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**STANDING COMMITTEE ON COMMUNICATIONS
AND INFORMATION TECHNOLOGY
(2025-26)**

EIGHTEENTH LOK SABHA

**MINISTRY OF COMMUNICATIONS
(DEPARTMENT OF TELECOMMUNICATIONS)**

**‘REVIEW OF THE PERFORMANCE OF SCHEMES/PROJECTS UNDER DIGITAL
BHARAT NIDHI (DBN) IMPLEMENTED BY PUBLIC AND PRIVATE SECTOR’**

THIRTY-SECOND REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

August, 2026/ Sravana, 1948 (Saka)

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Presented to Lok Sabha on 06.08.2026

Laid in Rajya Sabha on 06.08.2026



**LOK SABHA SECRETARIAT
NEW DELHI**

August, 2026/ Sravana, 1948 (Saka)

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**Composition of the Standing Committee on Communications and
Information Technology (2024-25)**

Dr. Nishikant Dubey - Chairperson

Lok Sabha

2. Shri C.N. Annadurai
3. Shri Anil Baluni
4. Dr. Rabindra Narayan Behera
5. Shri Anup Sanjay Dhotre
6. Shri Gurmeet Singh Meet Hayer
7. Shri Sanjay Haribhau Jadhav
8. Shri S. Supongmeren Jamir
9. Shri Appalanaidu Kalisetti
10. Smt. Poonamben Hematbhai Maadam
11. Ms. Mahua Moitra
12. Shri G. Kumar Naik
13. Shri Shafi Parambil
14. Dr. M.K. Vishnu Prasad
15. Ms. Kangna Ranaut
16. Shri Radheshyam Rathiya
17. Shri Ramasahayam Raghuram Reddy
18. Shri Arun Kumar Sagar
19. Shri Devesh Shakya
20. Shri Vishnu Datt Sharma
21. Shri Rajesh Verma

Rajya Sabha

22. Shri Saket Gokhale*
23. Smt. Priyanka Chaturvedi
24. Shri Ilaiyaraaja
25. Shri Amar Pal Maurya
26. Dr. Sasmit Patra
27. Shri V. Vijayendra Prasad
28. Shri S. Niranjana Reddy
29. Shri Kartikeya Sharma
30. Shri Lahar Singh Siroya
31. Shri K.T.S. Tulsi

Committee constituted w.e.f. 26th September, 2024 vide Para No.833 of Bulletin Part-II dated 26th September, 2024.

** Shri Saket Gokhale has been nominated vide Para No. 853 of Bulletin Part –II dated 03rd October, 2024.*

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11. Shri G. Kumar Naik
12. Shri Shafi Parambil
13. Dr. M.K. Vishnu Prasad
14. Ms. Kangna Ranaut
15. Shri Radheshyam Rathiya
16. Shri Ramasahayam Raghuram Reddy
17. Shri Arun Kumar Sagar
18. Shri Devesh Shakya
19. Shri Vishnu Datt Sharma
20. Shri Rajesh Verma
21. Vacant

Rajya Sabha

22. Shri Sanjay Bhatia[@]
23. Shri Rajeev Kumar[@]
24. Shri Christopher Manickam[@]
25. Shri Amar Pal Maurya
26. Shri Rajneesh Kumar Agrawal^{\$}
27. Shri Kanad Purkayastha
28. Shri S. Niranjana Reddy
29. Shri Kartikeya Sharma
30. Shri Lahar Singh Siroya
31. Shri Bhashyam Rama Krishna^{\$}

SECRETARIAT

- | | | | |
|----|---------------------------------|---|-------------------------|
| 1. | Shri Harish Chandra Bist | — | Joint Secretary |
| 2. | Smt. A. Jyothirmayi | — | Director |
| 3. | Shri Rajesh Mohan | — | Deputy Secretary |

Committee constituted w.e.f. 26th September, 2025 vide Para No.3282 of Bulletin Part-II dated 1st October, 2025.

@ Shri Sanjay Bhatia, Shri Rajeev Kumar and Shri Christopher Manickam nominated to the Committee, w.e.f. 3rd June, 2026 vide Para No. 5267 of Bulletin Part-II dated 4th June, 2026.

\$ Shri Rajneesh Kumar Agrawal and Shri Bhashyam Rama Krishna nominated to the Committee w.e.f. 23rd July, 2026 vide Para No. 5724 of Bulletin Part-II dated 24th July, 2026.

INTRODUCTION

I, the Chairperson, Standing Committee on Communications and Information Technology (2025-26), having been authorized by the Committee do present this Thirty-Second Report on the Subject 'Review of the performance of schemes/projects under Digital Bharat Nidhi (DBN) implemented by Public and Private Sector' relating to the Ministry of Communications (Department of Telecommunications).

2. The Standing Committee on Communications and Information Technology (2024-25) selected this subject for detailed examination and Report to the Parliament. The subject was again selected during the present term of the Committee(2025-26).The representatives of the Ministry of Communications (Department of Telecommunications) briefed the Committee on the subject on 9th September, 2025. The Committee also heard the views of the BSNL, PGCIL, RailTel, Bharati Airtel, RJIL, CSC e- Governance Services India Limited.

3. The Committee at their Sitting held on 3rd August, 2026 considered and adopted the Report.

4. The Committee wish to express their thanks to the representatives of, DoT, BSNL, PGCIL, RailTel, Bharati Airtel, RJIL, CSC e- Governance Services India Limited for furnishing written information/views and/or for appearing before the Committee, which was of great help in the examination of the subject.

5. The Committee also place on record their appreciation for the invaluable assistance rendered by the officials of Lok Sabha Secretariat attached to the Committee.

6. For facility of reference and convenience the Observations/Recommendations of the Committee have been printed in bold in Part-II of the Report.

**NEW DELHI;
05 August, 2026**

14 Sravana, 1948 (Saka)

**DR. NISHIKANT DUBEY,
Chairperson,
Standing Committee on
Communications and Information Technology.**

REPORT

PART - I

I. Introductory

1. The Universal Service Support Policy for provision of telecom facilities in rural and remote areas of the country came into effect from 01.04.2002. With the Indian Telegraph Act, 1885 amended in December, 2003 *vide* the Indian Telegraph (Amendment) Act, 2003, the Universal Service Obligation Fund (USOF) was created w.e.f. 01.04.2002. This Fund is a pool of money on account of 5% levy on telecom operator's revenue to provide affordable telecom services in rural and remote areas.

2. The USOF was established with the fundamental objective of providing fund support for access to 'Basic' telegraph services to people in the rural and remote areas at affordable and reasonable prices. Subsequently, the Indian Telegraph Act was amended on 29.12.2006 widening the scope of USOF to provide access to various telegraph services (including mobile services, broadband connectivity and creation of infrastructure like Optical Fibre Cable (OFC) in rural and remote areas.

The Fund is headed by Administrator who is appointed by the Central Government, for the administration of the fund. It is an attached office of the Department of Telecommunications (DoT), Ministry of Communications.

3. As per the Telecommunications Act, 2023 (No.44 of 2023) and the subsequent notification of Telecommunications (Administration of Digital Bharat Nidhi) Rules, 2024 dated 30.08.2024, the USOF created under the Indian Telegraph Act, 1885, has been renamed as Digital Bharat Nidhi (DBN). The Telecommunications Act, 2023 also expanded the scope of DBN to:

- (a) support universal service through promoting access to and delivery of telecommunication services in underserved rural, remote and urban areas;
- (b) support research and development of telecommunication services, technologies and products;
- (c) support pilot projects, consultancy assistance and advisory support towards provision of service under clause (a) above;
- (d) support introduction of telecommunication services, technologies and products.

4. While deposing on the issue before the Committee, the then Secretary, DoT stated on 09.09.2025 that:-

"The idea of expanding the scope of this fund partly arose from the Hon'ble Prime Minister's vision of ensuring that digital communication extends to every nook and corner of the country. Its relevance and its use was proven

during the COVID pandemic when all the physical services came to virtual halt. It was only through digital communications and digital means that the economic activity and life-sustaining activities of citizens were supported through the digital initiatives taken till then by various Ministries in Government of India.”

5. The resources for implementation of DBN are raised by way of collecting a Universal Access Levy (UAL) from all the Licensees of Department of Telecommunications, which is 5% of the Adjusted Gross Revenue (AGR) of Telecom Licenses. It is a non-lapsable Fund. Levied amount is credited to the Consolidated Fund of India. Fund is made available to DBN through budgetary provision after due appropriation by Parliament.

II. A Brief overview of the various schemes under DBN is as follows:-

i. BHARATNET

6. BharatNet programme has been approved for provision for broadband connectivity in a phased manner to all Gram Panchayats (GPs) in the country. This flagship project, funded by the DBN, is an important pillar of Digital India programme.

7. The Union Cabinet on 25.10.2011 approved the project for the creation of the National Optical Fibre Network (NOFN), now BharatNet, to provide broadband connectivity at the GP level by connecting Block headquarters (BHQs) to GPs by using existing fibre of Central Public Sector Undertakings (CPSUs) *i.e.* Bharat Sanchar Nigam Limited (BSNL), RailTel Corporation of India Limited (RailTel) and Power Grid Corporation of India Limited (PGCIL) and laying incremental fibre to bridge the connectivity gap up to the GPs. The Government owns the incremental Optical Fibre Cable (OFC), and the ownership of the existing fibre was to be continued to be vested with the current owners.

The Phase-I was completed in December 2017 with the implementation of over 1 lakh GPs. Subsequently, the scope of Phase-I has been enhanced to 1,20,210 GPs. By laying 3,12,449 km Optical Fibre Cable (OFC), as on 28.2.2026, BharatNet points of presence (PoPs) at 40,610 GPs under Bharat Net Phase-I are operational.

BharatNet Phase-II:

8. The Cabinet approved a modified strategy for BharatNet on 19.07.2017, which integrates the implementation experience of Phase-I of the project and aligns it with the vision of Digital India. The modified strategy provided an optimal mix of media (OFC, Radio and satellite) to connect GPs. Under Phase II, GPs were to be connected through multiple implementing models like State-led Model, Private Sector Model and CPSU Model, along with Last Mile connectivity in GPs through Wi-Fi or any other

suitable broadband technology. Various States covered under different models of Phase II are:

- **State-Led Model:** Eight States are being implemented under this model. Chhattisgarh, Gujarat, Jharkhand, Andhra Pradesh, Maharashtra, Odisha, Tamil Nadu and Telangana are at various stages of implementation.
- **CPSU-Led Model:** Under this model, BSNL is executing works in three States. Madhya Pradesh, Uttar Pradesh and Sikkim are at various stages of implementation.
- **Private-Led Model:** Punjab and Bihar have implemented the private sector model directly by BBNL. Work has almost been completed in both States.
- **Satellite:** The satellite component of Phase II is being implemented by BBNL and BSNL.

9. Regarding BharatNet Phase-I and Phase II, the then Secretary, DoT while deposing before the Committee stated on 09.09.2025 that:-

“The other major aspect of the Digital Bharat Nidhi has been the Bharat Net programme. The Hon'ble Prime Minister has taken personal interest to ensure that this programme is able to actually provide 1 Gigabyte per second connectivity in every Gram Panchayat along with associated utilisation. BharatNet Phase I and Phase II did not achieve the level of success that they were intended to, despite spending a significant amount of resources.”(Page 5 verbatim proceedings)

10. The Department in a written submission stated that:-

“As on 28.02.2026 under BharatNet Phase II, by laying 3,82,590 km of OFC, BharatNet Point of Presence (PoPs) at 38,289 GPs are operational. Under Amended BharatNet Programme (ABP), as on 28.02.2026, 2,884 GPs have been connected by laying of 24,202 km OFC.

11. As on 28.02.2026, the overall progress of BharatNet (Phase-I + Phase-II + ABP), by laying 7,19,241 km of OFC, has been that BharatNet PoPs at 78,899 GPs under BharatNet Programme are operational.

Utilisation of BharatNet:

12. The utilisation of network is through leasing of bandwidth and dark fibre, Fibre to the Home (FTTH) to provide broadband connectivity to Government Institutions (like School, Health Centre, Anganwadi, Police Station, Krishi Vikash Kendra, Post Office, Ration Shop, etc.), Private Institutions and Households.

- So far, the utilization is as follows:

Sl. No.	Utilisation Model	Utilisation
1	Active FTTH connections	9,48,237
2	Dark Fibre leased (fibre Kms)	1,24,599
3	Leasing of Bandwidth (in Mbps)	4,01,654
4	FTTH Data consumption (Feb-2026) (in TB)	1,77,371

Amended BharatNet Programme (ABP):

13. Dwelling on the Amended BharatNet Programme, the Department informed the Committee that:-

- “Government has approved the Amended BharatNet Programme (ABP) under a design, built, operate and maintain model to upgrade the existing network created under Phase-I and Phase-II of BharatNet, and to create incremental network for connectivity to the remaining GPs, and to connect the remaining non-GP villages on an on-demand basis with minimum demand for five home fibre internet connections, operation and on maintenance for 10 years and provision of 1.5 crore home fibre internet connections.
- Out of total 2.64 lakh GPs in the country, BharatNet Point of Presence (PoP) at 78,899 GPs under BharatNet Programme are operational. These GPs are to be connected in IP-MPLS ring topology under Amended Bharat Net Programme.
- BSNL as Project Management Agency has floated RFP for selection of Project Implementation Agencies (PIAs) for 16 packages (excluding eight State-led model States) and till date agreements have been signed for 12 packages. Advance Work Orders (AWOs) have been issued for all remaining four packages”.

14. Further, amongst eight State led packages Gujarat Fibre Grid Network Limited (GFGNL) as PMA of Gujarat is evaluating bids for selection of PIAs for execution. The details of packages finalized along other details are given in **Annexure-A**. The details of package-wise scope of works are given in **Annexure-B**. Further, State Government of Odisha has conveyed the approval for implementation of ABP through BSNL on 06.01.2026.

It was also added that:-

“There is a significant progress in starting the implementation of ABP for 12 packages covering 15 States and three UTs and 1,36,655 GPs (~52% of all GPs)”.

15. Elaborating the Design Highlights of Amended BharatNet Programme (ABP), the Department informed as under:-

- **“Ring Topology:** Up-gradation of existing network of BharatNet Phase-I and Phase-II by Creating Ring Architecture with IP-MPLS technology providing full redundancy with multiple rings (8-10 GPs in a ring) in a block, thus improving the reliability of the network.
- **Expansion in Scope:** The project involves creation of network in balance (approximately 47,000) GPs besides upgradation of the network of GPs made live under Phase-I/II. The project also involves connecting all non-GP villages (approximately 3.8 lakh) on demand basis.
- **Emphasis on O&M:** The network shall be maintained by professional agencies specialized in optical fiber networks, selected through bidding process by BSNL. These agencies will maintain network for a period of 10 years to high defined standards of availability. It also has provision for Remote Fiber Monitoring System (RFMS). It is also proposed to engage a professional private sector partner for the Network Operations Center (NOC) to design, build, operate and maintain the NOC for 10 years. The payment to the PIA shall be as per Service Level Agreement (SLA).
- **Emphasis on Utilisation:** The last mile network will be managed through BharatNet Udyamis (BNU) who could be a village level entrepreneur, Internet Service Provider, Self Help Group etc. BNUs will be given a one-time financial incentive for activating new home fiber connections. To incentivize continuity of services, BNUs will also receive a share of the monthly revenue. It is proposed to eventually provide 1.50 crore rural home fiber connections using the BNU model over the next five years.
- **Speed:** BSNL will provide Internet Leased Line (ILL) to all 7,269 blocks with sufficient bandwidth to ensure minimum 25 Mbps download speed to every home fibre subscriber.
- **Flexibility in provisioning:** Alternate technologies (radio/satellite) including Low Earth Orbit/Medium Earth Orbit (LEO/MEO) satellite communication services, when matured may be considered for deployment based on the requirement and cost effectiveness in cases where the implementation of OFC may not be feasible”.

