

Demand for Grants 2021-22 Analysis

Telecommunications

The Department of Telecommunications under the Ministry of Communications is responsible for policy, licensing, monitoring, regulation, research and international co-operation in the field of telecommunications. The Department administers several Public Sector Undertakings involved in providing telecommunication services, consultancy, and equipment manufacturing. This note presents the allocation to the Department in 2021-22, and trends in expenditure over the last few years and discusses some of the issues in the sector.

As 2020-21 had extra-ordinary expenditure on account of COVID-19, we have used annualised increase (Compounded Annual Growth Rate or CAGR) over the 2019-20 figures to compare the 2021-22 budget estimates.

Overview of Finances

Expenditure^{1,2}

In 2021-22, the Department has been allocated Rs 58,737 crore, which is a 44% annual increase over the actual expenditure in 2019-20. One of the key reasons for the increase in the allocation to the Department is the revival plan for BSNL and MTNL that was approved by the Union Cabinet in October 2019.³

The revival plan provides for: (i) capital infusion for allotment of 4G spectrum and (ii) costs to be incurred towards voluntary retirement scheme. Consequently, allocation to the department saw a significant increase at the budget stage in 2020-21. However, at the revised stage, the allocation towards a majority of the components of the revival plan has been cut and instead shifted in the budget for 2021-22. This is the key reason for: (i) the 44% annual increase in allocation for 2021-22 as compared to 2019-20, and (ii) the 38% decrease in allocation in 2020-21 from the budget to the revised stage.

Table 1: Allocation to the Department of Telecommunications (in Rs crore)

	2019-20	2020-21 BE	2020-21 RE	2021-22 BE	CAGR (19-20 to 21-22)
Revenue	23,466	40,757	36,749	32,803	18%
Capital	4,929	25,675	4,360	25,934	129%
Total	28,395	66,432	41,109	58,737	44%

Note: RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Budget; Union Budget 2021-22; PRS.

The capital component of the revival plan comprises capital infusion worth Rs 20,410 crore for 4G spectrum. No allocation has been made towards this in 2020-21 at the revised stage. Instead, the same amount has been allocated in 2021-22 at the budget stage. As a result, there is a substantial decrease in the allocation towards

capital expenditure in 2020-21 at the revised stage and a significant increase in 2021-22.

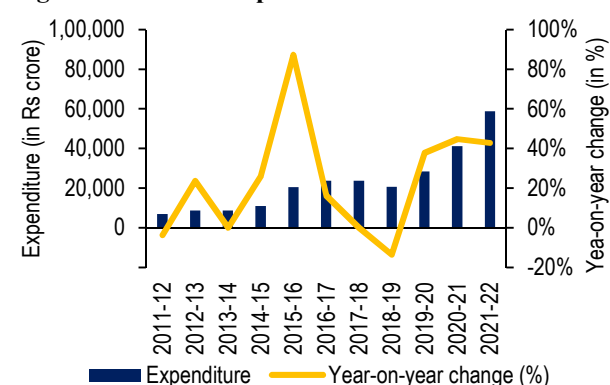
Table 2: Allocation towards Revival Plan for BSNL and MTNL (Rs crore)

Particular	2020-21 BE	2020-21 RE	2021-22 BE
Capital infusion for 4G spectrum- BSNL	14,115	0	14,115
Capital infusion for 4G spectrum-MTNL	6,295	0	6,295
Implementation of VRS (BSNL/MTNL)	3,295	2,160	3,000
Ex-gratia payment to voluntarily retiring employees (BSNL/MTNL)	9,899	11,206	0
Grants for payment of GST-BSNL	2,541	0	2,541
Grants for payment of GST-MTNL	1,133	0	1,133
Total	37,278	13,366	27,084

Note: RE: Revised Estimates; BE: Budget Estimates.
Sources: Expenditure Budget; Union Budget 2021-22; PRS.

Figure 1 depicts the trend in the expenditure during the 2011-22 period. During this period, the expenditure has grown at a CAGR of 15%. The higher increase in expenditure since 2015-16 as compared to previous years is due to allocation towards Bharatnet (a scheme to connect all gram panchayats through optical fibre) and Optical Fibre Network for Defence Services schemes. The increase in 2020-21 and 2021-22 is mainly due to expenditure towards revival plan for BSNL and MTNL.

Figure 1: Trend in expenditure



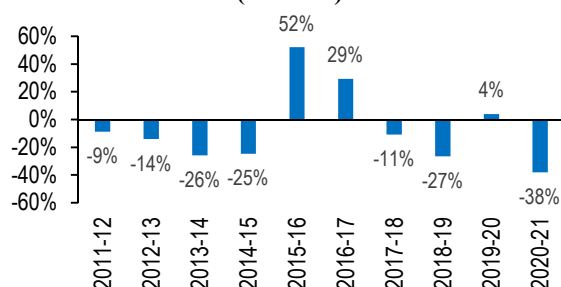
Note: Revised Estimates used for 2020-21. Budget Estimates used for 2021-22.

