inventory. If I am buying from him and his factory is next to my factory, then I do not need to have an inventory. I can just take it on this 12 hour basis, as I was mentioning. So, to enable this whole electronics to come as a group of industries, not as one at a time, this concept of electronic manufacturing clusters with fully fitted infrastructure funded by the Government that is part of the SIPS idea”.

6.16 With regard to the issue of setting up an Electronic Developmental Fund and National Electronic Mission to promote Research and Development, the Secretary stated as under:

“The fourth is because a lot of manufacturing is now related to innovation and new product designs, setting up an electronic development fund to promote research and development, to promote innovation, to create for example the venture funding, all that is proposed to be covered through the electronic development fund and the details of this proposal are still being worked out but that is the fourth and an important aspect. The fifth important element of the whole electronic policy, the last among the main points, is setting up a National Electronic Mission. It is recognised that this is not a challenge which the Government alone can fight. It is not Government versus private sector or private sector versus the Government. It is Government plus private sector versus the rest of the world. So, the idea is to set up a National Electronic Mission which has people from the Government and the people from the industry which will refine these policies from time to time and the strategies on a continuous basis by looking at what is happening in other countries. We have to be able to adjust our policies very quickly. So, this is again something which the National Electronic Mission is expected to do and the details of that body are also being worked out but it would be a joint Government and industry participation”.

6.17 When enquired as to how the Department would address the inevitability of enhancing the manufacturing of telecom equipment to improve the network expansion in the country, the Committee were apprised that the Government by its notification dated 10 February, 2010 has laid down the policy for providing preference to domestically manufactured electronic products in procurement of those electronic products which have security implications for the country and in the Government procurement for its own use and not with a view to commercial resale or with a view to use in the production of goods for commercial sale.

6.18 Elaborating further, the Department also apprised the Committee that based on the said notification, each Ministry/Department has to issue notification for providing preference to domestically manufactured electronic product or products, either for reasons of security or for Government procurement. Besides, the notification would specify the percentage to procurement to be made from domestically manufactured electronic product or products but it shall not be less than 30 per cent of the total procurement value of that electronic product or products. Further each Ministry/Department would also specify the domestic value addition requirements which the electronic product should satisfy for the product to qualify as domestically manufactured electronic product. The Department also added that notice has to be issued that the telecom equipment are security sensitive and hence in line with the notification.

6.19 Regarding the steps taken to address security concerns associated with the import of telecom equipment, the Department in a written note stated as under:

“To address the security concerns related to telecom & telecom Network, the Amendments have been issued on 31.05.2011 in Access Service licenses and on 3rd June, 2011 for other licenses, in consultation with Ministry of Home Affairs and after due deliberations with Industry. Salient Features of these amendments are as follows:

- Licensees shall have organizational policy on security and security management of their networks.
- Licensees shall audit their network or get the network audited from security point of view once a year from a network audit and certification agency. The first audit of the network should be completed within 12 months of the issue of this amendment and thereafter once in a financial year.
- The licensee shall induct only those network elements into his telecom network, which have been got tested as per relevant contemporary India or International Security Standards e.g. IT and IT related elements against ISO/IEC 15408 standards, for Information Security Management System against ISO 27000 series Standards, Telecom and Telecom related elements against 3GPP security standards, 3GPP2 security standards etc from any international agency/ labs of the standards e.g. Common Criteria Labs in case of ISO/IEC 15408 standards until 31st March 2013. From 1st April, 2013 the certification shall be got done only from authorized and certified agencies/labs in India.
- Licensee shall create facilities for monitoring all intrusion, attacks and frauds and report the same to DoT & CERT-In
- Licensee shall keep Audit Trail of all command logs
- non-compliance on account of security

- Licensee shall keep a record of operation and maintenance procedure in the form of a manual.
- Licensee shall keep Audit Trail of all command logs.
- Licensee shall keep a record of supply chain of the products (hardware/software).
A pilot laboratory has been set up at IISc, Bengaluru, to develop the Test standards, procedures & test tools to test the telecom equipment.”

Telecom Centres of Excellence (TCoE)

6.20 As per information furnished by the Department, the Government has set up seven Telecom Centres of Excellence (TCoE India) in Public Private Partnership (PPP) mode at country’s premier technical and management education institutes. The leading telecom service providers have joined as principal sponsors. The TCoE initiative intends to harness the potential of our people and the industry to match global standards and competitiveness. The detail of the seven TCoEs is as under:

- IIT Delhi centre sponsored by Airtel focusing on Telecom Technology and Management.
- IISc Bangalore centre sponsored by Aircel and focusing on Information Security and Disaster Management.
- IIT Kanpur centre sponsored by BSNL and focusing on Multimedia and Telecommunication Technologies, Cognitive Radio and Computational Mathematics.
- IIM Ahmedabad centre sponsored by Idea Cellular and focusing on Telecom Policy and Regulation.
- IIT Madras centre sponsored by Reliance and focusing on Telecom Infrastructure and Energy.
- IIT Bombay centre sponsored by Tata Teleservices and focusing on Rural Telecom Technology.
- IIT Kharagpur centre sponsored by Vodafone Essar and focusing on Next Generation Networks and Technology.

6.21 In this regard, the Committee were informed that the vision of Telecom Centres of Excellence is to enable all Indians to benefit from telecom technology for improving their quality of life and to strive to make India a leader in telecom over the next decade. Its mission

is to create synergy amongst the academia, telecom industry and the Government for creation of new services and applications, generation of Intellectual Property Right (IPR), development of manufacturing capability, global telecom standardization activities, and promotion of entrepreneurship. The primary objectives include application oriented telecom R&D and innovation jointly with the industry, capacity building through “Training the Trainers” and “Entrepreneurship Development.”, think tank activities for policy advocacy towards governance and regulation of telecom sector and influencing Global Standards to cater to Indian needs.

6.20 With regard to the projects undertaken and the achievements made by Telecom Centres of Excellence the Department apprised the Committee that TCoE has undertaken 64 projects. Out of which 42 are ongoing and 22 are completed or have come to field trial stage. Out of the completed projects, 15 are ready for commercialization. Two products namely ‘Mobile Social Networking Platform (MSNP)’ by TCoE at IIT Bombay (TICET) and ‘Digital Mandi for the Indian Kisan’ by TCoE at IIT Kanpur (BITCoE) were launched on 29th August, 2011. 14 contributions from TCoEs included in international 4G/5G standards. 9 patents have been filed by TCoEs and one US patent granted.

6.22 The Department has also informed that 45 research papers have been completed to help policy advocacy. Besides, TCoE has been accepted as an evaluator for IMT- Advanced (4G,5G etc) Technologies by ITU. 3 well researched proposals viz. Telecom Standards Development Organization (TSDO), Telecom Entrepreneurship Development Centre (TEDC) and Telecom Equipment Testing and Security Certification Lab (TETSCL) have been submitted to Department of Telecommunications for consideration and implementation to strengthen telecom ecosystem. Above all, TCoE is jointly working with Cellular service providers Association of India (COAI) and Indian Cellular Association (ICA) in setting up a Telecom Sector Skill Council (TSSC) under the aegis of National Skill Development Corporation (NSDC).

PART – II

OBSERVATIONS / RECOMMENDATIONS

7.1 For a vast country like India, with diversities in languages, cultures and traditions, telecommunication is vital not only for the socio-economic development but also for the national integration and unity of the country. In the years to come telecommunication is poised to act as a catalyst for growth and expansion in the newly emerging areas of Information Technology (IT) / Information Technology Enabled Services (ITES), e-Commerce, e-Services etc. The Committee appreciate that with the humble beginning in telecom services at the dawn of Independence, the Department of Telecommunications (DoT) has been striving to keep the pace with the fast changing technologies in the field. The transitions, reforms and transformations that Indian telecommunications has witnessed over the years are larger in certain areas, particularly during the last ten years. With a vast telecom network of 926.55 million telephone connections, as in December, 2011, India has become the country having the second largest network in the world after China. Similarly, with its 893.86 million wireless connections/mobile telephones, India has also been recognized as a country having the second largest wireless network in the world.

With the introduction of wireless services, the telecom landscape in the country has opened up resulting in transformation from a Government monopoly service sector to a competitive one with multiple Telecom Service Providers. This has created an impressive forward momentum in the growth and development of telecom sector in India with various reform measures and policy initiatives, like the National Telecom Policy, 1994 and the New Telecom Policy, 1999. The draft National Telecom Policy,

2011, currently under finalization in consultation with various stakeholders, is expected to bring rapid and requisite telecom growth, particularly for the rural and remote areas. However, the Committee regret to note that presently the rural telecom growth is lagging behind. An analysis of the network expansion by the Committee indicated that as on 31 December, 2011, the overall teledensity in the country was 76.86 per cent out of which the urban teledensity showed a tremendous growth and had reached a teledensity of 167.46 per cent whereas the rural teledensity had only achieved the level of 37.52 per cent from the year 2007. The Committee also observe that various bottlenecks exist in the process of expanding the outreach of telephone connectivity / mobile telephony in the country. Some of the pertinent areas that need special focus include the declining share of Public Service Providers *i.e.* MTNL and BSNL vis-à-vis the Private Service Providers in the network expansion both for wireless and wireline, limited outreach of broadband connectivity, slower growth rate of rural telephony when compared to urban telephony, instances of setting up of illegal telecom towers/networks, inconclusive findings of harmful effects of the radiation from mobile and telecom towers on human beings, birds and insects, limited growth of indigenous telecom equipment and its impact on mobile telephony, overdependence on imported telecom equipment and its security risks, problems regarding grant of licenses to various Telecom Service Providers and their roll-out obligations for various services. In this background, the Committee deemed it fit to take the subject “Role and Functioning of Telecom Service Providers in Mobile Telephony” for detailed examination and Report to the Parliament. The Committee’s examination on the aforementioned issues and their findings are dealt with in the succeeding paragraphs of this Report.