Status of RFP for selection of PIA of different packages under Amended Bharat Net Programme is given at Annexure A and Annexure B.

ii. MOBILE PROJECTS

16. **Projects at a glance:** A summary of ongoing schemes under DBN as furnished by the Department as on 28.02.2026 is as below:

S. no.	Scheme	Implementing Agency	Project cost (in crore ₹)	Agreement signing date	Scope		Commissioned		Completion of towers (in percent age)	Expected date of completion
					Towers	Villages / locations	Towers	Villages / locations		
1	4G Saturation **	BSNL	30,620	Feb 2023	23,570	32,153	14,301	21,328	60.7	Dec 2026
2	BOP/BIP scheme	BSNL	1546	Jul 2023	602	730	251	337	41.7	Dec 2026
3	Lakshadweep Islands	BSNL	36	Oct 2024	37	37	37	37	100.0	Completed
4	LWE Phase-I Upgradation	BSNL	2,426	May 2024	2,340	2,340	2275	2275	97.2	Mar 2026
A. Sub-Total (BSNL)			34,628		26,549	35,260	16,864	23,977	63.5	
5	354 Scheme	RJIL	301	Apr 2020	295	319	295	319	100.0	Completed
6	#Meghalaya	BHL	398	Sep 2020	437	630	436	629	99.8	Mar 2026
7	502 Asp.	RJIL/BAL	233	Mar 2021	248	285	245	282	98.8	Jun 2026
8	*A&N Islands	RJIL	130	Mar 2021	68	69	68	69	100.0	Completed
9	LWE-II	RJIL/BAL	1,578	Oct 2021	1,377	1,445	1,186	1,245	86.1	Dec 26
10	ArP & Assam	RJIL/BHL	667	Nov 2021	701	1,245	696	1,239	99.3	Jun 26
11	7,287 Asp.	RJIL/BAL	2,876	May 2022	3,747	5,549	3,050	4,695	81.4	Dec 26
12	Rest of NER schem	BAL/BHL	1,656	Dec 2017	1,358	1,529	1358	1,529	100.0	Completed
B. Sub-Total (Pvt TSPs)			7,839		8,231	11,071	7,334	10,007	89.1	
Grand Total (A+B)			42,467		34,780	46,331	24,198	33,984	69.6	

Note:

- #Scope 630 villages = 627 villages + 3 national highway sites; Commissioned 629 villages = 626 villages + 3 national highway sites
- *Scope 69 villages = 22 villages + 47 national highway sites; Commissioned 69 villages = 22 villages + 47 national highway sites
- ** Towers planned under Category-V (3,248) and Category-VI (3,199) are added with number of villages same as number of tower planned.
- Project cost given in S. No. 4 of above table included O&M extension of LWE-I sites.

17. Saturation of 4G mobile services in uncovered villages across the Country:

The Department informed the Committee that the Union Cabinet on 27.07.2022 approved a DBN funded project for saturation of 4G mobile services in uncovered villages across the country at a total cost of Rs. 26,316 cr (excluding Taxes). The project has provision to provide 4G mobile services in 24,680 uncovered villages in remote and difficult areas with additional provision to include 20% additional villages on account of rehabilitation, new-settlements, withdrawal of services by existing operators etc. In addition, 6,279 villages having only 2G/3G connectivity shall be upgraded to 4G.

Agreement for the implementation of the project has been signed with BSNL on 06.02.2023. Till 28.02.2026, 23,570 towers including upgradation of 865 towers have been planned. Out of which 14,301 towers have been made on air covering 21,328 villages.

18. On the Border Out Posts (BOPs) and Border Intelligence Posts (BIPs) Project the Department stated that:-

“Union Cabinet on 24.03.2023 has approved the project for the provision of 4G based mobile services at 1,117 locations of Border Out Posts (BOPs) of Border Guarding Forces (BGFs) and Border Intelligence Posts (BIPs) of Intelligence Bureau on nomination basis to BSNL. Till 28.02.2026, after Survey, 602 Mobile Towers have been planned and out of this 251 towers have been commissioned, covering 337 locations”.

19. Regarding Provision of 4G Mobile Services, Augmentation of OFC Transmission Network & Provision of FTTH services in Lakshadweep Islands the Department has submitted that:-

“The Government provided approval in November 2021 for the award of the work for augmentation of Telecom infrastructure in Lakshadweep Islands to BSNL on nomination basis. This project has been planned to reap the benefits of huge bandwidth created under Kochi Lakshadweep Island Submarine OFC Project between Kochi and Kavaratti and 10 other Islands of Lakshadweep Islands. The total cost of the project is Rs. 62.86 Cr. The works include:

- (i) Installation of additional 20 new mobile tower sites (including Suheli Island) for provision of 4G mobile services.
- (ii) Upgradation of 17 existing 2G tower sites to 4G mobile services.
- (iii) Creation of 225Km OFC network for provision of FTTH in Lakshadweep Islands. This includes the operation and maintenance cost for five years with provision of services at the same QoS/ SLA for 10 years at the cost of Rs.24.89 cr”

Project Status:

Item	Scope	Status
New 4G Sites	20	Work is completed
Upgradation from 2G to 4G	17	Work is completed
OFC laying to provide FTTH	225 km	• Work is completed. • 8261 FTTH connections have been provided.

20. About the Scheme for Mobile Communication Services in Left Wing Extremism (LWE) Affected Areas: Phase-I the Department stated that:-

“The Union Cabinet on 20.08.2014 approved the implementation of a project in LWE areas to provide Mobile Services on 2G technology in the 10 LWE affected States of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh and West Bengal. The approved cost of the project was Rs. 4081 crores. The project has been completed with commissioning of 2340 mobile towers.

Further, Union Cabinet on 27.04.2022 has approved the Upgradation of existing LWE towers from 2G to 4G and Operation & Maintenance (O&M) extension of the existing 2G sites with an estimated cost of Rs. 2,426 crore. Agreement has been signed with BSNL on 09.05.2024 for upgradation of existing sites from 2G to 4G. Till 28.02.2026, 2,275 mobile towers have been upgraded to 4G under LWE Phase-I upgradation”.

21. Furnishing details on the Scheme for Border areas and other priority areas (354 Uncovered Villages Scheme) the Department has stated that:

“An Agreement has been signed on 28.04.2020 with the Implementing Agency i.e., M/s Reliance Jio Infocomm Ltd. for provision of mobile service in 354 uncovered villages of Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttar Pradesh, Bihar, Rajasthan, Gujarat, Uttarakhand, Border areas and other priority areas at a cost of Rs. 336.9 crore. Further an additional order for covering ‘55 uncovered villages’ under this scheme has been issued to M/s RJIL vide letter dated 06-09-2021 with additional cost of Rs 22.82 crore. The executable scope after survey is 295 sites covering 319 villages and the scheme is completed by installation of 295 towers covering 319 villages.

22. Detailing the Mobile Services in Uncovered villages of Meghalaya and seamless coverage along National Highway, the Department submitted that:

“The work has been awarded to M/s Bharti Hexacom Limited for 1,164 uncovered villages and 11 sites along National Highways in Meghalaya on 04.09.2020 for provisioning of 4G mobile services at a total project cost of Rs. 804.37 crore. Further, additional 528 sites covering 723 villages have been added on the request of State Government at the cost of Rs 167.59 cr. Till 28.02.2026, executable scope after survey is 437 sites covering 627 villages & three National Highway locations and out of which 626 villages and three National Highways have been covered by commissioning of 436 mobile towers”.

23. As regards the 502 Aspirational District villages, the Department informed as follows:

“The scheme was launched for provisioning of 4G based Mobile services in 502 uncovered villages over four States (namely, Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan). Agreements have been signed in March 2021 with M/s Reliance Jio Infocomm Ltd. (RJIL) for Uttar Pradesh and Madhya Pradesh; M/s Bharti Hexacom Ltd for Rajasthan and M/s Bharti Airtel Ltd for Bihar respectively. Further an additional order for covering ‘27 uncovered villages’ of Madhya Pradesh under this scheme has been issued to M/s RJIL vide letter dated 22-08-2022 against the deleted locations. Till 28.02.2026, executable scope after survey is 248 sites covering 285 villages and out of which 282 villages have been covered by commissioning of 245 mobile towers”.

24. About providing of 4G Mobile Services in 85 uncovered villages & seamless mobile coverage along NH-4 (erstwhile NH 223) in Andaman & Nicobar Islands (82+42 NH Towers), the Department informed that:-

“Agreement signed with M/s RJIL on 15.03.2021 to provide mobile services on 4G Technology in identified 85 uncovered villages with population 10 or above and to bridge the gaps in mobile connectivity along uncovered National Highway. Total 22 villages and 47 national highway locations are to be covered by installing of 68 mobile towers (21 towers for villages and 47 towers for national highway locations). The project has been commissioned and completed by installations of 68 towers covering 22 villages and 47 national highway locations.”

25. With respect to LWE Phase II, the Department informed that:-

“The project entails provisioning of 2,542 towers to provide 4G mobile services in 10 States (Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Telangana, Uttar Pradesh and West Bengal). Agreements have been signed with M/s Reliance Jio Infocomm Ltd. to implement the project in Chhattisgarh, Madhya Pradesh, Maharashtra and Odisha, and with Bharti Airtel Ltd. in Andhra Pradesh, Bihar, Jharkhand, Telangana, Uttar Pradesh and West Bengal”.

The progress as on 28.02.2026 is as below:

Agency	Executable scope after survey		Commissioned	
	Towers	Locations	Towers	Locations
Bharti Airtel Ltd.	294	314	269	288
RJIL	1,083	1,131	917	957
Total	1,377	1,445	1,186	1,245

26. The Department while furnishing details about mobile services in Uncovered Villages of Arunachal Pradesh and two Districts of Assam stated that:-

“Agreements have been signed with M/s Bharti Hexacom Limited for provision of services in Arunachal Pradesh on 29.10.2021 and with M/s Reliance Jio Infocomm Limited for two districts of Assam (Karbi Anglong & Dima Hasao districts) on 01.11.2021. The total project cost is Rs. 1255.49 crore. The progress as on 28.02.2026 is as below:

Sl. No.	Implementing Agency	No. of districts	Executable scope after survey		No. of Villages Covered	No. of towers Commissioned
			Villages	Sites		
1	Bharti Hexacom Limited	16	941	478	936	474
2	Reliance Jio Infocomm Limited	2	304	223	303	222
Total		18	1,245	701	1,239	696

27. Regarding 7,287 Aspirational District villages the Department further stated that:-

“Above project entails provisioning of 4G based Mobile services in 7,287 uncovered villages of Andhra Pradesh, Chhattisgarh, Jharkhand, Maharashtra and Odisha. An agreement with M/s RJIL for Andhra Pradesh, Chhattisgarh & Odisha and M/s BAL for Jharkhand and Maharashtra have been signed on 20.05.2022 at a cost of Rs. 3,765 crores.”

The progress as on 28.02.2026 is as below:

Implementing Agency	Executable scope after survey		Villages Covered	Towers Commissioned
	Villages	Towers		
RJIL	4,677	3,101	3,864	2,420
BAL	872	646	831	630
Grand Total	5,549	3,747	4,695	3,050

iii. OTHER PROJECTS

Submarine OFC connectivity between Mainland (Chennai) and Andaman and Nicobar Islands (Total 8 Islands with 2,312 Km of submarine OFC)

28. In accordance with the Cabinet approval dated 21.09.2016, submarine OFC connectivity of 2,312 Km has been commissioned on 10.08.2020 between Chennai and Port Blair and seven other Islands namely Swaraj Deep (Havelock), Long Island, Rangat, Little Andaman (Hutbay), Kamorta, Car Nicobar & Great Nicobar (Campbell Bay). Project Execution Agency was BSNL.

- Cost of Project-CAPEX = Rs.947.28 crore (including discovered cost of Rs.677.81 crore plus estimated Rs.60 crore for civil & electrical plus taxes and project management consultant Rs.77.67 crore) by DBN, OPEX = Rs.46.84 Crore per year for five years = Rs.276.24 crore plus taxes by MHA/UT.
- Total = Rs.1,224 crore
- Details of leased bandwidth are as follows:
 - Chennai – Islands: 111.31 Gbps
 - Inter-Island: 132 Gbps.

Submarine OFC connectivity between Mainland (Kochi) and LD Islands (1869 km) (Total 11 Islands; Kavaratti, Kalpeni, Agatti, Amini, Andrott, Minicoy, Bangaram, Bitra, Chetlat, Kiltan and Kadmat).

29. According to the Department, the project entails provision of Submarine Optical Fibre Cable Connectivity between Mainland (Kochi) and Lakshadweep Islands (KLI Project) comprising of Kavaratti and ten other Islands, namely, Kalpeni, Agatti, Amini, Androth, Minicoy, Bangaram, Bitra, Chetlat, Kiltan and Kadmat. The total estimated Route length is about 1,772 km and the total Financial Implication is about Rs. 1072 crore (excluding taxes), which includes CAPEX of Rs. 837 crore to be funded by DBN while OPEX of Rs. 235 crore for five years is to be funded by MHA / UT Administration of Lakshadweep Islands. Project Execution Agency is BSNL.

The project was formally dedicated to the nation on 03.01.2024. Around 8,182 FTTH connections have been given in islands of Lakshadweep using this bandwidth. Details of leased bandwidth are as follows:

- Kochi – Islands: 47.31 Gbps
- Inter-Island: 108 Gbps.

iv. Detailed examination of various issues:-

I. BharatNet Implementation and Connectivity Progress

30. When the Committee sought to know the expected timeline for connecting the remaining~50,000 Gram Panchayats under the Amended BharatNet Programme, the Ministry informed that:-

“Amended BharatNet Programme has been approved by the Cabinet on 04.08.2023 which aims to provide Optical Fibre (OF) connectivity to approx. 2.65 lakh Gram Panchayats (GPs) in ring topology and to connect remaining non-GP villages (approx. 3.8 lakh) on demand basis. The programme envisages network construction period of three years and Operation and Maintenance for seven years post-construction. Master Service Agreement (MSA) has been signed between BSNL & selected Project Implementation Agency through open competitive bidding in 12 packages (in between February-25 to June-25). As per cabinet approval, time frame for completion of construction of the project is 36 months from the signing of Master Service Agreement (MSA)”.

31. Further, on being asked about the major challenges faced during the implementation of Phase- II of BharatNet, especially with different models such as State-led, CPSU-led and Private-led and how these challenges were being addressed, the Department replied in their written submissions as follows:-

“BharatNet Phase-II has been implemented through multiple models i.e State-led, CPSU-led (BSNL/RailTel/PowerGrid/BBNL), and Private-led (PPP) to leverage the unique strengths of various agencies and adapt to State-specific contexts. However, common challenges such as Right of Way (RoW) delays from agencies like Forest Departments, Railways, and NHAI, difficult terrains and security-affected regions, last-mile commissioning issues, contractual disputes etc. affected the implementation of project. To address above challenges certain measures have been taken like- regular high-level monitoring through central and State reviews, established State-Level Implementation Committees, ensured timely milestone-based fund disbursement, adoption of multi-technology approaches (including satellite/VSAT), and introduced ring topology under the Amended BharatNet Programme”.