Sources: Expenditure Budget; Union Budget Documents; PRS.

Over the last 10 years, the actual expenditure by the Department has varied significantly as compared to the budget estimates (Figure 2). In 2015-16 and 2016-17, actual expenditure exceeded budget estimates by 52% and 29% respectively. In 2019-20, actual expenditure was 4% higher than the budgeted expenditure. As per

the revised estimates of 2020-21, expenditure is estimated to be 38% less than the budget estimates.

Figure 2: Underspending – Department of Telecommunications (2011-21)



Note: Revised Estimates used for 2020-21.

Sources: Expenditure Budget; Union Budget Documents; PRS.

Major Expenditure Heads

In 2021-22, the allocation towards support to Public Sector Undertakings (PSUs) is 47% of the total allocation for the department (Rs 27,547 crore). Of this, Rs 26,244 crore (95%) has been allocated towards the revival plan for BSNL and MTNL (details in Table 2). The next highest allocation is towards pension (26%), followed by Bharatnet (12%), and network for defence services scheme (9%). Allocation towards Bharatnet in 2021-22 is almost four times the allocation in 2019-20.

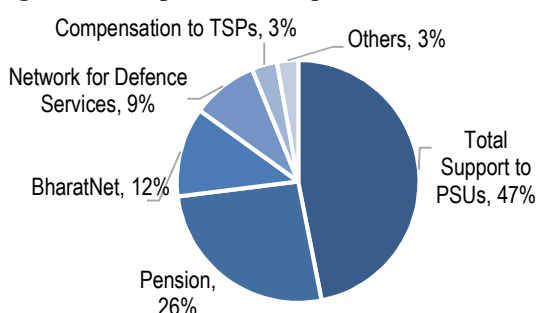
Table 3: Major expenditure heads in 2021-22 (in Rs crore)

Expenditure Head	2019-20 Actuals	2020-21 RE	2021-22 BE	CAGR (2019-20 to 2021-22)
Total support to PSUs	6,083	13,941	27,547	113%
Pension	13,451	14,481	15,350	7%
Bharatnet	1,729	5,500	7,000	101%
Network for defence services	4,705	4,000	5,200	5%
Compensation to TSPs	1,196	1,700	2,000	29%
Others	1,231	1,487	1,640	15%
Total	28,395	41,109	58,737	44%

Note: BE – Budget Estimate; RE – Revised Estimate; TSP: Telecom Service Providers.

Sources: Expenditure Budget; Union Budget 2021-22; PRS.

Figure 3: Composition of expenditure in 2021-22



Note: TSP – Telecom Service Providers

Sources: Expenditure Budget; Union Budget 2021-22; PRS.

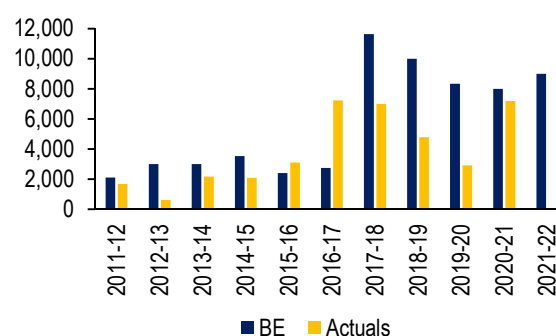
Universal Service Obligation Fund

The Universal Service Obligation Fund (USOF) has been established to provide widespread, non-discriminatory, and affordable access to quality Information and Communication Technology services to people in rural and remote areas.

The resources for the fund are raised through a Universal Access Levy (UAL) which is 5% of the Adjusted Gross Revenue (AGR) earned by all the operators under various licenses currently.⁴ Adjusted Gross Revenue is the value of gross revenue after deduction of taxes and roaming/PSTN charges from Gross Revenue. UAL is first credited to the Consolidated Fund of India and then disbursed to the USOF as per the budgetary proposal of the Department of Telecommunications. The schemes being funded through USOF include: (i) Bharatnet, (ii) setting up of towers in left-wing extremism affected areas, and (iii) comprehensive telecom development plan for the north-east region.

A total expenditure of Rs 9,000 crore from this fund has been allocated for 2021-22. This is an annual increase of 75% over 2019-20. In recent years, actual expenditure from USOF has been considerably less than the budget estimates. In 2019-20, actual expenditure from USOF was 65% less than the budget estimate. The corresponding figure for 2017-18 and 2018-19 was 52% and 40%, respectively.

Figure 4: Expenditure from USOF (in Rs crore)



Note: Revised Estimates used for 2020-21.

Sources: Expenditure Budget; Union Budget Documents; PRS.