7.2 As network expansion has been one of the thrust areas identified by Department of Telecommunications (DoT), the Committee observe that the positive impact of the rapid growth in the telecom network has resulted in an overall growth of teledensity in the Country. They note that the achievement has surpassed the targeted teledensity of 15 per cent by 2010, as per New Telecom Policy (NTP), 1999. Further, the target of 500 million connections by the end of December, 2010 was achieved by September, 2009 itself. However, the Committee find that although the telecom sector in India has witnessed a stupendous growth during the last five years, yet the percentage share of wireline connectivity has declined sharply from 19.80 per cent during the year 2007 to a mere 3.53 per cent as on December, 2011. In total contrast, the percentage share of wireless telephone vis-à-vis the total connectivity in the country, which was 80.19 per cent in 2007, has shown a tremendous growth rate reaching 96.47 per cent at the end of December, 2011. In this backdrop, the Committee are inclined to opine that both the Public and Private Sectors have not been focussing on the growth of wireline connections. The Committee, therefore, strongly recommend the Department to take timely and suitable measures to check the declining growth of wireline connectivity, particularly in the light of the fact that in many of the advanced economies of the world, it has been accepted that broadband connectivity provides better output on a wireline connection and thus many of these countries are planning to improve their wireline connectivity. In this regard, the Committee also urge the Department to study and assess at the earliest the comparative growth of wireline versus wireless connectivity in India vis-à-vis countries like U.S.A., U.K., Australia, Canada and China and apprise the Committee accordingly.

7.3 The growth of teledensity indicates the level of telecom penetration in a country. The Committee observe that the teledensity in India which was 18.22 per cent at the end of March, 2007 has increased to 76.86 per cent as on December, 2011. The Committee are glad to note that States / Telecom Circles like Himachal Pradesh (118.64 per cent), Punjab (112.70 per cent), Kerala (107.24 per cent), Tamil Nadu (105.96 per cent), Karnataka (94.3 per cent), Gujarat (87.67 per cent), Haryana (85.80 per cent) and Andhra Pradesh (79.65 per cent) have registered a higher teledensity than the National average of 76.86 per cent. However, States / Telecom Circles like Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, North Eastern States, Orissa, Rajasthan, Uttar Pradesh and West Bengal have much lower teledensity when compared to the National average. The Committee, therefore, recommend that the Department should immediately assess the performance of both the Public and Private Sectors with a view to identify the bottlenecks in these areas and find out effective ways and means to incentivize Telecom Service Providers so as to give requisite impetus to improve the network expansion in these States / Telecom Circles. Only then, the targets spelt out in the thrust areas for the telecom growth would be achieved and the benefits of various telecom reforms and measures would reach uniformly throughout the country. With the advent of Universal Access Service License (UASL) regime, the Committee hope that the Department should at least now take prudent steps to mobilize Private Telecom Service Providers in these areas too, else the teledensity in the underperforming States / Telecom Circles will continue to remain dismal as ever. The Committee recommend that the Department should ensure inclusion of a provision in the license agreement with the Licensees to have their offices in the areas they serve so as to receive the complaints of the public about any deficiency in service and see

that any such complaints are redressed expeditiously, especially by the private service providers. The Committee also recommend that it should be mandatory for the private service providers to attend the Telecom Advisory Committee meetings to ensure better responsibility and accountability from them as their role is increasing day by day in the telecom sector.

The Committee, while noting the drive for a special audit of certain private service providers which are alleged to have failed to disclose their actual earnings to the Department, recommend that such audit should be carried out regularly to ascertain the exact income earned by the various service providers which would help the Government in fixing accountability for their wrong disclosure of income. Meanwhile, the Committee would like to be apprised of the outcome of the said special audit.

7.4 Provision of rural telephony is one of the significant focus areas that has been identified by DoT. In pursuance, the Department has taken up various initiatives through BSNL to improve the rural teledensity in the country. However, the Committee find that over the years it is the Private Telecom Service Providers who have played a major role in improving the much required filip in these areas. The Committee find that the percentage share of Private Telecom Service Providers in providing rural wireless telephones has improved from 70.74 per cent in 2007 to 88.98 per cent at the end of December, 2011. Further, the Committee find that although the telecom sector has witnessed a tremendous growth in the last decade, the overall trend of growth in rural telecom development is far from even being proportionate. To cite the figures provided to the Committee, although the rural telephony has increased from 47.10 million subscribers at the end of March, 2007 to 315.39 million subscribers by the end of December, 2011, it is much less when compared to the growth witnessed in the urban areas. During the said period, the total number of urban subscribers has grown from 158.77 million to 611.16 million subscribers. The rural teledensity, grew from 5.89 to 37.52 per cent from March, 2007 to December, 2011, whereas, the urban teledensity grew from 48.10 to 167.46 per cent during the said period. The Committee also note that as on December, 2011 States / Telecom Circles like Himachal Pradesh (74.91 per cent), Punjab (63.66 per cent), Kerala (56.63 per cent), Tamil Nadu (53.95 per cent), Haryana (53.65 per cent), Gujarat (50.86 per cent) have rural teledensity much higher than the National average of 37.52 per cent. However, States / Telecom Circles like Bihar (24.27 per cent), Madhya Pradesh (25.46 per cent), Assam (28.21 per cent), Jammu & Kashmir (29.27 per cent), Orissa (32.91 per cent), Andhra Pradesh (36.45 per cent) have rural teledensity below the National average. The Committee particularly

observe that there is very low percentage of teledensity in Chhatisgarh, Jharkhand, Uttarakhand and in North East States-II. There is also huge difference between the teledensity of North East-I (59.40 per cent) and North East-II (8.79 per cent).

The reasons advanced by the Department before the Committee for the rural telephony falling way behind the impressive growth of urban telephony, include targeted areas being diversely located leading to no financial viability of the network expansion in these areas, very low Average Revenue Per User (ARPU), high CAPEX (Capital Expenditure) and OPEX (Operational Expenditure) for development of telecom infrastructure, non-connectivity of these areas by roads leading to problems in developing the telecom infrastructure, irregular availability of electricity connections, lack of backhaul connectivity, problem relating to the Right of Way (RoW) and other permissions from State Government Agencies, falling of infrastructure sites/areas in forest land/tribal land and their related clearance problem, disturbed / extremist / insurgency affected areas leading to law and order problems, incomplete or inconsistent revenue record of the land resulting in delay in conversion of land from agricultural to commercial, acquiring of land and signing of lease deeds and its registration thereof etc. The Committee are sad to learn that the growth of rural telephony is severely affected by these factors. According to the Committee, many of the reasons advanced by the Department are by themselves sufficient justification for putting in more earnest efforts for removing the disparities in rural telephony in these areas. Since the difficulties have been identified, the Committee recommend the Department to address each of the identified problems in a time bound manner and inform the Committee accordingly. In view of the fact that rural areas have immense economic potential, it has to be tapped suitably by the various service providers.

Moreover, adequate provision of rural telephony is Government's obligation and thus the onus to make available supporting infrastructure squarely lies with them. In this regard, the Committee recommend the Department to take all the appropriate measures, for overcoming the impediments and giving an impetus to rural telephony so that the network expansion in these areas is achieved and the urban-rural divide is bridged.

The Committee further recommend that the need of the hour is not only improving the rural teledensity but also the related telecom infrastructure, better quality of telephone cables, setting up of infrastructure for introduction of telemedicine in rural areas with special attention to the six Category 'C' States. The Committee are of the strong opinion that the various service providers need to maintain a good relationship with the Local Bodies and elected representatives of their areas of operation, so that locally felt needs of the people are addressed adequately by them while carrying out the various projects / schemes under the Universal Service Obligation Fund.

In this connection, the Committee, note that the Draft National Telecom Policy, 2011 has envisaged an enhancement of rural teledensity from the current level of around 35 to 60 per cent by the year 2017 and 100 per cent by 2020. In this regard, the Committee would like to be apprised of the specific measures envisaged by the Department to ensure that the set targets are achieved as per the stipulated time-line. Further, the Committee recommend that projects such as 'Digital Mandi for Indian Kisan' developed by IIT Kanpur and 'Cellular backhaul for rural accesses' developed by IIT Bombay, which are ready for commercialization, should be implemented and maintained by the Department so that the applicability of these projects can be

incorporated in the present and future projects of the schemes / projects carried out under the Universal Service Obligation Fund.

7.5 The Committee have learnt that presently there are 37,184 villages which are not covered by any fixed, wireless or mobile telephone. To address the situation, as far as provision of fixed wireless or mobile coverage is concerned, the Committee have been apprised about a proposal to launch a new scheme to facilitate creating infrastructure and provision of mobile communication services (including access & backhaul) in those villages which have hitherto not been covered by any service provider. In addition, there is another plan to cover the Left Wing Extremism (LWE) affected locations through a scheme under Universal Service Obligation Fund (USOF). In this regard, the Committee note that the tender for this scheme was to be floated by 20 February, 2012 and the process of evaluation and signing of agreements with the successful bidders for provision of services was likely to be finalized by 31 May, 2012. The Committee would like to be apprised of the status of the scheme at the action taken stage. In this context, the Committee, however observe that in view of the declining percentage share of the sole public telecom service provider, *i.e.* BSNL, in wireless connections in the last five years *i.e.* from 29.26 per cent at the end of March, 2007 to 11.02 per cent at the end of December, 2011, all expectations now rest with the private service providers, who have made significant contribution in the expansion of rural wireless service from a percentage share of 70.74 at the end of March, 2007 to 88.98 per cent as on December, 2011. Nevertheless, the Committee feel that the penetration of BSNL in remote and rural areas is still substantial and thus desire that BSNL should be made the principal service provider in the newly launched schemes for rural areas. They expect BSNL to live up to the expectations of the people and increase the momentum of their efforts to provide connectivity in these areas at all costs.