32. Furnishing reasons for delay in BharatNet works in Chhattisgarh, Maharashtra, Telangana, Tamil Nadu (State-led Model) and UP East/West (CPSU Model), the Department submitted that:-

“In the State-led model (Chhattisgarh, Maharashtra, Telangana, Tamil Nadu), delays arose due to prolonged SPV-led procurement and tender finalisation processes, disputes with selected Project Implementing Agencies (PIAs) and Right of Way (RoW) or local clearances—especially for forest land and utility crossings—that stalled civil works. Difficult terrain and the need to connect remote Gram Panchayats (GPs), particularly in tribal and LWE-affected areas of Chhattisgarh and Telangana, further impeded progress. In the CPSU-led model, particularly in UP East and West, the scale and high number of GPs led to capacity constraints of implementing agencies, necessitating phased handovers; operational hurdles and incomplete last-mile commissioning also remain significant bottlenecks. Additionally, local issues such as

damage to OFC routes due to road works, urban development, and shifting utilities have further contributed to implementation delays”.

33. About the Department’s progress in implementing the Union Cabinet's Amended BharatNet Program (Rs. 1.39 lakh crore approved on 4 August 2023), they have informed the Committee that:-

”Master Service Agreement (MSA) has been signed between BSNL & selected Project Implementation Agencies selected through open competitive bidding in 12 packages (in between Feb-25 to June-25) covering 15 States and 03 UTs and 1,36,655 GP (~52% of all GPs). Implementation work has been initiated in these 12 packages. A summary of achievements and progress under the utilization models: FTTH connections, dark fibre leasing, and Wi-Fi hotspots in public spaces as provided by the Department are as follows”-:.

Utilization of BharatNet, as on 28.02.2026:

S. No.	Utilisation Model	Utilisation
1	Active FTTH connections*	9,48,237
2	Dark Fibre leased (fibre Kms)	1,24,599
3	Leasing of Bandwidth (in Mbps)	4,01,654
4	FTTH Data consumption (in TB)*	1,77,371

*Data as per BharatNet UNMS portal

34. On the steps being taken to improve network utilization and end-user adoption with respect to the current FTTH connections which was 13.31 lakh and bandwidth leasing at 2.30 lakh Mbps the Department has stated that:

“Under Amended BharatNet programme, 1.5 crore FTTH connections are to be provided across all States/UTs with priority to connect Government Institutions including schools, Primary Health Centers, Anganwadis, Panchayat offices etc., using the BharatNet Udyamies (BNUs) model, over a period of five years, with subsidy support from DBN.

Interactions have been held by BSNL/DBN with the User Ministries/Departments to seek the demand for high-speed data connections for the institutions running in rural areas.

Demand registration portal has been developed by BSNL.

BSNL has developed Franchisee Management System (FMS) for on boarding the BharatNet Udyamies”.

II. Technology Mix and Infrastructure Strategy

35. When the Committee desired to know how the Department decided between OFC, Radio or Satellite technologies for remote or difficult terrain Gram Panchayats the reply was as under:-

“BSNL (being PMA) has floated the RFP for selection of Project Implementation Agency (PIA) who shall implement on Design Build Operate and Maintain (DBOM) Model wherein PIA shall execute GP connectivity in ring preferably through Underground laying. However, wherever, the same is not possible, the PIA shall represent the same to the Independent Engineer (IE) who after verification with the field conditions shall recommend to BSNL. BSNL will take a final decision for deployment of alternate technology to connect these GPs based on the recommendation of IE and the field report”.

36. Regarding the potential of IP-MPLS ring topology to improve reliability and performance over the earlier linear topology, the Department replied that:-

“IP-MPLS allows better traffic management and QoS compared to GPON. Linear topology is susceptible to disruption because if a cut happens, then further network gets disconnected. For reliable network, ring topology is imperative because if a fibre gets cut at one point, the signal can be transmitted through other parts of the ring network and services can be maintained”.

37. To a query of the Committee as to how the Department ensured consistent 25 Mbps minimum speed per subscriber in rural areas, considering infrastructure limitations, the reply of the Department was:-

“Under Amended BharatNet programme, BSNL will provide Internet Leased Line (ILL) connectivity to all Blocks (at BharatNet Point of Presence) with sufficient bandwidth to ensure minimum 25 Mbps download speed to every Home/Institutional customer. Accordingly, the monthly tariff plan of 25 Mbps or above are being offered to the customers by BSNL”.

38. About demand assessment and prioritization for the planned 3.8 lakh non-GP villages under the Amended BharatNet Programme, the Department stated that:-

“As per Amended BharatNet Programme, BharatNet network is being expanded beyond the proposed 2.64 Lakh GPs on demand basis. When a demand of 5 or more FTTH connection arises in a non-GP village (if GP is lit on BharatNet network), the non-GP village will have to be made feasible by extending the BharatNet network up to that village and the FTTH connections will be provided to the customers”.

III. Project Management, Monitoring and Delay

While examining the implementation of the scheme, the Committee desired to know that with BSNL being a Project Management Agency, how was its performance being monitored and ensured across project packages. In response to the query, the Department in their written submission informed that:-

“Empowered and Steering Committees have been constituted for monitoring the implementation of ABP including performance of Project Management Agency (PMA). Review meetings are being held on regular basis by DoT/DBN to monitor ABP implementation work of PMA & PIA. Besides, for technical monitoring Central –Network Operations Centre (C-NOC) and State-NOCs in each package are being setup”.

39. On the issue of AI-driven Automated Progress Monitoring System for construction of Mobile Towers under USOF Projects, the Department informed the Committee that:-

“An agreement was signed with M/s Mazars on 02.07.2024 to design, develop and implement a mobile-based AI-driven Progress Monitoring System, which enables proper tracking and monitoring of mobile tower construction projects widespread in rural and remote areas.

The solution is designed to monitor progress of mobile towers being commissioned under various DBN projects across India. This includes regular monitoring of various construction phase such as excavation foundation, casting, tower erection and related infrastructure at construction sites using app-based AI analysis of site info. The application features a centralized reporting mechanism, with updates which are analysed automatically using AI, accessible through an integrated dashboard.

The developed system empowers DBN for monitoring the status and conditions of various towers being commissioned under various mobile projects throughout the project implementation cycle to record project progress.

The web portal and e-mulyankan App has been developed for uploading the images of towers and other equipment installed at the tower locations. Testing with site data inputs was done in 4G saturation project and CCAs have been directed to use this app for validation”.

40. When specifically asked if AI-driven app-based progress monitoring system had improved outcomes for mobile tower construction, the Department informed the Committee that:-

“The AI-driven, app-based progress monitoring system (e-Mulyankan) has created a monitoring ecosystem that is faster, smarter, more cost-efficient, and fully transparent. E-Mulyankan app utilizes artificial intelligence, geo-tagging, anonymized

validation, and predictive analytics. Mobile tower sites are digitally mapped, creating verifiable, tamper-proof records of tower upgradation and construction progress through the advance feature of geo-tagging of tower locations. This not only improves the accuracy and precision of tower location data but also ensures alignment with approved plans and reducing human errors in reporting. The adoption of e-Mulyankan application has led to strengthening the planning process on an ex-ante basis. By embedding digital intelligence into the planning phase, the system allows rollout strategies to be designed with foresight optimizing resource allocation, preventing bottlenecks and minimizing delays. Its predictive data analytics capability provides decision-makers with actionable insights, enabling proactive interventions and mitigation of risks linked to geography, weather, or contractor performance. Various stages of tower construction i.e. foundation work, tower erection, equipment installation & site on-Air can be monitored site wise/ district-wise/ State-wise etc.

41. Further the Department submitted that:

The system enables:

1) Level-wise Progress Monitoring:

Tower Monitoring Effectiveness (%) = Number of Towers under Progress / Total numbers of Towers Planned

- Total No. of Towers Planned
- No. of Towers under Progress for which records captured
- Tower Monitoring Effectiveness (%)

Levels of Monitoring

- District Level
- State Level
- Circle Level
- System Anonymised user

2) Stage-wise Progress Monitoring

- **Stage 1:** Civil Work Completion Status (%)
- **Stage 2:** Tower Erection Completion Status (%)
- **Stage 3:** Equipment Installation Completion Status (%)

- **Stage 4: Site on Air (%)**

3) Geographic Site Monitoring

- % Sites on Air per region (State/UT level)

The system has also benefitted in accurately capturing the Geo-coordinates of the tower locations.”

42. Claim Settlement and Management System (CSMS)

According to the Department CSMS is an online tool of DBN dealing with the claim management of fund requested by the USP and its disbursal by the Controller of Communication Accounts (CCA). It acts as a platform between DBN HQ and CCAs for claim intimation, approval & settlement. It aids DBN HQ for centralised monitoring of subsidy disbursal.

DBN had developed an upgraded online system CSMS 2.0 which is a holistic master driven project management system that provides for subsidy management throughout the lifecycle of the project starting from project initiation, subsidy processing till financial closure and enables efficient fund monitoring. It provides for subsidy process management with automated claim validations with end to end online based system which automates all the process including claim calculations, alerts, milestone alerts and Invoice generation. This tech-based system has provision for automatic subsidy management through Application Programming Interface (API) integration of NOC of various Telecom Service Providers, data analytics powered dashboard and real-time Key Performance Indicators (KPIs) monitoring which enables the Management in speedy decision making.

It also has the feature of monitoring the challenges faced by TSPs in implementation of DBN scheme. The user credential has been shared with field units of DoT for resolution of the issues in consultation with State Governments and updation of the same in the portal for monitoring at Head Quarter level.

43. When the Committee desired to know about the benefits and outcomes of the Claim Settlement and Management System (CSMS 2.0) for speeding up USOF subsidy disbursements and KPI tracking, the Department stated that:-

“The CSMS 2.0 has been developed by the DBN to strengthen transparency, accountability and efficiency in the disbursal of subsidies. Its key benefits and outcomes are as follows:

- a) **Faster Subsidy Disbursal:** Automated workflows cut manual steps, reducing claim settlement timelines substantially.

- b) Integrated Monitoring: Linked with PMIS to validate claims against verified physical and financial progress.
- c) Enhanced Transparency: Real-time dashboards show claim status, fund use, scheme-wise progress; and
- d) Increased Accountability: E-sign submissions and geo-tagged validations have increased accountability of DBN Implementers.

Outcomes of CSMS 2.0 are as follows:

- (a) Through end-to-end workflows, e-Sign enabled approvals, rule-based automation, and real-time dashboards, processing timelines reduced significantly. It eliminated 500+ pages per claim of paperwork, significantly improving efficiency and transparency.
- (b) CSMS 2.0 has achieved large-scale adoption, emerging as the central platform for subsidy disbursement with approx. ₹14,000 crore processed digitally and more than 500 sanctions generated reflecting streamlined, milestone-linked fund flows in DBN”.

III. INNOVATIONS

(a) Third party Audit (TPA) of Digital Bharat Nidhi (DBN) funded Mobile Projects

44. An agreement has been signed with M/s ITI on 10.07.2024 for 10 years to carry out TPA work for the sites installed under various agreements signed by DBN for provisioning of Mobile Services in uncovered villages under various schemes. TPA agency will carry out Physical verification of commissioned sites, Verification of coverage evaluation in village/NH/cluster of villages through Drive Test, Verification of coverage evaluation of all other Telecom Service Providers in village/NH/cluster of villages to be covered by DBN’s site for identification of duplicate/ redundant infrastructure sites/ towers, quarterly verification of installed sites etc.

45. Elaborating upon the role of M/s ITI in third-party audits under the 10-year agreement (since July 2024) and how this was improving accountability in DBN-funded mobile projects, the Department stated that:-

“M/s ITI carries out specific activities in third party audit aimed at ensuring the proper implementation and verification of mobile infrastructure projects funded by DBN. The tasks assigned to M/s ITI include:

- a) Physical verification of commissioned sites to ensure infrastructure meets agreement terms and conditions.
- b) Coverage evaluation in villages using drive tests to assess service quality.

- c) Assessment of Telecom Service Providers (TSPs) to identify redundant infrastructure.
- d) Verification of Subsidy to ensure proper financial disbursement”.

46. As regards the findings from third-party audits and drive tests conducted by M/s ITI and how this was being integrated into ongoing and future planning, the Department stated that:-

“During third-party audits and drive tests conducted by M/s ITI, several key issues were identified, including data outages, coverage gaps, weak signal strength, and instances of infrastructure redundancy/duplication. These issues are being systematically validated and communicated to the concerned Telecom Service Providers (TSPs) for timely rectification.

These findings are being utilised for improving quality of service by ensuring timely rectification and compliance for ongoing projects. For future planning, the insights are being systematically integrated to strengthen agreement frameworks. This will enable better network planning, reduce inefficiencies and ensure that infrastructure deployment translates into measurable improvements in service quality”.

(b) Private Sector Involvement & BNUs

47. About the support mechanisms in place for BharatNet Udyamis (BNUs) to ensure last-mile connectivity and sustainable rural service delivery, the Department stated that:-

“BharatNet Udyamis (BNUs) are used for providing and maintaining last-mile connectivity (i.e. FTTH) from village to households/institutions. BNUs are given a one-time financial incentive for activating new home fibre connections (including OFC, Customer Premises Equipment, all other accessories etc.). To incentivize continuity of services, BNUs will also receive a share of the monthly revenue from the monthly bill paid by the end-customer.”

48. When the Committee desired to know about the coordination mechanisms used to prevent duplication of infrastructure between RJIL and Bharti Airtel in overlapping LWE Phase-II zones, the Department stated that:-

“Under LWE-II scheme, the bidding was invited keeping States as Bidding Units. After the bidding process, RJIL was assigned to the Bidding Units of Chhattisgarh, Madhya Pradesh, Maharashtra, and Odisha, while Bharti Airtel was assigned of Andhra Pradesh, Bihar, Jharkhand, Telangana, Uttar Pradesh & West Bengal. As the work was distributed Bidding Unit-wise without any overlap, there is no possibility of duplication of infrastructure between the two TSPs in LWE Phase-II projects”.

49. Elaborating the steps taken/being taken by the Department to resolve issues (land, power, environment) faced by RJIL, which has commissioned 4,006 towers but still 862 are pending, the Department stated that:-

“DoT/DBN has been actively pursuing resolution through the PMG portal, regular follow-ups with LSA field units and coordination with State Governments in various forums. Additionally, the MHA has been involved to address security issues that are hampering the progress. Approximately more than 1400 issues comprising of Forest, Revenue, Security & Access have been resolved which were faced by M/s RJIL. Currently, M/s RJIL is facing issues approximately at 200 locations which are mainly due to security concerns, forest/wildlife clearances and accessibility issues”.

50. When the Committee desired to know about how the supporting private partners were handling local opposition or security challenges, especially in Naxal-affected or sensitive areas, the Department stated that:-

“DoT, through coordination with Ministry of Home Affairs, Central Reserve Police Force (CRPF) & District administration and State Nodal Officers for LWE has been taking up these issues like security challenges and local opposition. Most of these issues got resolved with the active support of MHA/CRPF or by constructing the Security posts in those areas etc. Regular review meetings are conducted with LSAs and Universal Service Providers (USPs) and issues are also taken up at higher forums such as the PMG portal and State-level meetings. MHA is also holding regular meetings with State Governments and DoT for review of the progress and challenges”.