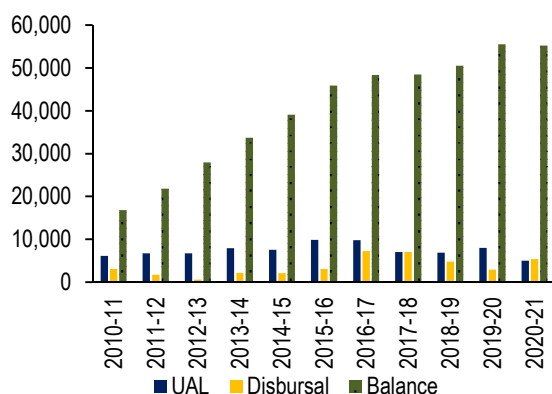
Balance of Funds under USOF

In its audit report of the Ministry of Communications for the FY 2017-18, the Comptroller and Auditor General of India (CAG) observed that a large amount earned as UAL is yet to be transferred to the USOF.⁵ As of December 2020, a total of Rs 55,217 crore is yet to be transferred to the USOF by the central government.⁶ Disbursal to the USOF has been a small fraction of UAL over the years. A total of Rs 81,540 crore has been earned as UAL during the 2010-21 period, out of which only Rs 40,112 crore has been disbursed (49%).⁶

The gap between disbursal and UAL has been high over the years, which has led to a rise in balance (Figure 5). Note that in January 2015, the Telecom Regulatory Authority of India (TRAI) had observed that the Department has not been able to devise enough

schemes to utilise the earnings of UAL.⁷ It also recommended reducing UAL from 5% to 3%.⁷ The Standing Committee on Information Technology (2018) noted that with increasing outlay on schemes including Bharatnet, Mobile Towers in Left Wing Extremism Affected Areas Phase-II and Comprehensive Telecom Development Plan for the North-East, the utilisation of USOF funds will improve.⁴

Figure 5: UAL vs Disbursal vs Balance of USOF 2010-21 (in Rs crore)



Note: UAL: Universal Access Levy; Disbursal: Amount transferred to USOF; Balance: Balance at the end of that Financial Year.

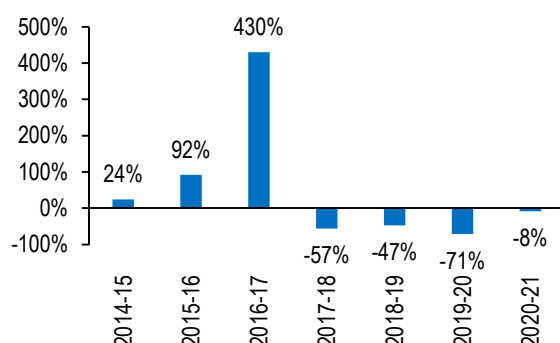
Sources: USOF Website as accessed on February 13, 2021; PRS.

Bharatnet

Bharatnet aims to create a network to connect all the Gram Panchayats (approx. 2.5 lakh GPs) by broadband by laying around 6.5 lakh km of optical fibre. It seeks to provide all telecom service providers with non-discriminatory access to the network. These service providers include mobile operators, Internet Service Providers (ISPs), Cable TV operators, content providers. Bharat Broadband Network Limited (BBNL) is a special purpose vehicle to create, operate, maintain, and manage the BharatNet infrastructure. The project is financed through the USOF. The estimated total cost of the project is Rs 42,068 crore.⁴

BharatNet is divided into three phases. Phase-I to connect 1.2 lakh GPs was completed in December 2017. Phase-II to connect the remaining GPs is underway. Phase-III is earmarked for future purposes. The scheme also aims to provide last-mile connectivity through Wi-Fi by creating five access points per GP (12.5 lakh Wi-Fi hotspots).⁸

Figure 6: Underspending-Bharatnet (2014-21)



Note: Revised Estimates used for 2020-21.

Sources: Expenditure Budget; Union Budget Documents; PRS.

In 2021-22, Rs 7,000 crore has been allocated towards Bharatnet, an annual increase of 101% over 2019-20. Between 2017-18 and 2019-20, the actual expenditure under the scheme was much lower as compared to the budget estimates. In 2020-21, the expenditure is estimated to be 8% lower than the budget estimates (Figure 6).

Delay in Completion

The Standing Committee on Information Technology (2018) noted that although approved in 2011, the initial target of BharatNet had to be revised in 2014 due to inadequate planning and design, and unpreparedness to address the issues.⁹ Under the revised deadline, the phase-I was due by March 2017 but could be completed by December 2017.⁹ The phase-II which was to be initially completed by March 2019, the target was then revised to March 2020.^{9, 10}

As of February 2021, the project has not been completed. The Standing Committee on Information Technology (2020) noted that the project is now estimated to be completed by August 2021.¹¹ Thus, the estimated delay in the completion of phase-II is about 2 years and 4 months. Table 4 shows the status of BharatNet as of February 2020.^{12,13}

Table 4: Status of BharatNet (February 2020)