Further, the Committee are also of the opinion that since BSNL got the 3G Spectrum and Broadband Wireless Access (BWA) in October, 2009, which is one year ahead of the other service providers, they should have capitalized on the facility provided by the Government and should have by now made a better break-through in increasing the wireless connectivity in these 37,184 uncovered villages. The fact that this was not done is either complacency or callousness on the part of BSNL. The Committee desire that the reasons for BSNL not making the desired progress in these villages should be investigated and responsibility fixed in this regard. The Committee, also recommend that the schemes to have mobile telephony in the uncovered villages and left Wing Extremism affected areas must be launched expeditiously without further delay and the Committee apprised of the same.

7.6 From the Telecom Service Provider-wise analysis of the mobile outreach in rural areas, the Committee note that Bharati Airtel has played a significant role in these areas. Out of the total wireless connections provided in the country, its percentage share is 23.62 per cent followed by BSNL (11.02 per cent), Vodafone Essar (18.71 per cent), Idea Mobile Communications (18.92 per cent), Reliance Telecom Ltd. and Reliance Communications Ltd. (10.85 per cent) and Aircel (7.06 per cent) as on 31 December, 2011. The Private Telecom Service Providers which are not operating in rural areas so far include Loop Mobile, Etisalat DB Telecom and Videocon. The Private Telecom Service Providers which are making a break-through in the rural areas include Sistema Shyam Teleservices Ltd., HFCL Infotel Ltd., Stel, Uninor etc. In this regard the Committee desire the Department to specifically ensure that all the Telecom Service Providers should ensure the conformity of the terms and conditions given in the licence agreements for roll-out obligations of 2G and 3G Spectrum, so that the Spectrums provided are effectively utilized for expansion of telecom services in rural and remote areas too. At the same time the quality of service provided by the various service providers should be satisfactory. Although a number of measures are reportedly being taken by them, the Committee desire that they should continuously strive to leverage their quality of service to costumers including those in rural and remote areas so that there is sustained and healthy competition amongst the various Telecom Service Providers in the country which will ultimately benefit the rural customers. The Committee would like to be furnished with a status report on the quality of service provided by various service providers in the rural areas in the last three years.

7.7 Difficulties in getting the Right of Way (RoW) and other permissions from State Government Agencies have been cited as constraints in increasing the network expansion in rural and remote areas. The Committee note that as per the existing policy of the Government, Wireless Planning and Coordination Wing of Department of Telecommunications (DoT) issues clearance of sites for installation of mobile towers. This clearance is reportedly issued without prejudice to applicable bylaws, rules and regulations of Local Bodies such as Municipal Corporation/Gram Panchayat etc. Accordingly, before installation of mobile towers, the Telecom Service Providers are required to obtain necessary permission from Local Bodies particularly the Gram Panchayat. In this regard, the Department have informed that as per terms and conditions of the Cellular Mobile Telephone Service (CMTS) and Unified Access Service (UAS) License and Infrastructure Providers Category –I, Infrastructure Provider-I (IP-I) registration, the responsibility of obtaining the Permission/Right of Way for establishing towers lies with the Telecom Service Providers/IP-I companies and thus, DoT does not maintain any record of the same. Accordingly, the copies of permission from Local Bodies for setting up of mobile towers was not available with DoT. In this regard, the Committee, recommend that either the Department should maintain a record for obtaining such permissions or it should have a mechanism to coordinate with the service providers so that such records could be scanned or produced, whenever required.

With regard to the compensation to land owner whose land is used for setting up of telecom towers, the Committee note that acquisition/renting of land or building for the purpose of installation of mobile tower is carried out by a mutual commercial agreement between land/building owner and the Telecom Service Providers. The

Department's contention that the responsibility to deal with issues of Right of Way and the compensation to land owners on whose land mobile tower has been installed lies completely with the Telecom Service Providers / Infrastructure Provider-I (IP-I) companies is not acceptable to the Committee. Even if this is the case, the Committee are of the opinion that it is imperative on the part of the Government to ensure that such provisions do not hinder the network expansion. The Committee are of the opinion that the complete onus / responsibility should not be left only on the Service Providers. In this regard, the Committee emphasize that the Department should assess the problem in toto, take up the matter with the Competent Authority, if needed, and inform the Committee accordingly. Besides, the Committee recommend that the signing of the tripartite agreement between Government of India, State Governments and Implementing Agency for free Right of Way (RoW) for setting up of National Optical Fibre Network (NOFN) should be done expeditiously taking into account that the Department has already approved this project for providing connectivity to 2.5 lakh village panchayats with an estimated expenditure of approximately ₹ 20,000 crore. The Committee would await a specific response from the Department in this regard.

7.8 With a view to improving telecom development in rural areas, the Government announced the Universal Service Support Policy on 27 March, 2002 under which a separate fund for providing access to telegraph services to people in the rural and remote areas was set up. The Committee note that various schemes / projects of USOF include provision of Village Public Telephones (VPTs), replacement of Multi Access Rural Radio (MARR) based on VPTs, Shared Mobile Infrastructure Scheme, Rural Broadband Scheme, Optical Fibre Network Augmentation Scheme, provision of Rural Community Phones (RCPs), provision of Rural household Direct Exchange Lines (RDELs) in specified Short Distance Charging Areas (SDCAs) and Operation and Maintenance of Village Public Telephones. Telecom Service Providers such as BSNL, Bharti Airtel, Reliance Communications, Reliance Telecom Ltd., Idea, Aircel and Vodafone are stated to be involved in the various activities carried out under USOF.

Further, the Committee note that the resources for implementation of Universal Service Obligation (USO) are raised through a Universal Service Levy (USL) which has presently been fixed at 5 per cent of the Adjusted Gross Revenue (AGR) of all Telecom Service Providers except the pure value added service providers like voice mail, e-mail service providers etc. The Committee note that since the inception of USOF till 2011-12, the total funds collected as USL till 31 December, 2011 is ₹ 40574.16 crore. Out of this, the total fund allocated and disbursed for Universal Service Obligation till December 2011 are ₹ 15121.44 crore and ₹ 15059.46 crore respectively. The Committee are disappointed as in terms of percentage, the funds allocated and disbursed are only 37.26 and 37.11 per cent respectively when compared to the total amount collected as USL. The Committee feel that the percentage is quite small, taking into account the

need for a real thrust in the rural areas in terms of network expansion to bridge the 'digital divide' between rural and urban areas.

The Committee also note that States like Maharashtra (₹ 1296.99 crore), Rajasthan (₹ 769.70 crore), Madhya Pradesh (₹ 764.50 crore), Andhra Pradesh (₹ 743.38 crore), Gujarat (₹ 661.13 crore) and Karnataka (₹ 620.99 crore) have got the major share of financial allocation from USOF. Other States like North East States (NE-I ₹ 82.80 crore, NE-II ₹ 64.49 crore), Jharkhand (₹ 75.36 crore), Uttarakhand (₹ 147.88 crore) and West Bengal (₹ 163.75 crore) have got very less allocation from the USOF. The Committee would like the Department to assess as to why the major share of funds under USOF have gone mostly to the developed States whereas poor States like North-East States, Jharkhand and Uttarakhand have got less share. The Committee would like the Department to have an assessment based on their observation and take necessary steps to increase the quantum of allocation to the States which are poor and require positive intervention on the part of the Government for their overall growth and development. The specific action taken in this regard may be intimated to the Committee.

The Committee wish to point out that improving the rural telecom network is an important ingredient for the welfare and development of rural India and has many advantages such as healthcare and other allied services in the time of urgency, timely information on business, price, market and demands, better coordination for delivery of administration and public services including health, education, information about employment, etc. Therefore, they recommend that the quantum of allocation for the various schemes/projects carried out under the Universal Service Obligation should

be enhanced so that the basic objective of the Universal Service Support Policy to improve telecom development in rural areas is achieved in letter and spirit. The Committee also recommend that the monitoring mechanism of the performance of the schemes subsidized under USOF need to be further strengthened by the Department so that suitable deductions in the subsidy amount may be made in the case of Telecom Service Providers who do not conform to the terms and conditions of the agreements made under the Universal Service Support Policy. The Committee also recommend that the existing mechanisms such as regulation of Quality of Service (QoS) by TRAI, inspection of records by USOF Administrator or by the Designated Monitoring Agency, imposition of liquidated damages in case of not meeting the roll-out obligations within the specified period, sample verifications of the claims against installation of facilities by the offices of Controller of Communication Accounts (CCAs) etc. should be scrupulously followed.

7.9 Broadband connectivity is increasingly being seen as an integral driver of improved socio-economic performance. In this background, the Committee note that Broadband Policy was announced on 14 October, 2004 with a vision to provide Broadband connectivity to 20 million subscribers by the end of 2010. As per the DoT, the number of Broadband subscribers has increased from 6.8 million at the end of 31 August, 2009 to 13.35 million as on 31 December, 2011. This indicates that even after one year from the stipulated time-line, there are still 6.65 million Broadband subscribers left, who are yet to be provided the service. Further, as envisaged in the Broadband Policy, 2004, during the Eleventh Plan period (2007-2012), the Government had planned for Broadband coverage for all the Secondary and Higher Secondary Schools, Public Health Centres and Gram Panchayats under the USOF. As per the status furnished by the Department, the Committee note that only 1.43 lakh Village Panchayats have been covered by the end of December, 2011 out of the total stipulated target of 2.5 lakh Village Panchayats to be covered by 2012. Besides, during the said period, 97005 Secondary Schools, 41864 Higher Secondary Schools and 17920 Primary Health Care Centers have been provided Broadband connectivity. The Committee feel that in a vast country like India, the achievement made by the Department in terms of Broadband connectivity during the Eleven Plan period leaves much to be desired. They, therefore, recommend that BSNL and MTNL, as well as other Private Telecom Service Providers must step up their efforts to provide adequate Broadband connectivity in rural and remote areas so that the target to provide 8,88,832 wire-line Broadband connections to individual users and Government Institutions and setting up of 28,672 kiosks by 2014 through BSNL is achieved as per stipulated time

and cost. The Committee would like to have a status report on the matter at the action taken stage.