(c) North-East and Remote Areas Connectivity

51. Examining the North-East and Remote Areas connectivity, the Committee sought to know the strategies being used to maintain continuous 4G on National Highways in Meghalaya and other North Eastern States with difficult terrain. To this the Department replied that:-

“Mobile tower installations have been planned to provide maximum coverage and quality of service. Installations are supported by adequate power backup for unhindered operations. Additionally, installations are continuously monitored 24x7 from centralized network monitoring and operation stations, backed by on-field technical team for issue resolution in case the need arises. The agreements with the USPs have penal provisions for not meeting the mandated uptime”.

52. Dwelling on the innovative technologies (e.g. solar-powered towers, microwave, small cells) deployed in Arunachal Pradesh and Assam, the Department stated that:-

“The Sites have been deployed as per specifications in the bids. Sites are invariably connected on Microwave Optical Fiber Cable media to ensure adequate

bandwidth. Sites are well supported by suitable back-up power (DG set / EB / Solar panel) in addition to battery bank of adequate capacity as stipulated in the Agreement”.

53. The following is the status of provisioning of 4G services under 7287 Aspirational Districts scheme as on 28.02.2026 as submitted by the Department:

S. n o.	State	As per agreement Villages	Towers	Villages Surveyed	To be surveyed	Executable scope after survey		Towers Commissioned	Villages Covered
						Villages	Towers		
1	Andhra Pradesh	1,218	771	1,218	0	978	565	517	913
2	Chhattisgarh	699	546	662	37	504	441	226	265
3	Odisha	3,933	2,379	3,917	16	3,154	2,055	1,677	2,686
4	Jharkhand	827	625	827	0	461	308	294	422
5	Maharashtra	610	458	610	0	411	338	336	409
Total		7,287	4,779	7,234	53	5,508	3,707	3,050	4,695

Under CTDP mobile schemes in North-East States, 3,874 mobile towers have been commissioned and providing services to 5,604 villages/locations as on 28.2.2026.

54. To the specific query as to why in RailTel's NE BharatNet projects 2,383 GPs are non-lit despite laying fiber in 3,655 GPs, the Department has replied that:-

“The reasons for non-lit of 2383 GPs by RailTel include delays in installing or commissioning active equipment such as Optical Line Terminals (OLT), GPON equipment, routers, or ensuring power supply at termination points; incomplete Fibre Point of Interface (FPOI) work including feeder termination, splicing, or patching; lack of power availability at the Panchayat Bhawan or designated site; and delays in testing, quality checks or documentation needed for acceptance. Additionally, natural calamities such as floods, landslides, and cyclones have disrupted infrastructure and access in several regions, causing delays in equipment deployment and site readiness. To address these issues, targeted commissioning drives are being undertaken by implementing CPSUs like RailTel, with dedicated teams and close coordination with local administrations. PMA/FMA teams are engaged for last-mile splicing, testing, and regular maintenance patrols. Where fibre commissioning is delayed, temporary satellite/VSAT-based solutions are being deployed to ensure interim service availability. Efforts are also focused on ensuring power supply, premises readiness (e.g., Panchayat Bhawans or alternate sites), and timely completion of required documentation and quality checks to expedite activation”.

55. While elaborating about the major challenges RailTel is facing in NE States (road expansion, insurgency, fuel crisis, ROW issues), and whether a coordination mechanism with MHA, BRO, NHIDCL, and others had been formed, the Department stated that:-

“Projects in the North East face unique challenges due to difficult terrain, frequent road expansion, and the need to shift or protect optical fibre cables (OFC). These activities often cause damage or require realignment. Security and insurgency-related restrictions in certain pockets also limit the movement of teams and equipment, while fuel and logistic constraints in remote regions delay crew mobilisation. Additionally, Right of Way (RoW) and permissions from multiple agencies like State Forest departments, BRO, NHIDCL, and Railways require extensive coordination and clearances, further slowing down project execution. Periodic review meetings between RailTel, DoT, and State authorities further ensure expedited progress of the works”.

56. The Committee desired to be apprised about the detailed progress of all the projects in Islands, Border Areas and Difficult Terrain along with progress made on the Chennai–Andaman & Nicobar submarine OFC, which was currently using 243 Gbps capacity and how future growth was being planned. The Department replied as follows:-

(A) Andaman & Nicobar Islands:

(i) Submarine OFC connectivity between Main land (Chennai) and A&N Islands (Total 8 Islands with 2,312 Kms of submarine OFC)

“The Submarine Optical Fibre Cable (OFC) connectivity project establishes a total of 2,312 km of submarine OFC between the mainland at Chennai and Andaman & Nicobar Islands (A&N Islands). This network connects Port Blair and seven other islands, namely Swaraj Dweep (Havelock), Long Island, Rangat, Little Andaman (Hutbay), Kamorta, Car Nicobar, and Great Nicobar (Campbell Bay). The project was successfully commissioned on 10.08.2020. The project provides high-capacity bandwidth with 111.31 Gbps between Chennai and the islands, and 132 Gbps for inter-island connectivity, thereby significantly improving telecommunication services, digital connectivity, and disaster management capabilities in the region. The system can be upgraded to have a capacity of 6.4 Tbps, which is approximately 55 times more than the present traffic. As the data usage will increase, the capacity will be increased by procuring cards from the original equipment manufacturer (OEM).”

(ii) 4G Mobile connectivity to uncovered villages with population ≥ 10 (85 villages) & seamless coverage on NH-4 (Erstwhile NH-223) in A&N Islands (82+42 NH Towers):

“Under 4G Mobile connectivity to uncovered villages & seamless coverage on NH-4 in A&N Islands, all 68 towers under the executable scope have been commissioned and project is completed.

(iii) Saturation of 4G Mobile Services for Islands: Under 4G Saturation Scheme, 182 towers are planned after survey to provide coverage to 244 villages of Andaman &

Nicobar Islands. As of 28.02.2026, 142 BTSs are on air providing coverage to 200 villages.

(iv) BharatNet: As on 28.02.2026, BharatNet Point of Presence (PoP) at 68 GPs under BharatNet Programme are operational. Further, 9,486 FTTH connections have been provided using BharatNet. Implementation of Amended BharatNet Programme (ABP) is also underway.

(v) Satellite Bandwidth-ANI: The satellite bandwidth in the Andaman & Nicobar Islands has been augmented from 2 Gbps to 4 Gbps to improve connectivity and support digital services in the region. The Capital Expenditure (CAPEX) for this augmentation is ₹33.57 crore, while the Operational Expenditure (OPEX), which includes satellite transponder charges, is being funded by the Ministry of Home Affairs (MHA) and the UT Administration of Andaman & Nicobar Islands. The upgraded bandwidth was successfully implemented by BSNL on 09.09.2021, providing a significant boost to telecom capacity in these remote islands”.

(B) Lakshadweep Islands

(i) Submarine OFC connectivity between Mainland (Kochi) and LD Islands (1869 km) (Total 11 Islands; Kavaratti, Kalpeni, Agatti, Amini, Androth, Minicoy, Bangaram, Bitra, Chetlat, Kiltan and Kadmath):

The submarine Optical Fibre Cable (OFC) connectivity project between Kochi (mainland) and the Lakshadweep Islands (LD Islands) spans a total distance of 1,869 km, connecting 11 islands — Kavaratti, Kalpeni, Agatti, Amini, Androth, Minicoy, Bangaram, Bitra, Chetlat, Kiltan, and Kadmat. This project is designed to provide high-speed, reliable telecommunication services to these remote islands, significantly improving digital connectivity and bridging the communication gap with the mainland. The project has been commissioned on 03.01.2024 will deliver substantial network capacity with 47.31 Gbps of leased bandwidth between Kochi and the islands, and 108 Gbps for inter-island connectivity, ensuring seamless data and voice services across the archipelago. This submarine cable system will replace dependency on satellite connectivity, which currently limits speed and reliability. It will provide a robust backbone for 4G/5G mobile services, FTTH broadband connections, e-governance platforms, disaster management systems, healthcare services and educational initiatives.

Details of leased bandwidth are as follows.

- (i). Kochi – Islands: 47.31 Gbps
- (ii). Inter-Island: 108 Gbps.

The system can be upgraded to have a capacity of 1.6 Tbps, which is approximately 11 times more than the present traffic. As the data usage will increase, the capacity will be increased by procuring cards from the original equipment manufacturer (OEM).

(ii) Provision of 4G Mobile Services, Augmentation of OFC Transmission Network & Provision of FTTH services in Lakshadweep Islands:

The project focuses on the provision of 4G mobile services, augmentation of the OFC transmission network, and deployment of FTTH (Fiber-to-the-Home) services in the Lakshadweep Islands. It is aimed at enhancing digital infrastructure and improving telecom services for the island population. The initiative provides financial support from the Universal Service Obligation (USO) Fund for a period of five years, with a total project cost of ₹62.86 crore, which includes Operation & Maintenance (O&M) costs for the same period.

The scope of work under this project includes:

- (i) Upgradation of 17 existing 2G tower sites to enable 4G services, ensuring faster and more reliable mobile connectivity.
- (ii) Installation of 20 new 4G mobile tower sites, including coverage for Suheli Island, to reach uncovered and underserved areas.
- (iii) Creation of a 225 km OFC network to deliver FTTH broadband services, enabling high-speed internet access for homes, businesses and Government institutions.

The implementation of project has been successfully completed. As of now, a total of 8,261 FTTH connections have been provided across the islands. This has resulted in a significant improvement in connectivity and has provided a foundation for e-governance, telemedicine, education, tourism, and disaster management services.

(iii) **BharatNet:** Under BharatNet project, out of 10 GPs, 9 Gram Panchayats (GPs) have been connected.

(iv) Satellite Bandwidth: Lakshadweep Islands:

In the Lakshadweep Islands, the satellite bandwidth was enhanced from 318 Mbps to 1.71 Gbps, and this upgrade was successfully implemented by BSNL on 14.08.2021. A subsequent proposal to further augment the bandwidth from 1.71 Gbps to 3.46 Gbps was approved by the Digital Communications Commission (DCC) on 13.04.2021. However, this proposal was later dropped following a request from the UT Administration of Lakshadweep and the concurrence of MHA, communicated on 31.01.2022. The funding structure for this project includes a CAPEX of ₹28.26 crore (plus applicable taxes), fully financed by the Universal Service Obligation (USO) Fund, while the OPEX for satellite transponder charges is being met by the MHA and the UT Administration of Lakshadweep.

57. On being questioned as to why only 68 towers were commissioned out of 88 planned in A&N Islands and the logistical or technical challenges that was delaying the progress, the Department responded as:-

“The progress in Andaman and Nicobar Islands is constrained due to media challenges due to its remote island terrain, only VSAT connectivity is feasible. The USP has expressed inability as it is not commercially viable for it. Hence, the remaining sites

are descope with applicable liquidated damage and non-performance penalty as per the agreement clauses.”

58. About the FTTH rollout and new 4G sites transforming digital access in Lakshadweep, and the plans to expand further, the Department stated that:-

“The rollout of FTTH and new 4G sites has been successfully completed, with 4G services now fully operational across the Lakshadweep Islands. This has resulted in a significant improvement in connectivity and has provided a foundation for e-governance, telemedicine, education, tourism, and disaster management services. This project is a crucial step in bridging the digital divide and ensuring equitable access to digital services in one of India's most remote and geographically challenging regions, while also boosting economic opportunities and strengthening strategic communications”.

59. Elaborating on the project to provide mobile services in 354 uncovered villages apart from 55 served by RJIL in difficult areas and quality control and monitoring systems that were in place, the Department stated that:-

“Under 354 Uncovered and additional 55 location order, the quality control and monitoring mechanism are ensured through a mechanism of Third Party Audit. The (Equated Quarterly Subsidy) EQS part of the subsidy is released only after due verification, based on the tower uptime. There are penal provisions if the uptime is not maintained at more than 98%. Further, subsidy will be paid only in respect of the sites where mobile tower with backhaul and associated equipment is installed and commissioned and services are being provided”.

60. While furnishing a detailed progress report of all the projects in LWE Areas & Security-sensitive Zones areas and given that as of 31.07.2025, 776 towers were upgraded to 4G in LWE Phase-I areas and the key challenges in these high-risk zones, the Department stated that (two) specific schemes were ongoing for the LWE areas and the progress report and the challenges faced were as under:

1. LWE Phase-I upgradation Scheme:

Agreement was signed between DBN and BSNL on 09.05.2024 for upgradation of 2,343 2G towers to 4G technology for a duration of 11 years (1 year for Rollout and 10 years for O&M). Roll out period of the project has been extended upto March, 2026.

As of 28.02.2026, 2,275 towers have been upgraded to 4G. The key challenges are mainly due to backhaul media issues and RoW permissions.

2. LWE Phase-II Scheme:

Agreements have been signed with M/s Reliance Jio Infocomm Limited (RJIL) on 28-09-2021 for the States of Madhya Pradesh, Chhattisgarh, Odisha and

Maharashtra and with M/s Bharti Airtel Limited (BAL) on 01-10-2021 for the States of Andhra Pradesh, Bihar, Jharkhand, Telangana, Uttar Pradesh and West Bengal.

As of 28.02.2026, 1,245 locations have been covered by commissioning of 1,186 mobile towers. The key problems are due to Security challenges faced by USPs in completing the surveys, Forest and Wildlife permission, lack of road access etc.

As regards the LTE 2G-to-4G upgradation approved on 27 April 2022 (agreement with BSNL on 9 May 2024), and the meeting of May 2025 deadline, the Department stated that the Rollout of LTE Phase-I upgradation scheme has been extended up to March 2026. Around 97% towers have been upgraded as on 28.02.2026.

61. Out of 585 mobile towers planned for Border Out Posts (BOPs), only 10 were commissioned as of Oct 2024. In this regard, the Committee desired to know about the main reasons and how these delays would be mitigated. To this, the Department replied that:-

“The locations identified for provisioning 4G mobile connectivity under the BoP/BIP projects are determined by the Ministry of Home Affairs (MHA). These sites are situated along the country's border areas, where challenges such as limited accessibility, non-availability of Government land, and delays in forest clearances have been key factors contributing to execution delays. To address these issues, the Department of Telecommunications and MHA are working in close coordination with the respective State Governments and the Ministry of Environment, Forest and Climate Change (MoEF&CC). As of 28.02.2026, a total of 251 mobile towers have been commissioned, providing coverage to 337 BOP/BIP locations. Additionally, tower erection has been completed for another 98 sites.

IV. Telecom Technology Development Fund (TTDF)

62. While informing about Telecom Technology Development Fund (TTDF), the Department stated that:-

“The Telecom Technology Development Fund (TTDF) Scheme was launched by the Ministry of Communications on 1st October 2022. The scheme aims to fund research and development (R&D) in rural-specific communication technologies, fostering collaboration between academia, start-ups, research institutes, and industry to enhance the telecom ecosystem in India.

Key features of the scheme include:

- (a) Grants to Indian entities to develop technologies tailored to India's unique needs and build a telecom product ecosystem.

- (b) Promotion of R&D in Telecommunications Technologies and Solutions.
- (c) Commercialization of technology to promote Atmanirbhar Bharat and reduce dependence on imports.
- (d) Enabling affordable broadband and mobile services
- (e) Creation of Intellectual Property Rights (IPR).
- (f) Opening export opportunities while reducing imports.
- (g) Contributions to International Telecom Standard bodies.