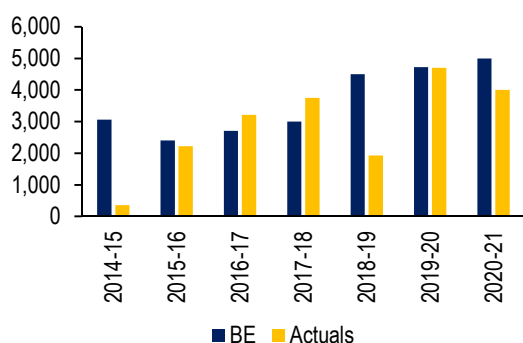
Parameter	Target	Achievement	Achievement in %
Length of OFC laid*	6.5 lakh km	5.0 lakh km	77%
Number of panchayats where OFC laid*	2.5 lakh	1.65 lakh	66%
Number of panchayats which are service-ready*	2.5 lakh	1.53 lakh	61%
Number of panchayats where Wi-Fi installed#	2.5 lakh	1.05 lakh	42%
Number of panchayats where Wi-Fi operational#	2.5 lakh	0.64 lakh	26%

Note: *as of February 12, 2021, #as of February 15, 2021.

Sources: Website of BBNL as accessed on February 17, 2021; PRS.

Network for Defence Services

The Network for Defence Services project aims to provide a dedicated pan-India optical fibre cable-based network for use by defence services. The original total sanctioned cost of the project was Rs 13,334 crore.⁴ In May 2018, the central government announced that the budget of the project has been increased to Rs 24,664 crore.¹⁴ BSNL is the implementing agency for the project. A total of 60,000 km of the optical fibre network is to be laid under this project. In 2021-22, Rs 5,200 crore has been allocated towards this project, an annual increase of 5% over 2019-20. Under this scheme, in 2018-19, only 43% of the allotted fund was utilised. In 2020-21, the expenditure is estimated to be 20% less than the budget estimates (Figure 7).

Figure 7: Allocation towards Network for Defence Services

Note: Revised Estimates used for 2020-21.

Sources: Expenditure Budget; Union Budget Documents; PRS.

Delay in completion

The network for defence services project was to be completed by July 2015.⁴ The revised deadline for completion was set for May 2020, however, the target was subsequently revised to December 2020.¹⁴ The Standing Committee on Information Technology (2018) had observed that the delay has resulted in massive cost overrun from the initial estimation of Rs 8,098 crore in 2009 to Rs.24,664 crore in 2018 (205% increase).⁴

Non-Tax Revenue from communication services^{15, 16}

Communication services are one of the major sources of non-tax revenue of the central government. In 2016-17, non-tax revenue from communication services was the largest contributor to the overall non-tax revenue of the central government, accounting for 26% of the total.¹⁷ This includes receipts from spectrum auctions, one-time fee from new operators and recurring license fees and spectrum charges from telecom service providers which is a percentage share of the Adjusted Gross Revenue (AGR) of the operators.

In 2021-22, non-tax revenue from communication services is estimated to be Rs 53,987 crore, an annual decrease of 12% over 2019-20. In 2020-21, at the budget stage, non-tax revenue from communication services was projected to be Rs 1,33,027 crore. However, as per the revised estimates, this revenue is estimated to be Rs 33,737 crore, 75% less than the budget estimate.

Table 5: Non-tax revenue-communication services (in Rs crore)

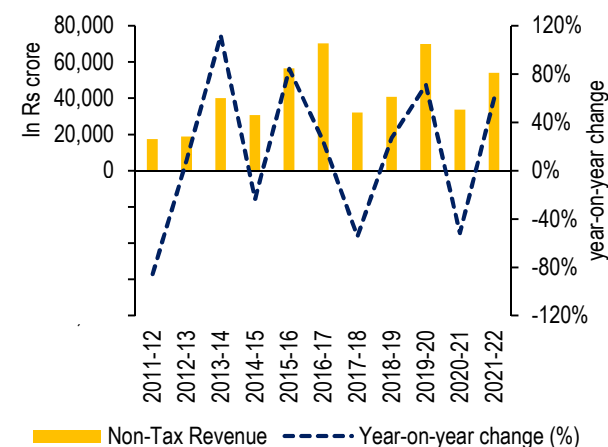
2019-20 Actuals	2020-21 BE	2020-21 RE	2021-22 BE	CAGR (19-20 to 21-22)
69,846	1,33,027	33,737	53,987	-12%

Note: RE: Revised Estimates; BE: Budget Estimates.

Source: Receipt Budget; Union Budget 2021-22; PRS.

Although budget documents do not provide clarity, the significant increase in 2020-21 at the budget stage could be due to: (i) anticipated recovery of past dues from the service providers as per the Supreme Court decision in October 2019 on the definition of gross revenue, and (ii) spectrum auction planned during the financial year.¹⁸ Note that process for auction of the certain spectrum has been initiated in January 2021 and

the auction is likely to be conducted on March 1, 2021.¹⁹ In November 2019, the Union Cabinet had approved deferred payment of spectrum auction instalments due for years 2020-21 and 2021-22 to provide relief to telecom service providers.²⁰

Figure 8: Non-tax revenue-communication services (In Rs crore) (2011-21)

Note: Revised Estimates used for 2020-21. Budget Estimates used for 2021-22.