7.10 The Committee note that out of the total of 12.65 million Broadband subscribers in the country at the end of 31 August, 2011, Maharashtra and Goa are in lead having 17.52 per cent Broadband subscribers in the country followed by Tamil Nadu (12.55 percent), Karnataka (10.10 per cent), Andhra Pradesh (9.85 per cent) and Delhi (7.98 per cent). The Committee are dismayed to note that States/Circles like Andaman & Nicobar Islands (0.04 per cent), Jammu and Kashmir (0.45 per cent) followed by North-East States viz. Meghalaya, Mizoram, Arunachal Pradesh, Manipur, Nagaland and Tripura (0.38 per cent), Himachal Pradesh (0.56 per cent) and Assam (0.64 per cent) have poor Broadband penetration. They have been apprised that the major constraints for this are non-availability of backhaul connectivity upto the villages, non-availability of content in vernacular languages and low affordability of Customer Premises Equipment (CPE). As far as the steps taken by the Department are concerned, the Committee have been informed that provision of Broadband connection through setting up of broadband access centres, tele-centres, kiosks, and other public access points and PCOs, connecting educational institutions to broadband networks, providing wireless internet services as primary aim of rural Broadband access, measure to make Cable Operators to provide Broadband service in rural areas and training of citizens to access and use Broadband through digital literacy Programs have been undertaken. The Committee while not being satisfied by these steps desire that momentum to have better Broadband connectivity should be enhanced by the Department so that the set targets are achieved particularly in above mentioned States where the Broadband penetration is poor. The matter needs immediate attention as one of the focus areas identified by the draft National Telecom Policy, 2011 is to recognize Telecom and Broadband connectivity as a basic necessity like education

and health and work towards 'Right to Broadband'. In this regard the Committee strongly recommend that the scheme of National Optical Fibre Network (NOFN) to make available Broadband connectivity upto Gram Panchayats by utilizing the existing optical fibres of BSNL, Railtel and Power Grid should be implemented expeditiously. The Committee also desire to be apprised about the findings and the implementation status of the Empowered Committee set up by the Department for the scheme of National Optical Fibre Network (NOFN) which has been especially planned to facilitate implementation of various e-Governance initiatives such as e-health, e-banking, e-education etc. thereby facilitating inclusive growth.

7.11 The Committee, while analyzing the performance of various Telecom Service Providers in the network expansion, observe that as on December, 2011, PSUs i.e. BSNL and MTNL still have a large share of nearly 80.95 per cent in the wireline segment. The private Telecom Service Providers, on the other hand, have a share of 88.54 per cent in the wireless segment. As on December 2011, Bharti Group has the highest share of 19.65 per cent in the wireless segment followed by Reliance Group (16.79 per cent) and Vodafone Essar (16.53 per cent). In this segment the contribution of PSUs is to the tune of 11.46 per cent. Overall, Bharti Group with 19.32 per cent of the total telephones in the country has the largest share followed by Reliance Group (16.33 per cent), Vodafone Group (15.95 per cent) BSNL (12.93 per cent) and Idea Group (11.48 per cent). As on December, 2011, the Public Telecom Service Providers witnessed an increase of 0.51 lakh phones whereas the Private Telecom Service Providers added 87.12 lakh phones in their kitty. During the period from April to December, 2011, addition in the number of phones serviced by the Public Telecom Service Providers was 29.15 lakh as against 773.05 lakh by the Private Telecom Service Providers. Consequently, the share of Private Telecom Service Providers in the number of telephones has gone up to 86.09 per cent (7976.31 lakh) in December, 2011 while the share of Public Telecom Service Providers is pegged at 13.91 per cent (1289.17 lakh) only. The Committee are concerned to note that although there has been a stupendous growth in the telecom sector in India in the last five years, the share of Public Telecom Service Providers has declined from 34.69 per cent at the end of 2007 to 14.42 per cent at the end of July, 2011. The share of Private Telecom Service Providers on the other hand has phenomenally increased to 85.5 per cent. Such an increase on the part of the Private Telecom Service Providers has been mainly in the

wireless segment, where MTNL and BSNL have lagged far behind. The Committee regret to note further that during the last five years, BSNL and MTNL had lost 16.64 per cent of their share in the telecom market. They feel that such a loss is a matter of serious concern and needs to be pondered over. The Committee also like to highlight the fact that the actual service provider to the subscriber by both the PSUs particularly in semi-urban and rural areas, needs to be improved so that subscribers refrain from porting out of their network or subscribing to another connection from a different service provider. The Committee, therefore, recommend that BSNL and MTNL should focus on technological upgradation and innovative marketing strategies to appropriately cater to the customer requirements so that their strategies to improve network expansion catches upto the Private Telecom Service Providers especially in wireless segment in the coming years. Such efforts on the part of the telecom PSUs particularly BSNL should complement their social obligation of rural telephony. The Committee would like to be informed of the specific steps taken by BSNL and MTNL in this regard.

7.12 The Committee note that in pursuance of National Telecom Policy, 1999, BSNL was formed on 1 October, 2000 as a technology-oriented company providing telecom services namely telephone services on landline, Wireless in Local Loop (WLL) and Global System of Mobile (GSM), Broadband, Internet, leased circuits and long distance telecom Service. The Committee note that as on March, 2011 BSNL had provided 55.65 lakh WLL connections. However, the number of connections declined to 43.34 lakh at the end of 31 December, 2011. During the said period, internet connections also declined to 35.76 from 36.78 lakh connections. The Committee also note that BSNL earned a total revenue of ₹ 29,688 crore during the financial year 2010-11. However, due to intense competition and sharp decline in Average Revenue Per User (ARPU) the company had registered a substantial loss of ₹ 6,384 crore during the said period. The Committee were informed that various measures / initiatives have been taken by BSNL to increase the subscriber base in the wake of competition from the Private Telecom Service Providers, for instance sustained operational focus on customer care, service delivery, service assurance, revenue management and asset management, aggressive push on Data usage and value added services. In addition, steps like clear cut segregation of commercial activities from social obligation to ensure sustainable growth and progressive migration of BSNL's current network to Next Generation Network to ensure convergence, consolidation and seamless delivery of various services, enhancement in quality of service/ customer care through revamped call centres and improved network operations across critical parameters such as BTS availability, congestion, speedy redressal of complaints through call centers, special efforts for improving uptime of Mobile Network, replacement of poor batteries, efforts to bring the BTSs on ring etc have also been taken. The Committee

appreciate the measures taken/proposed to be taken by BSNL. However, the Committee recommend at the same time that in the intense competitive environment in Telecom sector, it is high time BSNL should improve their physical and financial performance taking into account that in the recent years the company's revenue and market share have plunged into heavy losses due to intense competition in Indian telecommunications sector. The Committee would like to be apprised of the progress made in this regard.

The Committee also note that BSNL has not been able to procure any GSM equipment in the last four years thus affecting the quality of service provided by them as admitted by the CMD during the deliberations held by the Committee. In this regard, the Committee desire that BSNL should furnish a note to them explaining their position on non-procurement of GSM equipment in the last four years. The Committee also note that the tenders floated for procurement of equipment has also failed due to frivolous complaints and subsequently in 2011 the tender for procurement of equipment has again been floated on e-tender platform. The Committee would like the Department to apprise the Committee of the latest position in this regard.

7.13 The Committee note that Mahanagar Telephone Nigam Limited (MTNL) was formed on April 01, 1986 to assume responsibility as the principal provider for the control, management, operation of the telecommunications networks in Delhi and Mumbai. While analysing its performance, the Committee note that during 2011-12 (upto December 2011) a total of 2.83 lakh new internet connections were added by MTNL, taking the total connections to 91.52 lakh. The Committee note that in the wake of stiff competition from private service providers, MTNL has achieved a financial turnover of ₹ 3,673.95 crore during the year 2010-11, as compared to the previous year's turnover of ₹ 3656.10 crore. However, during the said period, it had posted a loss of ₹ 2,801.91 crore too. During 2011-12, as on December 2011, it has again incurred a loss of ₹ 1,714 crore. The outstanding arrears to be collected by MTNL as on December 2011 was ₹ 1,129.17 crore. Undoubtedly, the financial performance of MTNL needs improvement. The Committee, therefore, emphasize that MTNL should focus on broadband and enterprise business, new streams of revenue from sharing of resources with other service providers, introduction of new schemes to attract landline subscribers, more emphasis on adding GSM and broadband, flexible tariff policies and rationalization of expenditure to reduce administrative and operational cost to improve its financial performance. Besides, the Committee feel that although the outstanding arrears to be collected has slightly reduced from ₹ 1188.62 crore at the end of March, 2008 to ₹ 1129.17 crore at the end of March, 2011, if the company is serious about recovery of outstanding arrears, it will have to come up with fresh and more effective initiatives on a priority basis, as the outstanding ₹ 1129.17 crore is a huge liability, which if not liquidated urgently can have serious ramifications for a public service provider like MTNL. The Committee, therefore, would like to know the progress made,

if any in regard to the financial health of MTNL post-these initiatives and further plans to stay as the leading PSU in Delhi and Mumbai telephone circuits.