63. Further, the Department stated that:

As on 28.2.2026, 136 R&D projects have been approved under TTDF with sanctioned funding of nearly ₹543 crore. These projects cover frontier areas including 6G, quantum communication, satellite and non-terrestrial networks, optical systems, indigenous 5G core and telecom security. Some important details are:

- (a) 6G: 104 projects amounting ₹271 crore approved covering 6G Thz test bed, transmitted module, cell free access points, RIS based hardware system, use of AI/ML in 6G etc.
- (b) 5G: 11 projects amounting to ₹34.5 crore approved covering millimeter wave power amplifier, core development, fully integrated transceiver etc.
- (c) *Quantum Communication*: 5 projects amounting to ₹22 crore approved covering Quantum Encryption Algorithm.
- (d) *Optical Communication*: 3 projects amounting to ₹174 crore approved covering Multi core fiber test bed, AI-enabled pre-emptive network control in Multiband Optical Networks, Retimer chip for transceiver, multi-core fibre couplers, Reconfigurable optical filter, SiN parametric amplifier, optical transceiver etc.
- (e) *Satellite Communication*: 4 projects amounting to ₹19 crore covering LEO satellite component, GNSS RF front end, Drones and NavIC based.
- (f) *Other domain*: 9 projects amounting to ₹22.5 crore

Reimbursement scheme: Testing and certification of telecom equipment are key enabler for Start-ups and telecom MSEs, to ensure acceptance at both national and international deployment. In order to support startups and Micro and Small Enterprises (MSEs), a scheme to reimburse testing and certification charges for startups and MSEs has been approved under TTDF. Details of this scheme are as under:

- (a) *Fund allocation*: ₹25 crore from TTDF

(b) *Eligibility*: Startups and MSEs with valid DPIIT registration / Udyam certificate are eligible for this scheme. Valid till entity's revenue ₹5 crore or less OR funding ₹10 crore or less.

(c) *Reimbursement rates*: 75% for startups, 60% for micro enterprises and 50% for small enterprises.

(d) *Reimbursement cap*: Maximum: ₹50 lakhs per Startup/MSE.

Quantum Standardisation and Testing Lab (QSTL): To establish labs aimed at accelerating research and development in quantum technologies, ensuring interoperability, reliability, and security of quantum communication systems. 59 proposals have been received which are under evaluation.

Samriddh Village — Integrated Phygital Services pilot: The Department of Telecommunications invited proposals under the Telecom Technology Development Fund (TTDF) for a pilot project to implement Integrated Phygital Services in rural villages under the Samriddh Gram initiative. The pilot will demonstrate a scalable model for delivering citizen-centric services by combining physical touchpoints with digital platforms in rural areas, leveraging BharatNet connectivity. Three projects for three locations (Ari/Umri in Madhya Pradesh; Narakoduru in Andhra Pradesh; Chaurawala in Uttar Pradesh) have been approved.

Budget approved: ₹ 5.5 crore

Objective of the call for proposal are:

- (a) Demonstrate socio-economic impact
- (b) Unified service delivery
- (c) Rural digital empowerment".

64. Regarding how the Department selected and prioritized projects under TTDF to ensure scalable solutions for rural connectivity challenges, the Department informed the Committee that:-

"The Department launched a Call for Proposals under the Telecom Technology Development Fund (TTDF) scheme to identify, innovative and offer scalable solutions aimed at accelerating telecom technology proliferation and enhancing connectivity in rural and underserved areas. A structured and transparent process is followed for selecting and prioritizing projects to ensure that approved initiatives are impactful and scalable. The guiding considerations for selection include technical feasibility, potential impact, end-to-end solution, novelty, commercialization strategy and the project team.

The evaluation and approval process is carried out in multiple stages:

- a) **Screening:** All proposals under TTDF undergo a comprehensive screening to ensure eligibility, compliance, and technical suitability. Proposals are reviewed for adherence to guidelines and administrative requirements, with non-compliant submissions recorded and set aside. Eligible proposals are further assessed by domain experts.
- b) **Evaluation by Technical Evaluation Committee (TEC):** The Technical Evaluation Committee (TEC) conducts a comprehensive assessment of proposals to ensure technical soundness and readiness for implementation. Proposals are evaluated through structured presentations and detailed scoring based on predefined technical criteria. Financial, legal and business aspects are examined using a defined checklist, with additional due diligence such as presentations. Shortlisted proposals are further assessed for financial strength, strategic planning, analytical proficiency, problem-solving capacity, operational efficiency, industry knowledge, and risk management. A consolidated evaluation report is prepared to recommend proposals that are technically robust, financially viable, and strategically strong for implementation.
- c) **Administrative Committee (AC) Review:** The due diligence report is reviewed by the Administrative Committee, which shortlists proposals for final approval”.

65. Regarding ongoing pilot projects testing TTDF-supported innovations like 5G, 6G, IoT, or quantum encryption in rural areas, the Department informed the Committee that:-

“Pilot projects are being undertaken under the Telecom Technology Development Fund (TTDF) Scheme to test and validate emerging technologies such as 5G, 6G, IoT, and quantum encryption for improving connectivity.

A Call for Pilot Projects was launched on 15th August 2023 and closed on 31st October 2023 on topics such as Free Space Optical Communication (FSOC), E-Band and V-Band communication, Ultra Band technologies, Unlicensed Band solutions, 5G Fixed Wireless Access (FWA), Indigenous 5G systems, VSAT for satellite-based connectivity, LEO/MEO satellite solutions, other innovative technologies etc. Under this category three (3) project were approved.

The objective of this initiative is to test innovative solutions in underserved areas, assess their feasibility, promote digital inclusion, support policy formulation, and generate insights for future large-scale deployment.

Selection of proposals is based on parameters such as level of innovation, technology readiness (TRL 7 or TEC-certifiable), cost reasonability, scalability potential, and availability of competing solutions. The approved pilots are of 1-year duration.

Department of Telecommunications (DoT) invited proposals under the Telecom Technology Development Fund (TTDF) Scheme for a pilot project to implement Integrated Phygital (Physical + Digital) Services in rural villages under the Samridh Gram initiative. The pilot will demonstrate a scalable model for delivering citizen-centric services by combining physical touchpoints with digital platforms in rural areas, leveraging BharatNet connectivity. Objectives of the call for proposal are:

- (a) Demonstrate socio-economic impact;
- (b) Unified service delivery; and
- (c) Rural digital empowerment”.

66. Elaborating on the performance of TTDF and other schemes monitored and evaluated by the Department and the control and review systems, Committee was informed:-

“The Department monitor and evaluate the performance of TTDF schemes through a structured framework to ensure effective implementation and achievement of objectives. The TTDF Division conducts periodic reviews of the overall scheme as well as individual project proposals. A Project Execution Committee (PEC) under each Implementing Agency (IA) for each project closely monitors projects as per the agreements/MOUs. The PEC meets as frequently as required, but at least once every quarter. The IA ensures timely and proper execution of projects without time or cost overruns. The IA provides coaching, mentoring, and technical guidance during project execution and for two years post-completion through its expert panel. There is milestone-based funding, generally released in four instalments. Beneficiaries submit periodic progress reports and utilization certificates in the prescribed format to the IA. The IA submits consolidated PEC reports to USOF/DoT. These reports are used to review fund utilization and to decide on further fund release”.

V. Public Sector Agencies–Status& Challenge

67. When asked about a detailed status about the completion of work assigned to various Public Sector Undertakings relating to Digital Bharat Nidhi, status of work, reasons for non-completions, if any and their role envisaged under the Amended Bharat Net Programme, the Department submitted that:-

“BSNL (being Project Management Agency (PMA) has floated the Request For Proposal (RFP) for selection of Project Implementation Agency (PIA) for construction and O&M of network under Design, Build, Operate & Maintain (DBOM) model; and for selection of Independent Engineers (IEs) who will do validation, audit, inspection, acceptance testing of work done by PIA.

BSNL has selected following Public Sector Undertakings as PIA:

- (a) Rail Vikas Nigam Limited (RVNL) for Uttar Pradesh (East) and Uttar Pradesh (West) packages have signed agreement with BSNL on 20.2.2025; and
- (b) ITI Ltd. has signed agreement with BSNL for West Bengal, Andaman and Nicobar Islands and Himachal Pradesh on 20.2.2025 and for NE-2 (Arunachal Pradesh, Manipur, Nagaland) on 26.6.2025.

“Further, BSNL has selected following public sector undertakings for the work of Independent Engineers (IEs) and signed agreement with:

- (a) Engineering Projects (India) Limited (EPIL) on 8.8.2025;
- (b) RailTel Corporation of India Ltd. (RailTel) on 16.9.2025; and
- (c) Broadcast Engineering Consultants India Limited (BECIL) on 30.9.2025.

These PSUs have been selected through competitive bidding process and ABP implementation work is under progress. The project envisages construction and O&M of BharatNet network for 10 years.

68. The Department added that:

“Further, BSNL has been nominated as executing agency for—

- (a) 4G Saturation, Border Outpost/ Border Intelligence Post (BoP/BIP), 4G Mobile Services- Augmentation of OFC Transmission Network & Provision of FTTH services in Lakshadweep Islands and Left-Wing Extremism (LWE)- I DBN funded mobile projects, status of which, as on 28.2.2026, are as follows:

S. no.	Project	Project cost (in crore)	Agreement signing date	Scope		Commissioned	
				Towers	Villages	Towers	Villages / locations
1	4G Saturation	30,620	February 2023	23,570	32,153	14,301	21,328
2	BOP/BIP Project	1,546	July 2023	602	730	251	337
3	Lakshadweep Islands Mobile	36	October 2024	37	37	37	37

	Project						
4	LWE Phase-I Upgradation Project	2,426	May 2024	2,340	2,340	2,275	2,275
Total		34,628		26,549	35,260	16,864	23,977

(b) Submarine OFC connectivity between Mainland (Chennai) and Andaman and Nicobar Islands and Submarine OFC connectivity between Mainland (Kochi) and Lakshadweep Islands projects. Both submarine projects are completed.

RailTel

69. The Committee desired to know about the assistance RailTel sought from Controller of Communication Accounts and DBN for expired equipment support and funds for network refresh and the efforts made to clear pending dues and network upgrade funding from DBN. In response to the query, the Department stated that:-

“Two agreements were signed between DBN and M/s RailTel on 16.1.2012 for augmentation, creation and management of intra-district Sub-Division Headquarter – District Headquarter network for transport of rural/remote area traffic on bandwidth sharing basis in NE-I (Meghalaya, Mizoram and Tripura) and NE-II (Arunachal Pradesh, Manipur and Nagaland). The agreements were valid for a period of eight years from effective date, i.e., 16.1.2012 unless revoked earlier.

188 nodes (blocks/ important towns) were to be commissioned in 19 districts of NE-I, for which subsidy of ₹89.50 crore had to be provided by DBN and 407 nodes were to be commissioned in 30 districts of NE-II, for which subsidy of ₹298.50 crore had to be provided by DBN. Total front-loaded subsidy of ₹31.46 crore was paid to RailTel for NE-I and NE-II.

RailTel has requested for extension of the project timelines multiple times. On the basis of the request received from M/s RailTel, owing to the difficulties faced in the North Eastern States, extensions were given for NE-II. Similarly, for NE-I also, extensions were given by USOF. Subsequently, M/s RailTel submitted that the delays and non-completion were due to reasons beyond their control.

Railtel also sought additional financial support, including funding for network refresh and replacement of expired equipment, over and above the awarded project cost. However, such requests for additional funds were not aligned with the provisions of the agreement(s) and tender conditions”.

B.POWERGRID

70. About POWERGRID's current initiatives to adopt smart grids or advanced HVDC systems for improved grid reliability, the Department submitted that:

(a) **Smart grids:**

- (i) **Unified Load Despatch & Communication (ULDC) scheme:** It facilitates enhanced coordination amongst National, Regional & State level control centers by increasing interoperability through a combination of various hardware & software technologies.
- (ii) **Unified Real-time Dynamic State Measurements (URTDMS):** It facilitates enhanced situational awareness of the state of the grid and to detect & predict grid events which can cause disturbances. This is being done through implementation of **Phasor Measurement Units (PMUs)** in the grid.

(b) **HVDC systems:**

- (i) Deployment of VSC-based HVDC technology: POWERGRID has commissioned India's first advanced Voltage Source Converter (VSC) HVDC link and is planning to implement new such links. VSC based HVDC offers superior operational flexibility over conventional Line commutated Converter (LCC) systems.

POWERGRID is refurbishing its HVDC systems which have completed their useful life, with deployment of latest control, protection and technological systems.

71. Regarding POWERGRID managing grid stability amidst growing renewable energy integration, the Department stated that:-

"POWERGRID is managing grid stability amidst growing renewable energy integration by:

- (a) Implementation of requisite transmission system
- (b) Establishments of **Renewable Energy Management Centres (REMC)**: 13 nos. REMCs have been implemented in renewable resource rich areas for forecasting and scheduling of sources. These have been helpful in smooth integration of renewable energy resources into the national grid. One more such REMC is under implementation in Leh, Ladakh.
- (c) Installation of Static Var Compensators (SVCs) and Static Synchronous Compensators (STATCOMs): 20 numbers STATCOMs/ SVCs have been installed. Additional ten (10) STATCOMs are under implementation. These State-of-the Art devices are fast-acting devices capable of providing or absorbing reactive current and thereby regulating the voltage at the point of connection to a grid".

72. Dwelling upon the strategy for growth of PowerTel (telecom business of POWERGRID) in a competitive market, the Department stated that:-

“POWERGRID has been undertaking Telecommunications & Digital Technology business through its wholly owned subsidiary, **POWERGRID Teleservices Limited (PowerTel)**. Optical fiber (Optical Ground Wire - OPGW) laid over its power transmission are being utilized to undertake Telecommunications & Digital Technology business in compliance with the electricity regulatory framework.

PowerTel provides Telecom services - *point to point leased line, MPLS-VPN, Internet leased lines & International long distance* - with capacity ranging from Mbps to multiple Tbps, to other telecom operators, large OTT players, global IT companies, Govt. Departments, CPSEs and Internet Service Providers (ISPs).

73. Further, it was stated that the business segment in which PowerTel operates are witnessing highly competitive intensity with regular fall in rates. PowerTel's strategy for growth in such a competitive market included the following:

- a) Continuous marketing efforts including regular physical meetings at customer offices, participation in conferences, exhibition etc., to increase business volume of existing customers & to acquire new customers.
- b) Regularly augmenting its Telecom Network including adoption of new technology, leasing of fiber from other service providers / State utilities etc. to cater to the growing demands of customers. Considering the recent development, this strategy also includes creating network for connecting major data hubs.
- c) Ensuring high level of operational performance to ensure customer satisfaction together with quick restorations and meeting Service Level Agreements (SLAs).
- d) Exploring new business opportunities:
 - i. **International Long Distance:** 1st connectivity provided to Bhutan with further services planned to be provided to Nepal & Bangladesh.
 - ii. **Data Centre business:** Implementing pilot Data Centre at Manesar and to take up Zone-2 DR DC in southern India.
- e) Upscaling the tech and marketing teams with latest skills and managerial capabilities to handle changing business environment”.