Sources: Union Budgets, 2011-21; PRS.

At the end of 2019-20, the arrears of non-tax revenue from communication services is 34% of the total arrears of non-tax revenue of the central government. Of the non-tax revenue overdue by more than five years, the arrears of communication services comprise a significant portion of the total arrears (42%).

Table 6: Arrears of non-tax revenue from communication services (in Rs crore) (at the end of reporting the year 2018-19)

Duration (Year)	Arrear-Communications	Arrear-Overall	%Share*
0-1	2,263	20,374	11%
1-2	2,687	23,329	12%
2-3	9,661	31,730	30%
3-5	9,630	41,457	23%
>5	89,638	2,15,539	42%
Total	1,13,879	3,32,429	34%

Note: * % share indicates the share of non-tax revenue from communication services in the total arrears of non-tax revenue of the central government.

Source: Receipt Budget; Union Budget 2021-22; PRS.

Issues for Consideration

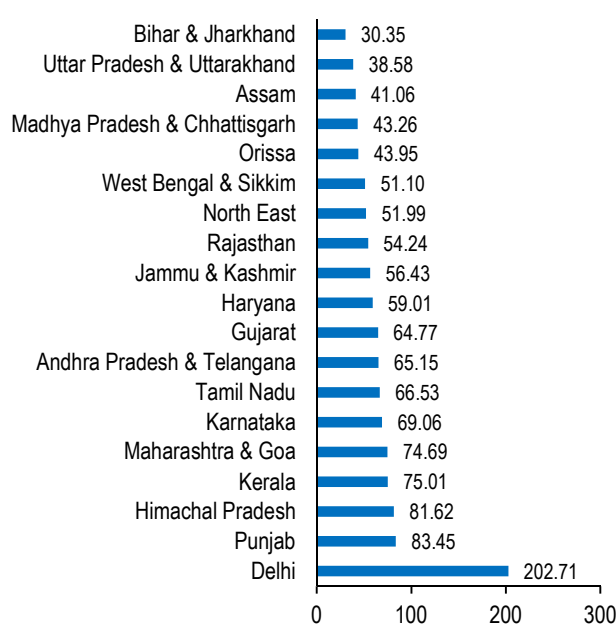
Digital divide

COVID-19 has brought focus on access to communication services. During the nation-wide lockdown, internet access became crucial for adults to work from home and children to access education. However, notable gaps exist in India with regard to access to telecom services and use of internet. International Telecommunications Union (ITU, 2019) notes that barriers are often related to age, gender, socioeconomic status, and geography.²¹ The Department of Telecommunications (2020) had noted that India has become the global leader in monthly data consumption.²² The Department also noted that the

cost of data has reduced substantially thereby enabling affordable internet access.²² Following trends were observed with regard to the use of internet services in India before the onset of COVID-19 pandemic:

Regional Divide: The number of internet subscribers per 100 inhabitants for the country on aggregate was 55.1 as of March 2020. This was lower than the global average for developing countries in 2020 as per ITU (65.1).²³ A substantial inter-state variation is seen on this parameter (Figure 9). This number was much lower for the service areas of Bihar-Jharkhand (30.4) and Uttar Pradesh-Uttarakhand (38.6). In comparison, services areas in Punjab (83.5), Himachal (81.6), and Kerala (75) performed considerably better than the national average on this parameter.

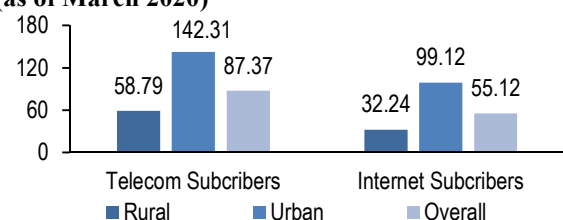
Figure 9: Service-area wise internet subscribers per 100 inhabitants (as of March 2020)



Note: Maharashtra & Goa includes Mumbai circle. Tamil Nadu includes Chennai circle. West Bengal & Sikkim includes Kolkata circle. Uttar Pradesh & Uttarakhand comprises UP East and UP West circles. North-East comprises Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura. Service area also includes adjoining union territories.
Sources: Performance Indicator Reports-March 2020, TRAI; PRS.

Rural-Urban Divide: As of March 2020, while the number of internet subscribers per 100 inhabitants in urban areas was 99.1, the corresponding number for rural areas was 32.2, almost two-thirds less (Figure 10). The Standing Committee on Information Technology (2020) had observed that as of March 2020, there were 7,789 villages in the country without telecom connectivity.¹¹