7.14 The Committee note that the work related to issue of license to various telecom services and spectrum allocation is under the overall charge of the DoT, Ministry of Communications and Information Technology. The first phase of liberalization in Mobile telephone Service started with the issue of 2 (CMTS) Licenses in each of the four Metro Cities of Delhi, Mumbai, Kolkata and Chennai to 8 Private Companies in November, 1994. Subsequently, 34 Licenses for 18 Territorial Telecom Circles were issued to 14 Private Companies during 1995 to 1998. State owned public sector undertakings i.e. MTNL and BSNL were issued Licenses for provision of CMTS as third operators in the various parts of the Country. Further, 17 fresh Licenses were issued to private companies and 4 Cellular operators in September/October, 2001, one each in the four Metro Cities and 13 Telecom Circles.

The Committee further find that the Guidelines for the Unified Access Services License (UASL) for basic as well as cellular mobile services were announced by the Government on 11 November, 2003 and were issued on 14 December 2005. One of the important impacts of the initiative taken by the Government is the enhancement in Foreign Direct Investment from 49 to 74 per cent. The Committee note that as on 31 August, 2011, there are 277 Unified services and cellular mobile licenses in the country. As on December, 2011, 240 Unified Access Service (UAS), 2 Basic Service and 37 Cellular Mobile Service (CMTS) Licenses have been issued and permission for the usages of dual technology (both CDMA and GSM) under the same CMTS/UAS License has been granted to 8 companies.

In this connection, the Committee learn that 122 Unified Access Service Licenses issued in January, 2008 were recently cancelled by the Supreme Court. Some of the important reasons attributed by the Supreme Court for the cancellation of licenses were that the Court was of the view that although the State is the legal owner of the natural resources as a trustee of the people and is empowered to distribute the same, the process of distribution must be guided by the constitutional principles including the doctrine of equality and larger public good. Second reason cited by the Court was that if the method of auction had been adopted for grant of license, the country would have been enriched by many thousand crores. Thirdly, the recommendations made by TRAI were flawed in many respects and implementation thereof by DoT resulted in gross violation of the objective of National Telecom Policy, 1999 and the decision taken by the Council of Ministers on 31 October, 2003. The Committee also note that the Supreme Court had directed TRAI to make fresh recommendations for grant of license and allocation of spectrum in 2G band in 22 Service Areas by auction, as was done for allocation of spectrum in 3G band. The Union Government was directed to consider the recommendations of the TRAI and take appropriate decision within the next one month and the fresh license should be granted by auction. In this regard, the Committee have been informed by the DoT that TRAI issued a pre-consultation paper on allocation of spectrum in 2G band by auction for 22 service areas on 3 February, 2012, requesting all the stakeholders to furnish their comments by 15 February, 2012. Subsequently, on the basis of the comments / suggestions received from the stakeholders and as per the international practices, another written consultation paper was issued by TRAI on 7 March, 2012 seeking comments from various stakeholders by 21 March, 2012, and counter comments by 28

March, 2012 by TRAI. The Committee have also been informed that TRAI is likely to submit its recommendations by the end of April, 2012. The Committee are of the opinion that in the light of various issues raised by the Supreme Court regarding the cancellation of 122 Unified Access Service Licenses, having a transparent and equitable policy for allocation of spectrum is inevitable. Therefore, the Committee recommend that DoT needs to have a thorough analysis of various issues concerning allocation of Spectrum so that the Department may take them as guide post for the future allocation of Spectrum in the country. The Committee would like a note providing the latest position of the Government on the matter. They hope that by now TRAI must have finalized their recommendations after analyzing all the comments and suggestions forwarded by various stakeholders. The Committee would like to have a status report on the recommendations made by TRAI and the action taken by the Department , if any, on the same.

7.15 The Committee note that with regard to formulation of a new comprehensive and integrated 'Spectrum Act', the Government had constituted a Committee on 6 May, 2011. The said Committee was expected to submit its report on 30 September, 2011, after convening 3 meetings. However, during the deliberations with the DoT, it emerged that even after a lapse of six months from the date of submission of the report, the issue remains inconclusive. The Committee fail to understand reasons for the delay. They are of the opinion that the Department should take adequate steps to complete the formulation of a comprehensive and integrated Spectrum Act, which would put in place a much-required statutory mechanism for spectrum management and licensing in the country. With technological advancement in the field of telephony, the matter needs urgent attention to avoid ambiguity, confusion and poor management of an important national asset.

7.16 The Committee note that in accordance with the license agreement, all the Access Service Licensees are required to roll out their services within prescribed time periods. As per the clauses of agreement, licensees are required to offer their services in the selected districts for cross-checking the quality/coverage and other parameters, prescribed by the DoT and termed as 'Service Testing'. Apart from this, the Committee note that Telecom Enforcement Resource and Monitoring (TERM) Cells also compile data pertaining to roll out obligations for imposing Liquidated Damage (LD) Charges on such Telecom Service Providers (TSPs) who do not comply to roll out obligation conditions. Further, as per the terms and conditions of License Agreement of 2G spectrum, the licensee has an obligation of rolling out the service of the spectrum acquired by them within 52 weeks i.e. one year after the signing of the agreement. However, the Committee are disturbed to note that many of the licensees have failed to roll out their services even after obtaining spectrum from the Government which is a limited and precious non-renewable resource. When probed by the Committee, the Department had informed about issue of show cause notices for termination of licences to various companies who had failed on the roll out obligations of their services. In this regard, the Committee are of the opinion that the Government should have suitable mechanism in place to ensure that the licensees strictly follow the terms and conditions of the license agreements. The Committee strongly feel that the defaulting licensees are adopting a delaying tactics for the roll-out of their services and thus are of the strong opinion that clear penalty provisions need to be included in the agreement with licensees in case they fail to roll out their services within the stipulated time period of 52 weeks. The Department should take stringent action against the defaulter licensees by issuing show-cause notice for cancellation of their

licenses and also impose the financial penalty clause so that the spectrum given to them are effectively utilized and managed.

7.17 As regards the use of 3G spectrum block for provisioning of Telecom Access Services as defined in the 'Scope of the License' in the Schedule Condition 2 of the UAS License agreement, the Committee note that the licensee is authorized to use the same from the date of award of right to commercially use the 3G spectrum i.e. 01 September, 2010, till the validity of the UAS license agreement or for a period of 20 years from 01 September, 2010, whichever is earlier, subject to compliance with terms and conditions of the license agreement. Further, regarding the time period for the roll-out obligation of 3G Spectrum, the Committee note that the licensee, to whom the 3G spectrum is assigned, is expected to provide required street level coverage using the 3G Spectrum in at least 90 per cent of the service area within five years of the 'Effective Date'. The Committee also note that if the licensee does not achieve its roll-out obligations, it shall be allowed a further period of one year to do so by making a payment of 2.5 per cent of the Successful Bid Amount (i.e. spectrum acquisition price) per quarter or part thereof as liquidated damages. Further, the Committee note that if the licensee does not complete its roll-out obligations even within the extended period of one year, the 3G spectrum assignment shall be withdrawn. From the foregoing, the Committee infer that the total time period of five years given to the licensees for roll-out of services of 3G spectrum is simply too long. They feel that a licensee is prone to misuse such a long time period which results in the spectrum remaining idle with the service providers. The observation of the Committee can be corroborated by the fact that certain telecom service providers who had received license in 2010, are yet to start Broadband Wireless Access business. This is paradoxical given the fact that certain 3G service providers are struggling to grab subscribers. The Committee desire that the stipulation which allows a further period of one year for roll-out obligation, by

making the payment of only 2.50 per cent of the successful bid amount per quarter or part thereof as liquidated damages, should be revisited as the amount prescribed is quite less, and thus may not act as an effective deterrent to the defaulters. The Committee firmly believe that had the Government put stringent roll-out obligations, many of the Telecom Service Providers would have by now launched their Broadband Wireless Access Services and enhanced their 3G reach. The Committee would like to point out that the Government policy on the roll-out obligation of 3G and BWA would have a major impact on the business and thus a weak policy would ultimately result in decrease in net profit of the Government. The Committee, therefore, would like the Department to look into the nitty gritty of the problems which may arise due to the provision of unnecessary long period for the roll-out obligation of 3G and BWA services. The Committee expect a precise and expeditious action by the Department in this regard, under intimation to them.

7.18 The Committee note that the Telecom Service Providers are required to obtain necessary permission from Local Bodies before setting up of mobile towers. However, obtaining the Right of Way (RoW) from Government Agencies/ Local Bodies for installation of tower is the responsibility of operator/Infrastructure Provider - I providers. This policy is followed by Private and Public Telecom Service Providers both. However, the Committee have come across instances where permissions from Local Bodies were not taken for installation of telecom towers, leading to disconnection of service and resultant call drops. The Committee are of the opinion that the Department should ensure that all service providers follow the requisite specific regulations in letter and spirit.

The Committee further note that as per the Guidelines for setting up of telecom towers, the Telecom Service Providers are asked to avoid installation of Base Station Antennas within the premises of schools, hospitals and narrow lanes to reduce the risk caused by any natural disaster like an earthquake or wind storm. Besides, Access to Base Station Antenna sites should be prohibited for general public through suitable means such as wire fencing, locking of the door to the roof etc. Further, the access to tower site, even for the maintenance personnel, should be for a minimum period. Sign boards/Warning Signs are to be erected at the entrance of Base Station Antenna sites too. The Committee desire the Department to ensure that these guidelines are followed stringently to avoid any risk to the residents of the areas where BTS tower sites are located.