74. Enumerating the key BharatNet Phase-I challenges faced by POWERGRID while laying underground OFC in difficult terrain, the Department stated that the main challenges faced were:

- i. “Difficult physical terrain and lack of access -Kachcha, Pukka and rocky areas, forests, railway land (Not railway crossing) and widely dispersed villages made trenching and cable-laying slow, required special heavy machinery (HDD) and sometimes manual work making it challenging.
- ii. Right-of-Way (RoW) delays and multi-agency permissions –Long procedures to get permissions from NHAI, forest departments, Railway, mining areas, working space along roads, State/ utility authorities delayed works and forced re-routing etc. This required multiple visits & co-ordination by executing agency with concerned statutory authorities & BBNL.
- iii. Panchayat Bhawan – Isolated from village, narrow approach road, power supply, unavailable Panchayat Bhawan etc.
- iv. Non-readiness of BSNL Network was a challenge for end-to-end commissioning.
- v. Timely availability of GPON equipment at GPs
- vi. Other issues: Short seasonal window for work due to rains, farming”.

75. Submitting about asset monetization via the InvIT model and its impact on POWERGRID’s Financials and infrastructure growth, the Corporation informed the Committee that:-

“POWERGRID undertook monetization of assets through Infrastructure Investment Trust (InvIT) model to mobilize resources to meet capital requirement for Company’s growth. Accordingly, POWERGRID monetized its five (05) subsidiaries through POWERGRID Infrastructure Investment Trust (PGInvIT). A total fund of **Rs. 8,876.56 crore** was raised during FYs 2020-21 (Rs. 8,369.93 crore) & 2024-25 (Rs. 506.63 crore) through PGInvIT. Due to this, profit (net of related expenses) of Rs. 3,759.51 crore and Rs. 246.6 crore was realised during FYs 2020-21 & 2024-25. POWERGRID, as the sponsor of PGInvIT, also holds 15% of its total units (13.65 crore units), from which POWERGRID has earned cumulative distribution of Rs. 675.67 crore since the inception of the trust. The proceeds of asset monetization have been deployed for fresh investment for the transmission network expansion and other capital schemes of POWERGRID. Monetization allowed POWERGRID to recycle capital from mature assets into new and under-construction transmission projects, supporting its capex plan.”

76. General Project Oversight and Reporting

When the Committee desired to know about the mechanism for coordination among PGCIL, RailTel, CSC-SPV, Bharti Airtel, RJIL, and other Project Implementing Agencies (PIAs), the Department submitted that:-

“Project-wise & organization-wise, nodal officers have been designated for coordination among PGCIL, RailTel, CSC-SPV, Bharti Airtel, RJIL, and other PIAs. Under Amended BharatNet Program, BSNL as the Project Management Agency (PMA) has floated the Request For Proposal (RFP) for selection of Project Implementation Agency (PIA) and IE, has signed agreements for implementation with the PIAs and coordinates & reviews the implementation. In respect of DBN projects implemented through M/s.CSC-SPV, the implementation period is over”.

77. On the progress reports, physical verification, drive tests, and audit results used to revise targets or disbursement schedules, the Department informed the Committee that:-

“Disbursement schedules are based on financial conditions of respective agreement. Funds are being disbursed as per ‘payment milestones’ which are linked with progress reports and physical verification”.

78. With respect to the existence of data integration systems for seamless coordination between USOF, BSNL, PIAs, and other partners, the Department informed the Committee that:-

“Digital Bharat Nidhi (DBN), BSNL, PIAs, and other partners use a combination of project-specific platforms, and other mechanism for seamless coordination. Rather than a single universal system, a modular approach is used for specific projects like BharatNet and the 4G Saturation Project. Further, project-wise and organization-wise, nodal officers have been designated for close and seamless coordination”.

VI. Miscellaneous

79. On Land Acquisition and Utilization

The Committee desired to know the project-wise and State-wise list of towers installed under AWE Phase-1 and Phase-2 along with the source of land (i.e., Government- provided land vs private acquisition). In response to the query, the Department informed about the source of land used for Tower installations of all the schemes as under:

Scheme	State	Source of allotted Land	
		Govt. (Revenue & Forest)	Private
LWE Phase-II	Andhra Pradesh	172	25
LWE Phase-II	Bihar	3	0

Scheme	State	Source of allotted Land	
		Govt. (Revenue & Forest)	Private
LWE Phase-II	Chhattisgarh	570	1
LWE Phase-II	Jharkhand	76	1
LWE Phase-II	Madhya Pradesh	18	6
LWE Phase-II	Maharashtra	61	20
LWE Phase-II	Odisha	372	8
LWE Phase-II	Telangana	16	0
LWE Phase-I (2G)	Andhra Pradesh	62	0
LWE Phase-I (2G)	Bihar	250	0
LWE Phase-I (2G)	Chhattisgarh	226	297
LWE Phase-I (2G)	Jharkhand	799	17
LWE Phase-I (2G)	Madhya Pradesh	22	0
LWE Phase-I (2G)	Maharashtra	63	1
LWE Phase-I (2G)	Odisha	255	1
LWE Phase-I (2G)	Telangana	172	1
LWE Phase-I (2G)	Uttar Pradesh	15	63
LWE Phase-I (2G)	West Bengal	87	9

80. Further, out of the total 3,701 towers that had been installed on land acquired through formal land acquisition processes post-2013 LARR Act, the Department submitted that:-

“The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, effective from 1.1.2014, replaced the Land Acquisition Act, 1894 to provide fair compensation, mandatory rehabilitation and resettlement for land acquisition in India.

The land requirement for a mobile tower is around 225 Sqm and land is taken on tenure lease basis. In mobile projects, land already been available with State, has been given

to TSPs for installation of tower on a tenure lease basis. If government land is not available or the allotted land is not appropriate, TSPs themselves enter into an agreement with private entities for this purpose.

The source of land for 3,698 towers commissioned under these two projects is as under:

Scheme	Source of land		
	Government (Revenue and Forest)	Private	Total
LWE Phase-I (2G)	1,951	389	2,340
Comprehensive Telecom Development Plan (CTDP) for the North Eastern Region (NER)	0	1,358	1,358
Total	1,951	1,747	3,698

81. The Committee desired to know that when there was a provision of giving free-of-cost land by State Governments under what circumstances was private land acquired, and what were the criteria for such decisions. To this, the response of the Department was as under:-

“Under DBN funded Mobile schemes, only in the case of LWE Phase-II scheme, the agreement requires USPs to *“Supply, install, test, commission and maintenance of telecom towers on the **land provided by respective State Government.....**”*. For all other schemes, no such provision exists in their agreements. However, in most places, the land allotted by Government has been used. USPs have obtained land from Private entities due to non-availability of any State Government land”.

82. About the summary of land acquisition timelines, especially where delays occurred due to forest clearance, and how these impacted project deadlines, the Department submitted as follows:-

Timelines of the DBN-funded mobile schemes are as under:

Scheme	Rollout period valid up to (as per agreement)	Current rollout period valid up to
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LWE Phase-II*	March 2023	May 2026
LWE Phase-I Upgradation	May 2025	Mar 2026
7,287 Aspirational	November 2023	May 2026
502 Aspirational*	March 2022	June 2026
354 Uncovered Villages*	January 2021	Completed
Arunachal and two districts of Assam	April 2023	March 2026
Meghalaya*	March 2022	March 2026
ANI	March 2022	Completed
Lakshadweep	September 2025	Completed
4G Saturation *	December 2023	March 2026
BOP/BIP*	January 2025	March 2026

*Additional locations/villages have been added in the Scheme after signing of agreement.

83. Informing the Committee that additional locations/villages have been added in the Scheme after signing of Agreement, it was further communicated by the Department that:

“The above schemes have seen delays due to various factors, which have hampered the progress and due to which the rollout timelines have been extended from time to time in accordance with the terms and conditions of the respective agreements. Delays have been seen in most of the projects, mainly due to forest and wildlife clearances, RoW clearances, Security concerns, Road Inaccessibility issues and local issues etc. These delays have contributed for the delay in the project deadlines”.

84. Following are the source of land used for Tower installations of all the schemes:

Scheme	Source of allotted Land	
	Govt. (Revenue & Forest)	Private
LWE Phase-II	1,288	61
LWE Phase-I Upgradation	1,951	389

7287 Aspirational	2,845	714
502 Aspirational	109	137
354 Uncovered Villages	6	289
Arunachal & 2 Dist. of Assam	200	500
Meghalaya	1	435
A&N Islands	54	14
Lakshadweep	24	13
4G Saturation	13,573	3,372
BOP/BIP	457	18
Total	20,508	5,942

85. Non adherence to Project Timelines and Delays

When asked about the reasons for non-adherence to the timeline, particularly for agreements signed in May 2024 for the implementation of specific schemes (like BOP, PIP) which was to be completed within one year of signing, the Department replied that”

“The locations identified for provisioning 4G mobile connectivity under the BoP/BIP projects are determined by the Ministry of Home Affairs (MHA). These sites are situated along the country's border areas, where challenges such as limited accessibility, non-availability of government land, and delays in forest clearances have been key factors contributing to execution delays. To address these issues, the Department of Telecommunications and MHA are working in close coordination with the respective State Governments and the Ministry of Environment, Forest and Climate Change (MoEF&CC). As of 28.02.2026, a total of 251 mobile towers have been commissioned, providing coverage to 337 BoP/BIP locations. Additionally, tower erection has been completed for another 98 sites”.

86. Detailing the steps being taken to ensure timely completion of remaining towers under the ongoing 4G projects, the Department informed that:

- a. Maintain close coordination with State Governments to expedite pending activities, including site surveys, land allotment, resolution of accessibility challenges, and provisioning of electricity connections at planned locations.

b. Engage proactively with the Ministry of Environment, Forest and Climate Change (MoEF&CC) and respective State Forest Departments to secure pending forest clearances.

c. Escalate unresolved issues to the Cabinet Secretariat to facilitate enhanced Centre-State coordination and ensure timely resolution through inter-Ministerial mechanisms.

Need for Technology Use and Monitoring

87. While responding to the query about details of technological tools being used for project monitoring, including, PM Gati Shakti portal, PMIS(Project Monitoring Information System), AI-based verification tools and how the data from these tools was being used to release stage-based payments, it has been replied that:

“The Department, has adopted a range of digital tools to strengthen monitoring of telecom infrastructure projects and ensure evidence-based disbursal of stage-wise payments. The details are as follows:

a. PM Gati Shakti: PM Gati Shakti portal is used for planning of media, locations of Towers etc.

b. PMIS:

- PMIS serves as a centralized platform for monitoring both physical and financial milestones of DBN-funded projects.
- It provides GIS-enabled dashboards, mobile-based field data collection, and drill-down reporting for towers.
- Progress recorded in PMIS is directly linked with the Claim Settlement and Management System (CSMS 2.0) to validate subsidy claims.

c. AI-based Verification Tool (e-Mulyankan)

- AI-enabled verification systems validate field-level data through geo-tagged photographs, timestamps, and anomaly detection in Mobile Tower Projects. It works in three key phases – plinth construction, tower height monitoring & equipment installation.
- This ensures that physical rollouts are independently verified before financial claims are processed”.

88. The Committee desired to know how the Ministry was verifying the authenticity of uploaded photographs and field data under AI-based monitoring tools. In response to the query, the Ministry stated that:-

“DBN verifies the authenticity of uploaded photographs and field data under AI-based monitoring tools through a combination of automated and institutional mechanisms, as follows:

- **Geo-tagging and timestamping:** Every photograph and field entry is embedded with location coordinates and time stamps to confirm that the data has been captured at the designated project site and at the correct stage of implementation.
- **AI-driven validation:** Automated algorithms detect anomalies such as duplicate images, mismatched coordinates, or tampered files, thereby ensuring integrity of submissions.

Fund disbursement is based on financial conditions of the agreement subject to TPA verification”.

89. When asked to provide State-wise and scheme-wise list of locations targeted vs completed and current population coverage (benefitted) vs projected coverage, the Department submitted the following:

- As on 28.02.2026, 33,422 towers have been planned out of which 22,840 towers commissioned. State-wise list of tower planned and commissioned in the ongoing 4G schemes is as under:

State/UT	Towers Planned	Tower commissioned
Andaman and Nicobar Islands	251	214
Andhra Pradesh	2979	2035
Arunachal Pradesh	1781	830
Assam	981	569
Bihar	452	387
Chhattisgarh	2823	1700
Dadra and Nagar Haveli and Daman and Diu	17	16
Goa	54	39
Gujarat	870	686
Haryana	9	5
Himachal Pradesh	789	620
Jammu and Kashmir	1232	585
Jharkhand	2051	1873
Karnataka	1069	659
Kerala	391	327
Ladakh	386	266
Lakshadweep	37	37
Madhya Pradesh	2261	1462
Maharashtra	3913	2772

Manipur	223	76
Meghalaya	696	623
Mizoram	78	25
Nagaland	362	278
Odisha	5182	3584
Punjab	55	43
Rajasthan	1969	1436
Sikkim	59	11
Tamil Nadu	356	256
Telangana	623	387
Tripura	134	104
Uttar Pradesh	464	260
Uttarakhand	695	557
West Bengal	180	118
Grand Total	33,422	22,840

- ii. As on 28.02.2026, Scheme-wise list of Tower planned and commissioned in the ongoing 4G schemes is as under:

S. n o.	Scheme	Towers Planned	Tower commissioned
1	4G Saturation	23,570	14,301
2	BOP/BIP scheme	602	251
3	Lakshadweep Islands	37	37
4	LWE Phase-I Upgradation	2,340	2275
A. Sub-Total (BSNL)		26,549	16,864
5	354 Uncovered Villages	295	295
6	Uncovered Villages and National Highways of Meghalaya	437	436
7	502 Aspirational Districts	248	245
8	Uncovered villages and National Highways of Andaman and Nicobar Islands	68	68
9	LWE Phase-II	1,377	1186
10	Uncovered villages of Arunachal Pradesh and 02 Districts of Assam	701	696
11	7287 Aspirational Districts	3747	3050
B. Sub-Total (Pvt. TSPs)		6,873	5,976
Grand Total (A+B)		33,422	22,840

28.73 lakh subscribers (~1.4 crore people benefitted) have used the services as of February 2026. Data shared by USPs through NOC and monthly report provided the increase of coverage. For the population benefitted, an assumption of five people in a family has been taken. The projected coverage after completion of ~34,700 towers

(including completed NER project), ~40.5 lakh subscribers likely to be served (~2 crore people would get benefitted).

90. Further, the Department informed the Committee that:

“28.73 lakh subscribers have used the services during the month of February 2026. Average data consumption per subscriber (monthly) for the month of February 2026 is 21.48 GB. Total data traffic (in TB) Scheme wise as provided by the Department is as under:

Scheme	Tower commissioned	Number of connected users	Data consumption (in TB)
354 Uncovered Village	295	1,10,953	2,138
4G Saturation	14,301	5,27,656	15,998
502 Aspirational District	245	96,838	1,854
7287 Aspirational District	3,050	5,88,650	11,728
Uncovered villages and National Highways of Andaman and Nicobar Islands	68	11,690	147
Uncovered villages of Arunachal Pradesh and 02 Districts of Assam	696	1,43,711	3,050
BOP/BIP	251	10,296	198
Lakshadweep Islands	37	4,657	211
LWE phase I Upgradation	2,275	69,923	1,627
LWE Phase- II	1,186	3,15,313	6,080

Uncovered Villages and National Highways of Meghalaya	436	1,05,008	3,704
NER project (Completed)	1,358	8,88,206	13,535
Total	24,198	28,72,901	60,269

Average data consumption per subscriber (monthly) for the month of February 2026 is 21.48 GB, while National average data usage per subscriber (monthly) for the quarter ending December 2025 is 25.70 GB”.