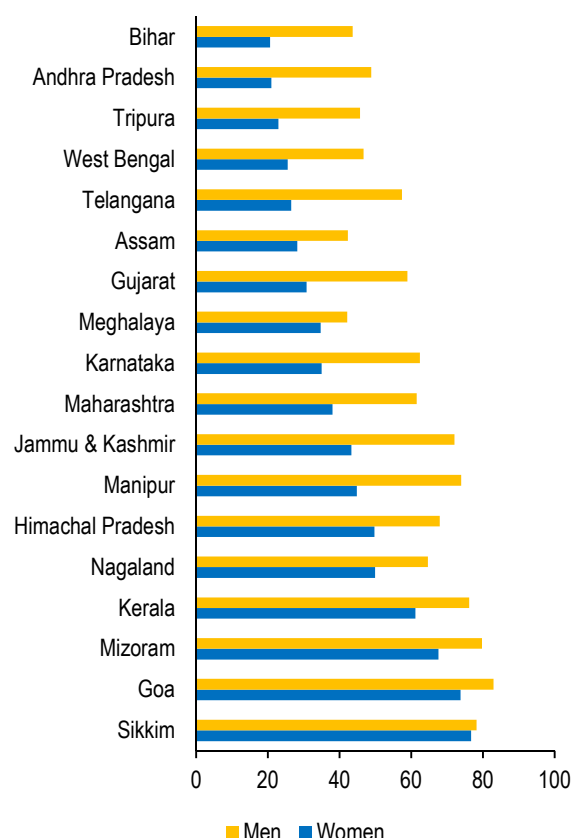
Figure 10: Subscribers per 100 inhabitants in India (as of March 2020)



Source: Performance Indicator Reports-March 2020, TRAI; PRS.

Gender gap: The first phase of the 5th round of the National Family Health Survey (2019-20) measured the proportion of men and women who have ever used internet across 22 states and union territories.²⁴ Across all states, the proportion of men who had used the internet was higher than women, with the difference being higher than 25% point in states such as Telangana, Gujarat, and Andhra Pradesh. In states such as Andhra Pradesh, Bihar, and Tripura, less than 25% of the surveyed women had ever used internet. Across states, the gap between proportion of men and women was wider in rural areas as compared to urban areas.

Figure 11: Adults in 15-49 years age group who have ever used internet (2019-20, Figures in %)



Source: Phase-I of Fifth Round of National Family Health Survey; PRS.

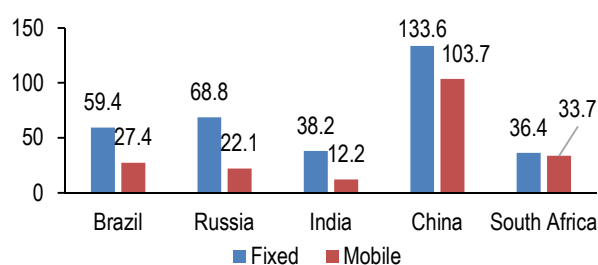
Access to broadband

Communication can be classified among broadband and narrowband based on the bandwidth required for communication. The broadband communication uses a higher bandwidth and provides better speed. Telecom Regulatory Authority of India (2020) had observed that in the post-COVID-19 pandemic era, there will be an increasing reliance on the broadband connectivity and demand for these services is likely to grow much faster.²⁵ TRAI observed that India needs to improve in terms of access to fixed broadband as well as the speed of broadband. At the end of March 2020, only 7.6 out of 100 households had access to fixed broadband.²⁵

TRAI noted that as per a June 2020 report by a private firm (Ookla), India experiences download speeds of 12 Mbps in case of mobile broadband and around 38 Mbps

in case of fixed broadband.²⁵ The corresponding global averages are 35 Mbps and 78 Mbps, respectively.²⁵ India ranked 129th among 138 nations in mobile broadband speed and 75th among 174 countries in fixed broadband speed according to the report by Ookla.²⁵ TRAI observed that India's broadband speed is the lowest among the BRICS countries (Figure 12).²⁵ Note that the National Digital Communications Policy 2018 seeks to provide broadband connectivity at 50 Mbps to every citizen by 2022.²⁵

Figure 12: Broadband speed in BRICS countries



Source: TRAI; PRS.

In India, as of March 2020, 92% of internet subscribers in India use a broadband connection.²⁵ However, a broadband connection in India is defined to have a minimum download speed of 512 kbps (kilo bits per second) to an individual subscriber. In other countries, this threshold is defined at a higher level. In USA, UK, and China, it is defined to be 25 Mbps (mega bits per second), 24 Mbps, and 20 Mbps, respectively.²⁵

India's preparedness for 5G

5G is the next technology frontier in the telecom sector. According to the High-Level Forum of the Department on 5G, 5G is predicted to create a cumulative economic impact of USD one trillion in India by 2035.²⁶ As of January 2021, 118 operators in 59 countries have deployed 5G network.²⁷ Mostly, 5G has been launched partially in these countries. In India, commercial rollout of 5G is yet to happen. The Standing Committee on Information Technology (2021) examined India's preparedness for 5G.²⁷ The Committee noted that sufficient preparatory work has not been undertaken for the launch of 5G services in India. It highlighted: (i) inadequate availability of spectrum, (ii) high spectrum prices, (iii) poor development of use cases for 5G, (iv) low status of fiberisation, and (v) deficient backhaul capacity, as some of the key concerns.²⁷ It noted that as of January 2021, 5G trials have not been permitted by the department.²⁷

Table 7: Deployment of telecom technology- India vis-a-vis World

Technology	World	India
2G	1991	1995
3G	1998	2008
4G	2008	2015
5G	2019	-

Source: "21st Report: India's preparedness for 5G", February 2021, Standing Committee on Information Technology; PRS.