The Committee have been informed that the Department had launched a scheme under Universal Service Obligation Fund to provide subsidy support for setting up and managing 7353 infrastructure sites / towers in 500 districts spread over 27 States for

provision of mobile services in the specified rural and remote areas, where there is no existing fixed wireless or mobile coverage. Villages or cluster of villages having population of 2000 or more and not having mobile coverage are taken into consideration for installation of towers under this scheme. As per the Department, at the end of December, 2011, 7296 towers out of the fixed target of installing 7863 towers had been installed. The Committee feel that installation of telecom towers, especially in rural and remote areas, is very important for the telecom network expansion in these areas. Therefore, the Committee recommend that the remaining 567 telecom towers be set up expeditiously and the Committee informed accordingly.

7.19 The Committee note that with the increasing public concern against the harmful effects of Electromagnetic Force (EMF) radiation from mobile towers on human health, the Telecom Enforcement Resource & Monitoring (TERM) Cells were entrusted with the work of cross checking the compliance of (EMF) radiation norms as prescribed by the Government in the year 2010. The Committee note that the specific procedures for the same along with testing fee have since been formulated by the Department. The Department, while deposing before the Committee, informed that Guidelines are in place as per the norms prescribed by International Commission on Non-Ionizing Radiation Protection (ICNIRP) and accordingly directions in this regard were issued to mobile operators by inserting a clause in the Access Service Licenses through an amendment dated 4 November, 2008. According to the said clause, a licensee shall conduct audit and provide self certificates annually as per procedure prescribed by Telecommunication Engineering Centre (TEC)/or any other agency authorized by Licensor from time to time, for conforming to limits/levels for antennae (Base Station Emissions) for general public exposure as prescribed by ICNIRP. In this regard, DoT has directed all Cellular Mobile Telephone Service (CMTS)/Unified Access Service (UAS) licensees for compliance. Further, the Committee note that all new BTS sites should start radiating, only after the self certificate has been submitted to relevant TERM Cells.

The Committee have learnt that regarding the submission of self certificates by the Telecom Service Providers with regard to their BTSs, operators were directed to submit self certificates against all BTSs by 31 March, 2011. However, self certification for compliance of radiation norms regarding 18123 BTSs are yet to be submitted by the various Telecom Service Providers to their respective TERM Cells. The Committee

would like that the Department should submit a list of those service providers to them who are yet to submit the requisite self certificates. They also recommend that all the Telecom Service Providers should be directed to expeditiously submit the self certification against all the remaining BTSs. The Committee also note that while there is a provision in the license agreement stating that if the self certificates are not submitted by a Telecom Service Provider, it should be treated as non compliance and the penalty prescribed will be imposed. However, the modalities of imposition of penalty for non submission of self certificates has not been finalized. The Committee strongly recommend that the Department should take earnest steps to finalize the modalities for imposition of penalty at the earliest.

The Committee have further been informed that as on 30 September, 2011, TERM Cells had carried out the testing of radiation levels for 7120 BTSs out of the total of 6,63,000 BTSs for which the telecom service providers had submitted the self-certification to their respective TERM Cells. Although it was found that the radiation levels of all the tested BTSs were in compliance with ICNIRP prescribed levels, the Committee are disturbed to note that only 1.07 per cent out of the total self certified BTSs submitted by the various Telecom Service Providers were tested by the respective TERM Cells of DoT. The Committee feel that such a minuscule percentage for checking compliance of radiation norms by TERM Cells may, perhaps, fail to give the real picture. As the Department had also cited shortage of staff as one of the constraints faced by TERM Cells. The Committee, therefore, infer that these cells may not be willing to take additional load of work due to non-availability of adequate staff. They strongly recommend augmentation of staff in TERM Cells so as to take initiative to test more BTS by the TERM Cells. Only then a stringent check can be made on the

Telecom Service Providers for compliance of the norms, especially when several organisations, research bodies, stakeholders and individuals all over the world have strong views on the harmful effects of Electromagnetic Force radiation emanating from mobile towers and other equipment.

7.20 The Committee have been informed that on 24 August, 2010, an Inter-Ministerial Committee (IMC) consisting of officers from DoT, Indian Council of Medical Research (Ministry of Health & Family Welfare), Department of Biotechnology and Ministry of Environment and Forest was constituted to examine the effect of EMF Radiation from base stations and mobile phones. The Committee note that the IMC, in its report, indicated that most of the laboratory studies were unable to find a direct link between exposure to radio frequency radiation and health and observed that the scientific studies as yet have not been able to confirm a cause-and-effect relationship between radio frequency radiation from mobile towers and health. The effect of emission from cell phone towers is not known yet with certainty. Further, the IMC suggested certain measures such as adoption of Specific Absorption Rate (SAR) level for mobile handsets limited to 1.6 Watt/Kg and lowering the BTS RF exposure limits to 1/10th of the existing prescribed limit. As the Department has endorsed the viewpoint that so far scientific studies are not conclusive, the Committee recommend that further studies be carried out to arrive at more authentic conclusions about the impact of radiations from mobile phones and mobile towers in the country. The Committee would await the specific response from the Department in this regard.

Further, the Committee are dismayed to note that DoT has deferred the 1 April, 2012, deadline to 1 September, 2012 for the implementation of the recommendations given by Inter-Ministerial Committee on electromagnetic radiation being emitted from mobile towers. The Committee would like to know the reasons from the Department for the postponement of the same. Besides, the Committee are of the opinion that since ICNIRP guidelines adopted by India is intended to protect the public against short term gross heating effects and not against pathological effects such as cancer, genetic

damage and on birds and insects, the Department needs to have a thorough relook on the radiation norms as prescribed by ICNIRP. The Committee also recommend that the Department should provide incentive to Telecom Service Providers by allowing them access to carbon credit as in the proposed New Telecom Policy. At the same time the Government should look into the details on 'Green Telecom' by adopting the use of solar panels across the country.

7.21 The Committee note that one of the major purposes of creation of TERM Cells is to curb the illegal telecom operations (not permitted under Indian Telegraph Act). The Committee have been informed about the existence of as many as 700 illegal operators since 2004. As per the DoT, the total notional loss to the country due to such illegal practice is approximately ₹ 770 crore. According to DoT, more than 540 such illegal setups have been unearthed and raided till now with the help of Law Enforcement Agencies (LEAs) i.e. local police, CBI, DRI. These cases were stated to be handed over to the Law Enforcement Agencies for further action against the culprits. However, the Committee are surprised to note the fact cited by DoT that there is no set technical method/procedure to block/jam illegal messages/calls, as these setups use the network resources like a normal service provider. The Committee were informed that these setups can only be caught through continuous monitoring and the same is being done through TERM Cells.

The Committee are not convinced by the stand taken by the Department and would like them to explore use of technologies to intercept illegal calls / messages, including the one available with defence authorities. The situation warrants urgent attention taking into account the huge total notional loss of approximately ₹ 770 crore, which otherwise could have been earned if the said calls were routed through the legal routes. The Committee, therefore, strongly recommend that the Department needs to be proactive to deal with the situation instead of showing laxity in the matter. They would like to be apprised of the measures taken to identify and punish such illegal operators.

7.22 The Committee note that in order to increase the share of domestically manufactured electronic products which includes telecom equipment, the Government, by its notification dated 10 February, 2010, has laid down policy for providing preference to domestically manufactured electronic products, instead of those electronic products which have security implications for the country. They have also been informed that in order to address the security concerns related to telecom and telecom network, suitable Amendments have been issued on 31 May, 2011, for Access Service licenses and on 3 June, 2011, for other licenses, in consultation with the Ministry of Home Affairs and after due deliberations with Industry. The licensee shall induct only those network elements into his telecom network, which have been got tested as per relevant contemporary Indian or International Security Standards. While the Committee appreciate the steps taken by the Department to address the issue related to national security risk and import of telecom equipment, they recommend that the Department should take a cue from the recent investigation carried out by the United States House of Representatives' Permanent Select Committee on Intelligence which has gauged the level of threat to the United States and asked a detailed accounting of foreign made hardware/software on the service provider's network alongwith the information related to security incidence such as discovery of unauthorized electronic hardware or suspicious equipment capable of duplicating for redirecting data. The Committee further recommend that the Department must take cognisance of the situation before it reaches an alarming proportion through continuous use of imported equipment and should take initiative to have a proper mechanism to test the telecom equipment in the country taking into account that Chinese companies are India's biggest supplier of hardware and software

which include the import of SIM card. The Committee also recommend that the Government should assess the vulnerability risk of national security due to the import of telecom equipment from U.S., Europe and Japan too. Further, the Committee recommend that the manufacturers/importers should ensure that the indigenous/imported mobile equipment strictly conform to the Good Manufacturing Practices (GMPs) before entering the market so that safety measures are ensured to avoid any hazardous incidents such as bursting of mobile batteries or short circuits in mobile handsets.

The risk to national security emerging out of import of SIM cards carrying embedded software for mobile phone cannot also be ignored. The Committee recommend that the Department should address all the issues relating to security risks due to the use of imported SIM cards taking into account the fact that security threat gets aggravated as a telecom company provides the encryption key to the manufacturing facilities outside India as a part of standard trade practice. Besides, the Committee would also like to look into the issue of fake and duplicate IMEI numbers so that the national security is not at stake. The Committee desire to be apprised of the measures taken to address various issues raised by them.

NEW DELHI;
24th April, 2012
Vaisakha 04,1934 (Saka)

FRANCISCO SARDINHA,
CHAIRMAN,
COMMITTEE ON ESTIMATES.