On Scheme-wise Implementation Status

91. Regarding detailed implementation status report for each of the schemes as provided by the Department is as follows:

i. “LWE Phase-I (2G):

The Cabinet on 20.08.2014 had approved a project for provisioning of mobile services (2G based) in 2199 locations identified by Ministry of Home Affairs (MHA) in the States of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh and West Bengal, which are affected by Left Wing Extremism (LWE). The work was awarded to M/s BSNL on nomination basis and Agreement was signed on 30.09.2014. Under the agreement, DBN would fund CAPEX for 1836 sites and OPEX for 2199 (1836 + 363 towers already installed by BSNL in these areas) for five years. The cost of the project was Rs 4,080.78 crore. Subsequently MoC & IT in June 2016 approved the provision of mobile services for additional 156 sites under the LWE agreement. Thus, total 2355 sites were approved under LWE-I Project.

Out of these 2355, sites, 2340 sites are installed, commissioned and providing services and the Project is completed. Seven sites in Chhattisgarh were burnt by Naxalites and five Sites in Odisha could not be installed due to non-permission by State Govt. Project has been completed.

ii.LWE Phase-II (4G):

Agreements have been signed with M/s Reliance Jio Infocomm Limited (RJIL) on 28-09-2021 for the States of Madhya Pradesh, Chhattisgarh, Odisha and Maharashtra and with M/s Bharti Airtel Limited (BAL) on 01-10-2021 for the States of Andhra Pradesh, Bihar, Jharkhand, Telangana, Uttar Pradesh and West Bengal. Till 28.02.2026, 1,186 locations have been covered by commissioning of 1,245 mobile towers.

iii.CTDP-NER (2G):

Under this scheme, Mobile connectivity on 2G is to be provided by setting up 2004 towers in the uncovered villages and along National Highways of Assam, Manipur, Mizoram, Nagaland, Tripura, Sikkim, and Arunachal Pradesh (National Highways only) of North-East region.

The Agreements were signed with Bharti Airtel Ltd. (BAL) and Bharti Hexacom Ltd. (BHL) on 08.12.2017 for implementation of the project. The extended rollout period of the scheme was 'upto October 2020'. Total 1,358 towers have been installed and are providing services covering 1246 villages and 283 National Highway sites.

iv. Schemes operated by BSNL:

There are three ongoing schemes being implemented by BSNL namely, 4G Saturation Scheme, BOP/BIP Scheme and LWE Phase-I Upgradation Scheme.

a) 4G Saturation Scheme:

The Union Cabinet on 27.07.2022 approved a project for saturation of 4G mobile services in uncovered villages across the country at a total cost of Rs. 26,316 cr (excluding taxes). The project has provision to provide 4G mobile services in 24,680 uncovered villages in remote and difficult areas. The project has a provision to include 20% additional villages on account of rehabilitation, new-settlements, withdrawal of services by existing operators etc.

In addition, 6,279 villages having only 2G/3G connectivity shall be upgraded to 4G. The project is being executed by BSNL. In this regard an agreement has been signed with BSNL on 06.02.2023. As per Cabinet note, target date for completion of the project was 500 days from the date of signing of agreement. Rollout period have been further extended upto 31.03.2026.

Till 28.02.2026, 23,570 towers including upgradation of 870 towers have been planned. Out of which 14,301 towers have been made on air covering 21,328 villages

b) BOP/BIP Scheme:

The Union Cabinet in its meeting held on 24.03.2023 has approved the Project for the Provision of 4G based mobile services at 1,117 locations of Border Out Posts (BOPs) of BGFs and Border Intelligence Posts (BIPs) of IB on nomination basis to BSNL. Tripartite agreement has been signed with MHA, BSNL & DBN on 27.07.2023. 584 towers have been planned by BSNL to cover 1189 locations. As of 28.02.2026, 251 mobile towers are commissioned and are providing coverage to 337 locations.

c) LWE Phase-I Upgradation scheme:

Agreement was signed between DBN and BSNL on 09.05.2024 for upgradation of 2343 2G towers to 4G technology for a duration of 11 years (1 year

for Rollout and 10 years for O&M). BSNL has given work order by inviting the tender for passive infra to L1 bidder i.e. M/s PTPL for installation, commissioning and O&M for 5 years which may be extendable by 5 more years.

As of 28.02.2026, 2,275 towers have been upgraded to 4G. The key challenges are mainly due to Backhaul media and RoW permissions.

v. Schemes implemented through private operators:

There are seven ongoing schemes being implemented by Private operators. Details are as under:

a) 7287 Aspirational Districts Scheme:

The Union Cabinet on 17.11.2021 had approved a project for provisioning of 4G based mobile services in 7,287 uncovered villages of 44 Aspirational Districts of 5 States - Andhra Pradesh, Chhattisgarh, Jharkhand, Maharashtra and Odisha.

Till January 2026, survey for 7,143 villages have been completed and are in progress for remaining uncovered villages. After physical survey, scope is reduced to cover only 5,454 villages by commissioning of 3,653 towers mainly due to existing coverage. Till 28.02.2026, 4,695 villages have been covered by commissioning of 3,050 towers.

b) 502 Aspirational Districts Scheme:

On 23.12.2019 DCC had approved a project for provisioning of 4G based Mobile Service in 502 uncovered villages of 24 Aspirational districts of four States - Uttar Pradesh, Bihar, Madhya Pradesh & Rajasthan.

Agreement has been signed with the Project Implementing Agencies i.e. M/s RJIL on 17.03.2021 for Madhya Pradesh and Uttar Pradesh Bidding Unit and on 22.03.2021 with M/s Bharati Airtel Ltd. for Bihar bidding unit and M/s Bharati Hexacom Ltd. for Rajasthan bidding unit.

Till 28.02.2026, 245 towers have been installed and commissioned covering 282 villages under the scheme.

c) LWE Phase-II Scheme:

Agreements have been signed with M/s Reliance Jio Infocomm Limited (RJIL) on 28-09-2021 for the States of Madhya Pradesh, Chhattisgarh, Odisha and Maharashtra and with M/s Bharti Airtel Limited (BAL) on 01-10-2021 for the States of Andhra Pradesh, Bihar, Jharkhand, Telangana, Uttar Pradesh and West Bengal. Till 28.02.2026, 1,186 locations have been covered by commissioning of 1,245 mobile towers.

d) Arunachal and 2 Districts of Assam scheme:

The proposal for 4G mobile services in Arunachal Pradesh and 2 districts of Assam was approved by Cabinet on 09.12.2020.

Agreement has been signed on 29.10.2021 with M/s BHL for Arunachal Pradesh at the cost of Rs 823.61 cr. including VSAT charges and on 1.11.2021 with M/s RJIL for two Districts of Assam at the cost of Rs 431.88 Cr. including VSAT charges. Survey work of all villages has been completed.

Till 28.02.2026, in Arunachal Pradesh 474 towers have been installed and commissioned covering 936 villages. In two Districts of Assam, 222 sites have been installed and commissioned covering 303 villages.

e) Meghalaya Scheme:

Agreement has been signed with M/s Bharti Hexacom Limited (BHL) on 04.09.2020 for 889 sites (including 11 NH Sites) covering 1,164 villages and 11 NH locations. The project cost is Rs 804.37 crore including VSAT charges. Survey has been completed for all 1,175 villages/NH. The scope of tower sites has been revised after the survey. Till 28.02.2026, 436 towers have been installed and commissioned covering 626 villages & 3 NH locations under the scheme.

f) 354 Uncovered villages Scheme:

On 23.12.2019, DCC approved a project for provisioning of 4G based mobile services in the in 354 uncovered villages of border villages of J&K, Ladakh, Himachal Pradesh, Uttar Pradesh, Bihar, Rajasthan, Gujarat, Uttarakhand and other priority areas with estimated cost of Rs. 424.8 cr.

Agreement has been signed on 28.04.2020 with implementing agency i.e. M/s Reliance Jio Infocomm Ltd. The cost of the project is Rs. 336.9 cr. (excluding VSAT Charges). Under executable scope, 295 towers have been installed and commissioned covering 319 villages under the scheme and the project is completed.

g) Andaman & Nicobar Islands Mobile Scheme:

Agreement signed between DBN and M/s RJIL on 15.03.2021 to provide mobile services on 4G Technology in identified uncovered villages and along uncovered National Highway.

Under executable scope, 68 tower sites have been commissioned covering 69 locations (22 villages and 47 NH sites).

92. When the Committee enquired about the current financial progress (funds allocated vs funds utilized) for each of the ongoing 11 projects, the Department submitted as under:

Details of funds allocated/ utilised under major ongoing mobile projects of Digital Bharat Nidhi (as on 28.2.2026)

In crore ₹

S. No.	Name of the major project	Project cost	Funds disbursed/utilised
1	4G saturation project	30,620	9,417.88
2	Border out Post / Border Intelligence Post	737	119.93
3	Infrastructure project in Lakshadweep	63	14.86
4	LWE Phase-I (upgradation and O&M)	2,426	848.53
5	354 uncovered villages	301	245.17
6	4G mobile services in Meghalaya	398	249.80
7	502 Aspirational Districts	233	152.55
8	4G based mobile services in ANI	110	40.46
9	LWE Phase-II	1,578	683.47
10	Mobile services in AP and 2 districts of Assam	667	331.11
11	7287 Aspirational Districts	2,876	1,357.36
	Total	40,009	13,461.12

On Accountability and Contract Terms

93. About the mechanisms in place to hold implementation agencies accountable (BSNL or private) for missing agreed deadlines, the Department stated that:-

“The schemes being implemented by Private operators are bound by the timelines as per the agreements and amendments given from time to time. Following mechanism are followed if the USPs are missing the agreed deadlines:

- i. **Liquidated Damages (LD):** For delays in commissioning beyond the agreed timelines, LD is levied at applicable rates, subject to a maximum of 10% of the subsidy per site, as per the terms and conditions of the Agreement. In case of Mobile projects executed by BSNL, quantum of LD will be in accordance with the LD provisions contained in the Contract Agreement of BSNL with its successful bidder, consistent with the bid document.

- ii. **Non-Performance Penalty:** In case a site is not constructed/commissioned at all, a Non-Performance Penalty of 5% of the subsidy is imposed.
- iii. **EQS Payments basing on the uptime:** Subsidy is disbursed on a quarterly basis, linked to Equated Quarterly Subsidy (EQS) payments, only after verification of uptime (>98%) by CCAs. Any failure to maintain uptime leads to deduction in subsidy as per the terms and conditions of the Agreement”.

94. Regarding details of penalty imposed or warning issued to any agency for delay, the Department stated that:-

“As per the clauses of the Agreement under DBN mobile schemes, LD up to a maximum of 10% of the subsidy per site may be levied. Accordingly, OMs dated 22.09.2025 have been issued regarding the levy of LD on USPs for delay in commissioning sites under schemes such as LWE Phase-II, 7,287 Aspirational Districts, 502 Aspirational Districts, 354 Uncovered Villages and Andaman and Nicobar Islands. The details of Liquidated Damages (LD) imposed on DBN’s Implementer under various DBN’s projects are as given below:

Annexure II

Liquidated damages under DBN schemes since FY2020-21 to FY2025-26 (up to 28.02.2026)

In crore ₹

S. No.	Financial year	Liquidated damages amount
1	2020-21	1.31
2	2021-22	2.33
3	2022-23	1.01
4	2023-24	4.51
5	2024-25	6.29
6	2025-26 (up to 28.02.2026)	31.01
	Total	46.46

Future Targets and Risk Mitigation

95. According to the Department, goal was to reach 77,000 TB of data usage and 41 lakh subscribers in future. When asked about the timeline for achieving this target and risk mitigation plans in place if milestones are not met, the Department replied as under:

“The Ministry aims to complete all planned towers under DBN-funded mobile projects by 31.03.2026. This rollout is projected to support a subscriber base of

nearly 40.5 lakh, with an estimated average data usage of 24.27 GB per subscriber per month, resulting in a cumulative monthly data consumption of around 98,000 TB. The Ministry is closely monitoring progress to ensure timely execution of the planned projects, and successful completion within the stipulated timeline is anticipated.”

96. About plans to ensure sustainability of services in remote or low-income regions after initial project completion, the Department stated that:-

“The regions targeted under DBN-funded mobile projects primarily comprise remotely located uncovered or underserved villages/ areas. To ensure long-term service sustainability, the Ministry has provisioned for the Operation and Maintenance of the commissioned towers. For the private TSPs, the agreements have provision for operations and maintenance for a period of 10 years. Additionally, most of the towers have solar power, thus reducing operating costs.”

BharatNet (Phase I, II, and Amended BharatNet)

97. On the key implementation differences between BharatNet Phase-I/II and the Amended BharatNet project, the Department replied, with respect to the following:

- Network topology(linear vs. ring)
- Fiber cable specifications(overhead vs.armoured underground)
- Technology(GPONvs.MPLS routers)
- Power provisioning at Gram Panchayat level
- Maintenance and ownership models

98. Elaborating on each one of them the following has been submitted:

- **Network topology (linear vs. ring)**
BharatNet Phase-I and major part of Phase- II is on linear topology. It is susceptible to disruption because if a cut happens then further network gets disconnected. Therefore, in Amended BharatNet Program, ring topology is being used because if a fibre gets cut at one point, the signal can be transmitted through other parts of the network.
- **Fiber cable specifications(over head vs.armoured underground)**
As per RFP floated by BSNL, armored OFC is being laid in ABP. Further, PIA shall plan OFC construction through underground laying. However, wherever, the same is not possible, the next alternative shall be ADSS OFC laying preferably using existing electricity infrastructure.
- **Technology(GPON vs.MPLS routers)**
IP-MPLS routers allow better traffic management and QoS compared to GPON.

- **Power provisioning at Gram Panchayat level**
BSNL is applying separate electricity connections at Gram Panchayats for ABP.
- **Maintenance and ownership models**
Amended BharatNet Program envisages construction period of three years and Operation and Maintenance for seven years post-construction which shall be carried out by selected PIA for State/package. Ownership of assets is with Digital Bharat Nidhi.
- **BharatNet Utilization**
Amended BharatNet Program focuses on utilization and has provision of capex subsidy for 1.5 crores FTTH connections

99. As regards the total number of households and government institutions expected to receive FTTH connections under the ₹1.39 lakh crore Amended BharatNet project, and those which have been connected so far, the Department stated as under-

“Under Amended BharatNet Programme, 1.5 crore fibre-to-the-home (FTTH) connections are to be provided across all States/UTs with priority to cover Government institutions including schools, Primary Health Centers, Anganwadis, Panchayat offices etc. As on 28.02.2026, there are 9,48,237 active FTTH connections under BharatNet, including 2,26,644 active FTTH connections to Government institutions.”

100. The Department further stated that:

“As per Amended BharatNet Program, BharatNet network will be expanded beyond the proposed 2.64 Lakh GPs on demand basis. When a demand of 5 or more FTTH connection arises in the non-GP village (of an up and running GP connected on BharatNet network), the non-GP village will have to be made feasible by extending the BharatNet network up to that village and the FTTH connections will be provided to the customers.”