Allocation of 5G spectrum

Allocation of new bands of the spectrum is crucial for the rollout of 5G. However, the auction of 5G spectrum is still pending. The Committee noted the concerns of the telecom companies that the reserve price set by TRAI (Rs 492 crore per MHz) for the 5G spectrum is exorbitantly high.²⁷ It observed that considering the financial stress in the sector and that 5G ecosystem is yet to be developed, high reserve price may have an adverse impact on the abilities of service providers to roll out 5G.²⁷ The Committee further noted that based on the current availability of spectrum, approximately 50 MHz spectrum per operator can be ensured. This is substantially lower than the global average (about 100 MHz).²⁷ It noted that in case of 4G too, the average spectrum per operator in India is around one-fourth of the global average.²⁷ The Committee observed that there is an urgent need for audit of all allocated spectrum for detecting under-utilisation and subsequently rationalising the allocation of spectrum.²⁷

Spectrum Fees and Taxes

The Economic Survey of India (2017-18) noted that the telecom sector is facing an issue of higher spectrum charges.²⁸ It observed that lower spectrum charges will augment the spread of telecommunication services and will help in socio-economic transformation.²⁸

TRAI (2015) had observed that the total effective rate of the license-related levy has gone up significantly in the recent past and that spectrum prices in the country are amongst the highest in the world.⁷ The total taxes and levies are as high as 30% of the revenue of an operator.⁷ This adversely impacts the need to continue a low tariff regime in the country. It had recommended that the license fee should be reduced from 8% to 6% by reducing Universal Access Levy from 5% to 3%.⁷ As of January 2021, the license fee is 8%.²⁷ In 2017, TRAI, as well as the Department of Telecommunications, had recommended lowering General Service Tax (GST) from 18% to 5% and 12% respectively for the telecom sector.²⁹ The Standing Committee on Information Technology (2021) also recommended that the central government should consider rationalisation of levies and duties on the telecom sector.²⁷

Promotion of domestic manufacturing of telecom equipment

The Standing Committee on Information Technology (2019) had observed that India is highly dependent on the import of telecom equipment.³⁰ During 2017-18 and 2018-19, India imported telecom equipment worth Rs 1.4 lakh crore and 1.2 lakh crore, respectively.³⁰ The Committee observed that this indicates a lack of requisite ecosystem for the promotion of domestic manufacturing.³⁰ Some of the reasons for the dependence on import are: (i) import of telecom equipment at zero duty as per existing tariff obligations under international treaties, (ii) low investment in research and development and creation of intellectual

property rights, and (iii) lack of market access for indigenous manufacturers.³⁰ The Committee noted that imports are likely to increase substantially with the introduction of newer technology such as 5G.³⁰

The Standing Committee on Information Technology (2021) also stressed on the importance of enhancing domestic manufacturing capabilities in view of the adoption of 5G. It observed that the ecosystem should be developed for complete manufacturing rather than just assembly, as manufacturing gives higher value addition. The Committee also highlighted the importance of promotion of research and development for the success of telecom manufacturing.²⁷ The

¹ Demand No. 13, Demand for Grants, Union Budget 2021-22, <https://www.indiabudget.gov.in/doc/eb/dg13.pdf>.

² Expenditure Budget, Department of Telecommunications, Union Budget 2021-22, <https://www.indiabudget.gov.in/doc/eb/sbe13.pdf>.

³ “Union Cabinet approves revival plan of BSNL and MTNL and in-principle merger of the two”, Cabinet, Press Information Bureau, , October 23, 2019, <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1588848>.

⁴ “47th Report: Demands for Grants (2018-19) of Department of Telecommunications (Ministry of Communications)”, Standing Committee on Information Technology, March 13, 2018, http://164.100.47.193/lssccommittee/Information%20Technology/16_Information_Technology_47.pdf.

⁵ “Report No 21 of 2018, Compliance and Performance Audit of Ministry of Communications and Ministry of Electronics & Information Technology”, CAG, 2018, https://www.cag.gov.in/sites/default/files/audit_report_files/Report_No_21_of_2018_Compliance_and_Performance_Audit_of_Union_Government_Ministry_of_Communications_.pdf.

⁶ “Statement showing the balance of UAL amount available as potential fund under USO as on 31.12.2020”, Universal Service Obligation Fund, Department of Telecommunications, website as accessed on February 13, 2021, <http://www.usof.gov.in/usof-cms/usof-fund-status-table.jsp>.