ABBREVIATIONS USED IN THE REPORT

ADSL	Asymmetric Digital Subscriber Line
BSNL	Bharat Sanchar Nigam Limited
BTS	Base Transceiver Station
CDR	Call Detail Records
CDMA	Code Division Multiple Access
CIIS	Call Interception and Intelligence System
CLH	Clearing House
CMS	Centralized Monitoring System
CPE	Customer Premises Equipment
CRI	Customer Related Information
CSMP	Customized Service Management Platform
DoT	Department of Telecommunications
DSL	Digital Subscriber Line
EDGE	Enhanced Data for GSM Evolution
EVDO	Evolution Data Optimized
FTTH	Fiber-to-the-Home
FY	Financial Year
GPON	Gigabit Passive Optical Network
GPRS	General Packet Radio Service
HSDPA	High-Speed Downlink Protocol Access
HSPA	High Speed Packet Access
IMS	IP Multimedia Subsystem
IP	Internet Protocol
IPTV	IP Television
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
LE	Local Exchange
LTE	Long Term Evolution
LTE-A	Long Term Evolution – Advanced
MAX	Main Automatic Exchange
MAX-NG	MAX – Next Generation
MG	Media Gateway
MLDN	Managed Leased Data Network
MNP	Mobile Number Portability
MOES	Multi-port Optical Enterprise Solution
MoU	Memorandum-of-Understanding

MTNL	Mahanagar Telephone Nigam Limited
NCMP	National Common Minimum Program
NE	Network Element
NER	North-East Region
NGN	Next Generation Network
NMS	Network Management System
ODN	Optical Data Network
OFC	Optical Fiber Cable
OLT	Optical Line Termination
OMC-R	Operation and Maintenance Control – Remote
ONT	Optical Network Termination
PoC	Proof-of-Concept
PON	Passive Optical Network
PoP	Point-of-Presence
PRI	Primary Rate Interface
PSTN	Public Switched Telephone Network
QoS	Quality-of-Service
RAN	Radio Access Network
RE	Revised Estimate
RF	Radio Frequency
SDCN	Secure and Dedicated Communication Network
SDH	Synchronous Digital Hierarchy
SG	Signaling Gateway
SG-RAN	Shared GSM Radio Access Network
SLA	Service Level Agreement
TEC	Telecom Engineering Centre
ToT	Transfer-of-Technology
USOF	Universal Service Obligation Fund
USOFA	USO Fund Administration
VDSL	Very-high-bit rate Digital Subscriber Line
VoIP	Voice-over-IP
WDM	Wavelength Division Multiplexing
WiFi	Wireless Fidelity
WiPS	Wireless Phone Service

Annexure - I**Position of Telephone connectivity in different States of India
As on 31st March 2011 & 31st December, 2011**

S.No.	License area-wise	Position of Telephone connectivity in different States of India						% of Rural Phones to overall phones	
		Overall		Urban		Rural		March' 11	December' 11
		March' 11	December' 11	March' 11	December' 11	March' 11	December' 11		
1	Andhra Pradesh	63045005	67996738	42387670	44945467	20657335	23051271	32.77	33.90
2	Assam	11928394	14158164	5701595	6765840	6226799	7392324	52.20	52.21
3	Bihar	54737466	61614113	30322638	34241653	24414828	27372460	44.60	44.43
4	Gujarat	48904839	52876469	32278047	34648835	16626792	18227634	34.00	34.47
5	Haryana	21039617	22124635	12367428	13000367	8672189	9124268	41.22	41.24
6	Himachal Pradesh	7553408	8121731	3306771	3565508	4246637	4556223	56.22	56.10
7	Jammu & Kashmir	5970619	6218463	3395181	3688450	2575438	2530013	43.14	40.69
8	Karnataka	52192245	56509333	39085531	41332770	13106714	15176563	25.11	26.86
9	Kerala	34661797	37361196	20919943	22665045	13741854	14696151	39.65	39.34
10	Madhya Pradesh	47208801	51352468	30947016	33113340	16261785	18239128	34.45	35.52

11	Maharashtra	64569437	71267589	36318090	40682669	28251347	30544920	43.75	42.92
12	North-East	7453972	8519625	4213729	4698404	3240243	3821221	43.47	44.85
13	Orissa	22986478	25960890	13343238	14738260	9643190	11222630	41.95	43.23
14	Punjab	30340329	33163299	20526339	22219336	9813990	10943963	32.35	33.00
15	Rajasthan	44387580	48472845	24339883	26293610	20047697	22179235	45.17	44.76
16	Tamil Nadu	58706095	63852256	43593451	47259185	15112644	16593071	25.74	25.99
17	Uttar Pradesh – (East)	65146971	73138666	37044756	40714207	28102215	32424459	43.14	44.33
18	Uttar Pradesh – (West)	46622166	52896760	31131217	34190037	15490949	17996723	33.23	34.02
19	West Bengal	40418890	45388209	16489331	18808791	23929559	26579418	59.20	58.56
20	Kolkata	24614543	25529952	23697521	24550604	917022	979348	3.73	3.84
21	Chennai	14384336	15268853	14271002	15162303	113334	106550	0.79	0.70
22	Delhi	41663422	44519918	40567379	42927652	10966043	1592266	2.63	3.58
23	Mumbai	37791762	40235517	37791762	40235517	0	0	0.00	0.00
	All India	846328166	926547689	564039562	611157850	282288604	315389839	33.35	34.04

**Service Area (Telecom Circles/ Metros) and the Area covered by them
for the purpose of the License**

Sl.No.	Name of Service Area	Areas covered	Category
1	West Bengal Service Area	Entire area falling within the Union Territory of Andaman & Nicobar Islands and area falling within the State of West Bengal and the State of Sikkim excluding the areas covered by Kolkata Metro Service Area.	B
2	Andhra Pradesh Service Area	Entire area falling within the State of Andhra Pradesh.	A
3	Assam Service Area	Entire area falling within the State of Assam.	C
4	Bihar Service Area	Entire area falling within the re-organized State of Bihar and newly created State of Jharkhand pursuant to the Bihar Reorganization Act, 2000 (No. 30 of 2000) dated 25 August, 2000.	C
5	Gujarat Service Area	Entire area falling within the State of Gujarat and Union Territory of Daman and Diu, Silvassa (Dadra & Nagar Haveli).	A
6	Haryana Service Area	Entire area falling within the State of Haryana except Panchkula town and the local areas served by Faridabad and Gurgaon Telephone exchanges.	B
7	Himachal Pradesh Service Area	Entire area falling within the State of Himachal Pradesh.	C
8	Jammu & Kashmir Service Area	Entire area falling within the State of Jammu & Kashmir including the autonomous council of Ladakh.	C
9	Karnataka Service Area	Entire area falling within the State of Karnataka	A
10	Kerala Service Area	Entire area falling within the State of Kerala and Union Territory of	B

Lakshadweep and Minicoy.

11	Madhya Pradesh Service Area	Entire area falling within the re-organised State of Madhya Pradesh as well as the newly created of Chhattisgarh pursuant to the Madhya Pradesh Reorganisation Act, 2000 (No. 28 of 2000) dated 25 August, 2000.	B
12	Maharashtra Service Area	Entire area falling within the State of Maharashtra and Union Territory of Goa, excluding areas covered by Mumbai Metro Service Area.	A
13	North East Service Area	Entire area falling within the State of Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Manipur and Tripura.	C
14	Orissa Service Area	Entire area falling within the State of Orissa	C
15	Punjab Service Area	Entire area falling within the State of Punjab and Union territory of Chandigarh and Panchkula town of Haryana.	B
16	Rajasthan Service Area	Entire area falling within the State of Rajasthan.	B
17	Tamil Nadu Service Area (Including Chennai Service Area)	Entire area falling within the State of Tamil Nadu and Union Territory of Pondicherry including Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges.	A
17A	Tamil Nadu Service Area (excluding Chennai Service Area)	Entire area falling within the State of Tamil Nadu and Union Territory of Pondicherry including Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges.	A
17B	Chennai Service Area	Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges.	A
18	Uttar Pradesh	Entire area covered by Western Uttar Pradesh with the following as its boundary	B

	(West) Service Area	districts towards Eastern Uttar Pradesh: Piliphit, Bareilly, Badaun, Etah, Mainpuri, and Etawah. It will exclude the local telephone area of Ghaziabad and Noida. However it will also include the newly created State of Uttranchal pursuant to the Uttar Pradesh Reorganisation Act, 2000 (No. 29 of 2000) dated 25 August, 2000.	
19	Uttar Pradesh (East) Service Area	Entire area covered by Eastern Uttar Pradesh with the following as its boundary districts towards Western Uttar Pradesh: Shahjahanpur, Farrukhabad, Kanpur and Jalaun.	B
20	Delhi Service Area	Local Areas served by Delhi, Ghaziabad, Faridabad, Noida, and Gurgaon Telephone Exchanges.	Metro
21	Kolkata Service Area	Local Areas served by Calcutta Telephones	Metro
22	Mumbai Service Area	Local Areas served by Mumbai, New Mumbai and Kalyan Telephone Exchanges.	Metro

Note:

1. Yenum, an area of Union Territory of Pondicherry is served under Andhra Pradesh Telecom Circle in East Godavari LDCA.
2. The definition of Local areas of exchanges will be as applicable to the existing cellular service providers, i.e. at the time of grant of cellular Licences in Metro cities.

The definition of local areas with regard to the above area as applicable to this Licence is as per definition applicable to Cellular Mobile Service Licences as in the year 1994 and 1995, when those Licences were granted to them. This is in accordance with respective Gazette Notification for such local areas wherever issued and as per the statutory definition under Rule 2 (w) Indian Telephones Rules, 1951, as it stood during the year 1994/1995 where no specific Gazette Notification has been issued.

MINUTES OF EIGHTH SITTING OF COMMITTEE ON ESTIMATES (2011-2012)

The Committee sat on Tuesday, the 11th October, 2011 from 1400 hrs. to 1615 hrs. in Room No. '62', Parliament House, New Delhi.