⁷ “Recommendations on Definition of Revenue Base (AGR) for the Reckoning of Licence Fee and Spectrum Usage Charges”, TRAI, January 6, 2015, https://main.traai.gov.in/sites/default/files/Reco-AGR-Final-06.01.2015_0.pdf.

⁸ “Telecom at a Glance”, Department of Telecommunications Website as accessed on July 1, 2019, <http://dot.gov.in/sites/default/files/Telecom%20at%20a%20Glance.pdf?download=1>.

⁹ “50th Report: Progress of Implementation of BharatNet”, Standing Committee on Information Technology, August 2018, http://164.100.47.193/lssccommittee/Information%20Technology/16_Information_Technology_50.pdf.

¹⁰ Unstarred Question No 621, Rajya Sabha, Ministry of Communications, June 27, 2019, <https://164.100.158.235/question/annex/249/Au621.pdf>.

¹¹ “6th Report: Demand for Grants (2020-21) of Department of Communications (Ministry of Communications), Standing Committee on Information Technology, March 2020, http://164.100.47.193/lssccommittee/Information%20Technology/17_Information_Technology_6.pdf.

¹² “BharatNet Status as on January 31, 2020”, Website of BBNL as accessed on February 7, 2020, <http://bbnl.nic.in/BharatNet.pdf>.

¹³ “BharatNet Usage Statistics as on 03.02.2020”, Website of BBNL as accessed on February 7, 2020, <http://www.bbnl.nic.in/usage2.pdf>.

¹⁴ “Cabinet approves enhancement of budget for implementation of Network for Spectrum for Defence Services”, Cabinet, Press Information Bureau, May 16, 2018, <http://www.pib.nic.in/PressReleaseDetail.aspx?PRID=1532262>.

¹⁵ Non-Tax Revenue, Union Budget, 2021-22, <https://www.indiabudget.gov.in/doc/rec/ntr.pdf>.

¹⁶ Arrears of Non-Tax Revenue, Union Budget, 2021-22, <https://www.indiabudget.gov.in/doc/rec/annex6.pdf>.

¹⁷ “Annual Report 2017-18”, Department of Telecommunications, http://dot.gov.in/sites/default/files/Telecommunications%20Annual%20Report%202018%20ENGLISH_0.pdf.

Committee noted that in 2018, TRAI had proposed the creation of a Telecom Research and Development Fund with an initial corpus of Rs 1,000 crore for promoting research, innovation, and manufacturing of indigenous telecommunications equipment. It recommended that this fund should be created at the earliest.²⁷

Essential Services status for Telecom

The Standing Committee on Information Technology (2021) recommended that telecommunications should be accorded the status of essential service and telecom infrastructure should be designated as a critical infrastructure of the country.²⁷

¹⁸ Starred Question No 329, Lok Sabha, Ministry of Communications, December 11, 2019, <http://164.100.24.220/loksabhaquestions/annex/172/AS329.pdf>.

¹⁹ “Auction to commence online from March 1, 2021”, Press Information Bureau, Ministry of Communications, <https://pib.gov.in/PressReleasePage.aspx?PRID=1686571>.

²⁰ “Cabinet approves proposal for Mitigating financial stress being faced by the Telecom Services Sector”, Cabinet, Press Information Bureau, November 20, 2019, <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1592553>.

²¹ Website of International Telecommunications Union as accessed on February 16, 2021, <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.

²² Annual Report 2019-20, Department of Telecommunications, April 6, 2020, <https://dot.gov.in/sites/default/files/Annual%20Report-2019-20%28%20English%29.pdf>.

²³ Website of International Telecommunications Union as accessed on February 16, 2021,

²⁴ Key Indicators-22 States/UTs from Phase-I, 5th Round of National Family Health Survey, http://rchiips.org/NFHS/NFHS-5_FCTS/NFHS-5%20State%20Factsheet%20Compendium_Phase-I.pdf.

²⁵ “Consultation Paper on Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed”, Telecom Regulatory Authority of India, August 20, 2020, https://traai.gov.in/sites/default/files/Broadband_CP_20082020_0.pdf.

²⁶ “Making India 5G Ready”, Report of the 5G High Level Forum Prepared by Steering Committee, Department of Telecommunications, August 23, 2018, <http://dot.gov.in/sites/default/files/5G%20Steering%20Committee%20Report%20v%2026.pdf>.

²⁷ “21st Report: India’s preparedness for 5G”, Standing Committee on Information Technology, February 2021, http://164.100.47.193/lssccommittee/Information%20Technology/17_Information_Technology_21.pdf.

²⁸ Economic Survey of India 2017-18, Volume 1, <http://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf>.

²⁹ Unstarred Question No 1509, Lok Sabha, Ministry of Communications, June 27, 2017, https://eparlib.nic.in/bitstream/123456789/765718/1/AU1509_13_16.pdf.

³⁰ “First Report: Demands for Grants (2019-20) of Department of Telecommunications (Ministry of Communications)”, Standing Committee on Information Technology, December 2019, http://164.100.47.193/lssccommittee/Information%20Technology/17_Information_Technology_1.pdf.

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