PRESENT

Shri Francisco Sardinha - Chairman

Members

2. Shri Bhakta Charan Das
3. Shri Ninong Ering
4. Shri Prahlad Venkatesh Joshi
5. Shri P. Karunakaran
6. Shri Bapi Raju Kanumuru
7. Shri M. Krishnaswamy
8. Shri Prabodh Panda
9. Smt. Yashodhara Raje Scindia
10. Shri Arjun Charan Sethi
11. Shri M.I. Shanavas
12. Shri Jagada Nand Singh
13. Shri Sushil Kumar Singh
14. Smt. Annu Tandon

SECRETARIAT

- | | | |
|-------------------------|---|----------------------|
| 1. Shri P. K. Grover | - | Additional Secretary |
| 2. Shri S. C. Kaliraman | - | Director |
| 3. Smt. Anita B. Panda | - | Additional Director |
| 4. Smt. Juby Amar | - | Deputy Secretary |

WITNESSES

- | | |
|--------------------------------|-------------------------|
| 1. Shri R. Chandrashekhar | Secretary |
| 2. Shri S.C. Misra | Member (S) |
| 3. Shri S.R. Rao | Additional Secretary |
| 4. Shri Malay Srivastava | JS (T) |
| 5. Shri Ajay Bhattacharya | Administrator, USO Fund |
| 6. Shri R.K. Upadhyay | CMD, BSNL |
| 7. Shri Kuldip Singh | CMD, MTNL |
| 8. Shri A.K. Mittal | Sr. DDG (AS) |
| 9. Shri P.K. Panigrahi | Sr. DDG (BW) |
| 10. Shri Shahbaz Ali | DDG |
| 11. Shri Suresh Chandra Sharma | DDG (C&A) |
| 12. Shri Ram Narain | DDG (Security) |
| 13. Shri Suhas G. Kamble | DGM, BSNL, Goa |
| 14. Shri R.K. Gupta | Director (AS-I) |
| 15. Shri S.R. Meena | Director (AS-V) |
| 16. Shri R.K. Agarwal | Director |

2. At the outset, the Chairman welcomed the Members of the Committee and representatives of the Ministry of Communications and Information Technology to the sitting of Committee.

3. The representatives of the Ministry of Communications and Information Technology gave a Power Point presentation on the subject 'Role and Functioning of Telecom Operators in Mobile Telephony'. The Members of the Committee raised queries on various issues relating to the subject and the representatives of the Ministry as well as the CMDs of MTNL and BSNL responded to the same. Thereafter, the Chairman directed the Secretary, Ministry of Communications and Information Technology to furnish written replies to the questions for which answers were not readily available during the course of briefing.

4. A verbatim record of the proceedings has been kept.

5. The Committee also decided to take further evidence of the representatives of the Ministry of Civil Aviation on the subject 'Development and Regulation of Civil Aviation' on 8th November, 2011.

The Committee then adjourned.

MINUTES OF TWELFTH SITTING OF COMMITTEE ON ESTIMATES (2011-2012)

The Committee sat on Thursday, the 5th January, 2012 from 1430 hrs. to 1700 hrs. in Room No. G-074, Parliament Library Building, New Delhi.

PRESENT

Shri Franscisco Sardinha - Chairman

Members

2. Shri E. T. Mohammed Basheer
3. Smt. Bijoya Chakravarty
4. Shri Dhruvanarayana
5. Shri Ninong Ering
6. Shri Prahlad Venkatesh Joshi
7. Shri M. Krishnaswamy
8. Shri Prabodh Panda
9. Smt. Yashodhara Raje Scindia
10. Shri S. Semmalai
11. Shri Brijbhushan Sharan Singh
12. Shri Ganesh Singh
13. Shri Jagada Nand Singh
14. Shri Sushil Kumar Singh
15. Shri Hukamdeo Narayan Yadav

SECRETARIAT

1. Shri P. K. Grover - Additional Secretary
2. Shri S. C. Chaudhary - Director
3. Smt. Anita B. Panda - Additional Director

WITNESSES

MINISTRY OF COMMUNICATIONS & INFORMATION TECHNOLOGY & PSU's

1. Shri Chandra Prakash Member (Technology)
2. Shri S. C. Misra Member (S)
3. Ms. Sadhana Dixit Member (Fin.) I/C
4. Shri S.R. Rao AS (T)
5. Shri N. Ravi Shanker Administrator (USOF)
6. Dr. Ashok Chandra WA
7. Shri Malay Srivastava JS (T)
8. Shri A.K. Mittal Sr. DDG (AS)
9. Shri P. K. Panigrahi Sr. DDG (BW)
10. Shri N.K. Srivastava Sr. DDG(TEC)
11. Shri Ram Narain Sr. DDG (Term Sec)
12. Shri S.S. Singh DDG (PG)
13. Shri G.P. Srivastava DDG(CS)
14. Shri N.K. Joshi DDG (SU)
15. Shri R.K. Upadhyay CMD (BSNL)
16. Shri A.K. Garg CMD (MTNL)
17. Shri Suresh Chandra Sharma DDG (C&A)

18. Shri R.K. Gupta	Director (AS-I)
19. Shri S. R. Meena	Director (AS-V)
20. Shri N.N. Gupta	ED (CA)
21. Shri R.K. Aggarwal	Director (CM)
22. Shri Arvind Bajaj	GM, BSNL
23. Shri S.L. Negi	Director (Parl.)

2. At the outset, the Chairman welcomed the Members of the Committee and representatives of the Ministry of Communications & Information Technology to the sitting of Committee.

3. The representatives of Ministry of Communications & Information Technology gave a Power Point presentation on the subject 'Role and Functioning of Telecom Operators in Mobile Telephony'. The Members of the Committee raised queries on various issues relating to the subject and the officials responded to the same. Thereafter, the Chairman directed the Member (Technology), Ministry of Communications & Information Technology to furnish replies, in writing to the questions for which answers were not readily available during the course of evidence.

4. A verbatim record of the proceedings has been kept.

The Committee then adjourned.

MINUTES OF FOURTEENTH SITTING OF COMMITTEE ON ESTIMATES (2011-2012)

The Committee sat on Tuesday, the 14th February, 2012 from 1430 hrs. to 1600 hrs. in Room No. G-074, Parliament Library Building, New Delhi.

PRESENT

Shri Franscisco Sardinha - Chairman

Members

2	Shri E. T. Mohammed Basheer
3	Shri R. Dhruvanarayana
4	Shri Ninong Ering
5	Shri Bapi Raju Kanumuru
6	Shri Chandrakant Khaire
7	Shri M. Krishnaswamy
8	Shri Prabodh Panda
9	Shri S. Semmalai
10	Shri Ijyaraj Singh
11	Shri Jagada Nand Singh

SECRETARIAT

1.	Shri S. C. Chaudhary	-	Director
2.	Smt. Anita B. Panda	-	Additional Director

WITNESSES

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY (DEPARTMENT OF TELECOMMUNICATIONS)

1.	Shri R. Chandrasekhar	Secretary
2.	Shri Chandra Prakash	Member (Technology)
3.	Shri S. C. Misra	Member (S)
4.	Smt. Sadhana Dixit	Member (Fin.)
5.	Shri S.R. Rao	Addl. Secretary (T)
6.	Shri N. Ravi Shanker	Administrator (USOF)
7.	Dr. Ashok Chandra	Wireless Advisor
8.	Shri P. K. Panigrahi	Sr. DDG (BW)
9.	Shri Anil Kaushal	Sr. DDG (TEC)
10.	Shri A.K. Mittal	Sr. DDG (AS)
11.	Shri Malay Srivastava	JS (T)
12.	Shri G.P. Srivastava	DDG(CS)
13.	Shri Ram Narain	Sr. DDG (Term Sec)
14.	Shri S.S. Singh	DDG (PG)
15.	Shri N.K. Joshi	DDG (SU)
16.	Shri Suresh Chandra Sharma	DDG (C&A)
17.	Shri S.L. Negi	Director (Parl.)
18.	Shri R.K. Upadhyay	CMD (BSNL)
19.	Shri A.K. Garg	CMD (MTNL)
20.	Shri Robert Ravi	Advisor, TRAI

2. At the outset, the Chairman welcomed the Members of the Committee and the representatives of the Ministry of Communications & Information Technology to the sitting of Committee. The Chairman then asked the Secretary, Ministry of Communications & Information Technology, to brief the Committee about the overall functioning of the Ministry in the context of the subject under examination. He also drew the attention of the representatives to the provisions of Direction 55(1) of the 'Directions by the Speaker'.

3. The Secretary, Ministry of Communications & Information Technology then briefly outlined the issues concerning domestic manufacturing of telecom equipment, broadband connectivity, cyber security, success of telecom rollout etc. The Members of the Committee raised queries on various issues relating to the subject 'Role and Functioning of Telecom Operators in Mobile Telephony' and the officials responded to the same. Thereafter, the Chairman directed the Secretary, Ministry of Communications & Information Technology to furnish replies, in writing to the questions for which answers were not readily available during the course of evidence.

4. A verbatim record of the proceedings has been kept.

The Committee then adjourned.

Modifications carried out in the Recommendations Portion of the Draft Report on the subject 'Role and Functioning of Telecom Service Providers in Mobile Telephony'.

1. On page No. 98: In the 30 line (from the top) the following lines may be added:

“....The Committee also like to highlight the fact that the actual service provider to the subscriber by both the PSUs particularly in semi-urban and rural areas, needs to be improved so that subscribers refrain from porting out of their network or subscribing to another connection from a different service provider. The Committee, therefore....”

- 2(i) On page No. 120: In the 29 line (from the top), the following lines may be added:-

....Further, the Committee recommend that the manufacturers/importers should ensure that the indigenous/imported mobile equipment strictly conform to the Good Manufacturing Practices (GMPs) before entering the market so that safety measures are ensured to avoid any hazardous incidents such as bursting of mobile batteries or short circuits in mobile handsets.

- (ii) On page No. 120: 4 to 9 lines (from the top) may be deleted.