101. When the Committee desired to know about the corrective steps being taken to extend connectivity deeper into habitations, the Department replied:-

“BharatNet network is created based on the physical survey of GPs. Under ABP, GPs are to be connected with minimum 1Gbps (Giga bits per second) on OFC in ring topology. Alternate technologies (radio/satellite) including Low Earth Orbit / Medium Earth Orbit (LEO/MEO) satellite communication services, when matured may be considered for deployment based on the requirement and cost

effectiveness in cases where the implementation of OFC may not be economical/feasible.”

Monitoring, AI Tools and Project Transparency

102. During the course of examination, the committee sought to know about the Project Monitoring Information System (PMIS) and AI-based tools that was being used to track progress, payments, and physical milestones for USOF and BharatNet projects. The Department submitted as under:

“For Mobile Tower Projects, PMIS serves as a centralized platform for monitoring both physical and financial milestones. It provides GIS-enabled dashboards, mobile-based field data collection, and drill-down reporting for towers. Progress recorded in PMIS can be examined with respect to subsidy disbursed to TSPs. Further, the Networking Operating Centers of TSPs have been integrated with PMIs for real time monitoring. PMIS has also been integrated with e-Mulyankan i.e. an AI based tool, for monitoring of physical progress of Mobile tower commissioning.

The AI-driven, app-based progress monitoring system (e-Mulyankan) is a monitoring ecosystem that is faster, smarter, more cost-efficient, and fully transparent. e-Mulyankan works by integrating artificial intelligence, geo-tagging, anonymized validation, and predictive analytics. Every mobile tower site is now digitally mapped, creating verifiable, tamper-proof records of tower upgradation and construction progress through the advance feature of geo-tagging of tower locations. This not only improves the accuracy and precision of tower location data but also ensures alignment with approved plans and reducing human errors in reporting.

For BharatNet Projects, provision has been made for state NOC and Central NOC and same will be integrated through API with PMIS for tracking physical and financial progress.”

Further the Department added that:

“The photographs are geo-tagged and time-stamped, and only be uploaded by designated app. Further, cross validation mechanism has been established for independently verifying the geo-tagged photographs and real-time progress updates from field officers by implementing System Anonymized users (SA Users) as a crowdsourcing feature. This strengthens the review and monitoring process of tower construction by bringing additional layer of validation by the authorised persons by DBN, who are independent of the implementing agencies. This places an ex-ante disincentive against wrong reporting by Implementing Agencies eventually enhancing

the element of transparency in the reporting process. DBN, DoT has defined periodicity of crowdsourcing keeping the strategic factors in consideration.

(a) Number of Verification conducted by SA Users – 48

(b) Total Number of Months – 6

(c) TPA Monthly Average – 8 per month”.

103. When asked about the average monthly data consumption per user under newly deployed USOF-supported towers and inferences drawn regarding digital usage in underserved areas, the Department stated that :-

“National average data consumption per subscriber (monthly) for the quarter ending December 2025 is 25.70 GB while for USOF supported towers, average data consumption per subscriber (monthly) for the month of February 2026 is 21.48 GB, which is around 84% of national average. It indicates substantial digital usage in underserved areas too”.

Governance and Local Consultation

104. With regard to consultations held with village-level stakeholders during the planning of network rollouts and how inputs from Gram Sabhas, local panchayats, or elected representatives were incorporated, the Department stated that:-

“Planning of Mobile coverage to the village is being done on the receipt of uncovered villages data through various sources such as from DoT field units, State Govt., Hon’ble Ministers, Hon’ble MPs/Hon’ble MLA/MLC, PG complaint, Villager’s request etc.

As the scope of BharatNet is to provide OFC connectivity to all GPs including provision of Optical Fibre (OF) connectivity to all GPs (approx. 2.65 lakh) in ring topology and also to connect non-GP villages (approx. 3.8 lakh) on demand basis, specific consultations were not undertaken with village-level stakeholders.”

105. Putting forth the Department’s plans to revise its implementation approach regarding the disconnect between Gram Panchayat building locations and actual village clusters and the steps being taken to ensure that private TSPs can effectively use BharatNet as a shared last-mile infrastructure to reach remote villages, the Department stated that:-

“In Amended BharatNet Program, primarily the GP buildings shall be used for equipment installation. However, wherever GP buildings are not available, installation location shall be decided in consultation with State Govt. and with recommendation of Independent Engineer (IE).”

“A consultation with the private TSPs has been done for effective utilization of BharatNet infrastructure such as SLA based dark fiber leasing. A platform has

been created and access to this platform has been given to TSPs for accessing uptime status of BharatNet network and ring planned under Amended BharatNet so that they can effectively use BharatNet infrastructure for connecting their non - fiberized towers. TSPs may use dark fibre of BharatNet for which existing tariff is Rs. 6,000 per fiber per KM per annum. No revenue sharing and incentive models exist as of now”

Coverage Verification

106. When asked about the mechanisms in place to verify whether broadband/internet connectivity claimed under BharatNet actually exists at the ground level, especially in rural and remote Gram Panchayats, the Department replied that:-

“A centralized portal has been created to monitor FTTH details such as geographical location of each connection, connection details (date of activation, tariff plan, landline and customer mobile no. etc.), connection status active/disconnected, monthly data usage. In case of faults in FTTH connection, the complaint booking through toll free no, WhatsApp and mobile applications are available for customers for an efficient redressal by BSNL.”

Unconnected Panchayats

107. Regarding the revised timeline for connecting the remaining Panchayats under Amended Bharat Net Programme, the Department replied that:-

“Amended BharatNet Program has been approved by the Cabinet on 04.08.2023 which aims to provide Optical Fibre (OF) connectivity to approx. 2.65 lakh GPs including ~47,000 unconnected GPs (including approximately 5,000 GPs on satellite) in ring topology and to connect remaining non-GP villages (approx. 3.8 lakh) on demand basis. The program envisages construction period of three years and Operation and Maintenance for seven years post-construction. Master Service Agreement (MSA) has been signed between BSNL & selected Project Implementation Agency in 12 packages (in between February-25 to June-25) covering 1, 36,655 GPs. As per cabinet approval, time frame for completion of construction of the project is 36 months from the signing of Master Service Agreement (MSA).”

Phase-2 Delays

108. When asked about the specific reasons for the delays in BharatNet Phase-2 in various states such as Uttar Pradesh, Madhya Pradesh, Odisha, and Chhattisgarh, the Department stated that:-

“The delays in project execution are mainly due to state-specific challenges. In Uttar Pradesh, the large scope covering two project blocks (UP East and UP West) has created scale-related implementation hurdles, along with difficulties in RoW clearances and coordination for urban and rural crossings, as well as last-mile activation. Madhya Pradesh has faced RoW bottlenecks, contractor coordination issues, and terrain-related obstacles in certain districts, compounded by contractual disputes that required re-tendering. Odisha’s coastal and tribal areas have posed hurdles in the form of special permissions, diversions during road works, and delays in forest or utility clearances. In Chhattisgarh, Left-Wing Extremism (LWE)-affected zones and difficult-to-access pockets have slowed deployment, with RoW challenges further causing staged commissioning. High-level monitoring with State Governments has been strengthened to expedite permissions, while contractual disputes are being actively resolved.”

Operational FTTH Connections

109. According to the Department, the current number of active FTTH (Fiber to the Home) connections under BharatNet and the percentage of it in rural areas, the Department stated that:-

“As on 28.2.2026, active FTTH connections in rural areas under BharatNet is 9,48,237. All FTTH connections provided under BharatNet are in rural area of the country”.

Bharat Net Phase-I & II Implementation

110. About the number of fully functional and service-ready Gram Panchayats under BharatNet Phase-I and Phase-II, respectively, and the number of Gram Panchayats shown as 'connected' under BharatNet and actually having active internet services available to the public or institutions, the Department submitted:-

“As on 28.2.2026, BharatNet points of presence (PoPs) are operational at 40,610 GPs under BharatNet Phase-I and at 38,289 GPs under BharatNet Phase-II”.

“As per data available on BharatNet UNMS portal, there are about 60,693 GPs, where FTTH connections are provided, as on 28.2.2026”.

111. When the Committee desired to know whether the Department conducted any technical or physical audit of BharatNet Phase-I and Phase-II implementations to verify functionality vs reported completion and the key findings thereon, the Department stated as follows:-

“BSNL has conducted a third party audit in the month of March-April 2024 for the implementation of a Pilot project of five Lakhs FTTH connections in rural areas

through Bharatnet network. The audit findings show good coverage of FTTH services across States/UTs through OLT installed by BNU partners in the pilot project. The findings also show impressive average data usage of more than 200 GBs per customer.”

Funding, Expenditure and Vendor Accountability

112. On the total expenditure incurred under BharatNet Phases I and II respectively, State-wise, including allocation under USOF and DBN heads, the Department stated that:-

“As on 28.02.2026, Rs. 40,635 crore have been disbursed from DBN under BharatNet Phase-I and II. The State-wise details are given in **Annexure-III.**”

113. The Committee specifically sought to know the action taken against vendors or implementing agencies responsible for abandoned, non-functional, or delayed BharatNet sites. To this, the Department has submitted that:-

“BharatNet Phase-I implemented by three CPSUs namely BSNL, RailTel and PGCIL whereas BharatNet Phase-II was implemented through State Implementing Agencies under State Led Model, CPSU and Private Sector companies.

The implementing agencies have put the penalty clause in their RFP for delay in implementation of project. Final adjustment of advance given to PIA is being done for the network which has been successfully commissioned at GP, tested by TPA / AT team and LD deducted passed invoices by PIA.”

114. When the Committee enquired from the Department whether BharatNet contracts have been cancelled or are under re- tendering due to poor performance or failure to execute on time, the Department replied that:-

“BSNL has re-tendered four packages on 27.6.2025. These include Package no. 2 (Rajasthan), no. 10 (Haryana), no. 11 (NER-I including Meghalaya, Mizoram and Tripura) and no. 14 (Assam). The bids are under evaluation and expected to be finalised by 15.3.2026”.

115. The State wise details of Implementing Agencies under BharatNet Ph-I & Ph-II and their implementation status is as under:

S. no.	State	Phase-I		Phase-II (OFC)		Phase-II (Satellite)		ABP	
		Implem enting agency	Status	Implemen ting agency	Status	Implemen ting agency	Status	Implemen ting agency	Status
1	Andaman and	BSNL / BBNL	Completed	-	-	BBNL	Completed	ITI	Ongoing

S. no.	State	Phase-I		Phase-II (OFC)		Phase-II (Satellite)		ABP	
		Implementing agency	Status	Implementing agency	Status	Implementing agency	Status	Implementing agency	Status
	Nicobar Islands								
2	Andhra Pradesh	PGCIL	Completed	State Led through APSFL	Completed	BBNL	Completed	State SPV	Ongoing
3	Arunachal Pradesh	RailTel	Revised scope Completed and balance about 3006 GPs diverted to ABP	-	-	BBNL/BSNL	Completed	ITI	Ongoing
4	Assam	BSNL	Completed	-	-	BBNL	Completed	PTPL	Ongoing
5	Bihar	BSNL	Completed	BBNL through VTL, Polycab	Completed	BBNL	Completed	Polycab	Ongoing
6	Chandigarh	BSNL	Completed	-	-	-	-	-	-
7	Chhattisgarh	BSNL	Completed	State Led through CHIPS	Under implementation (Court case)	BSNL	Completed	State SPV	Ongoing
8	Dadra and Nagar Haveli and Daman and Diu	RailTel	Completed	-	-	-	-	NCC	Ongoing
9	Gujarat	RailTel	Completed	State led through GFGNL	Completed	BBNL	Completed	GFGNL	Ongoing
10	Haryana	BSNL	Completed	-	-	-	-	PTPL	Ongoing
11	Himachal Pradesh	PGCIL	Completed	-	-	BBNL	Completed	ITI	Ongoing
12	Jammu and Kashmir (UT)	BSNL	Completed		-	BBNL/BSNL	Completed	STL	Ongoing
13	Jharkhand	PGCIL	Under implementation	State Led through JCNL	Completed	BBNL	Completed	State SPV	Ongoing
14	Karnatak	BSNL	Completed	-	-	-	-	Polycab	Ongoing

S. no.	State	Phase-I		Phase-II (OFC)		Phase-II (Satellite)		ABP	
		Implementing agency	Status	Implementing agency	Status	Implementing agency	Status	Implementing agency	Status
	a								
15	Kerala	BSNL	Completed	-	-	BSNL	Completed	GR Infra Projects	Ongoing
16	Ladakh (UT)		-	-	-	BBNL/BSNL	Completed	STL	Ongoing
17	Lakshadweep	BSNL	-	-	-	BBNL	Completed	-	-
18	Madhya Pradesh	BSNL	Completed	BSNL	Completed	BBNL/BSNL	Completed	NCC	Ongoing
19	Maharashtra	BSNL	Under implementation	State led MahaIT	Under implementation	BBNL	Completed	State SPV	Ongoing
20	Manipur	RailTel		-	-	BBNL	Under Implementation	ITI	Ongoing
21	Meghalaya	RailTel		-	-	BBNL/BSNL	Completed	TCIL	Ongoing
22	Mizoram	RailTel		-	-	BBNL	Completed	TCIL	Ongoing
23	Nagaland	RailTel		-	-	BBNL	Completed	ITI	Ongoing
24	Odisha	PGCIL	Completed	State Led through OPTCL	Completed	BBNL/BSNL	Completed	BSNL	Ongoing
25	Pondicherry	RailTel	Completed	-	-	-	-	Polycab	Ongoing
26	Punjab	BSNL	Completed	BBNL through HFCL & VTL	Completed	BBNL	Completed	HFCL	Ongoing
27	Rajasthan	BSNL	Completed	-	-	BSNL	Completed	PTPL	Ongoing
28	Sikkim	BSNL	OFC laid by BSNL got damaged due to road widening	BSNL	OFC laid by BSNL got damaged due to road widening	BBNL	Completed	-	To be tendered
29	Tamil Nadu		-	State Led through TANFINE T	Under implementation	-	-	-	In principle Approval for implementation of ABP for utilisation part only
30	Telangana	PGCIL	Completed	State Led through T-Fibre	Under implementation	-	-	State SPV	Ongoing
31	Tripura	RailTel		-	-	BBNL	Completed	TCIL	Ongoing

S. no.	State	Phase-I		Phase-II (OFC)		Phase-II (Satellite)		ABP	
		Implementing agency	Status	Implementing agency	Status	Implementing agency	Status	Implementing agency	Status
32	Uttar Pradesh	BSNL	Under implementation	BSNL	Under implementation	BSNL	Completed	RVNL	Ongoing
33	Uttar Pradesh	BSNL	Completed	BSNL	Completed	BSNL	Completed	RVNL	Ongoing
34	Uttarakhand	BSNL	Completed	-	-	BBNL	Completed	NCC	Ongoing
35	West Bengal	BSNL	Completed	-	-	BBNL	Completed	ITI	Ongoing

Institutional Connectivity & Asset Utilization

116. While examining the subjects, the Committee desired to know the locations where the BharatNet fiber terminated at Panchayat Bhawans and how many of these locations were operational. In response to the query, the Department submitted as follows:-

“Details of operational BharatNet points of presence (PoPs) at GPs under BharatNet Programme are as under:

S. No.	State/UT	Operational PoPs at GPs
1	Andaman and Nicobar Islands	68
2	Andhra Pradesh	1,084
3	Arunachal Pradesh	117
4	Assam	289
5	Bihar	3,456
6	Chandigarh	12
7	Chhattisgarh	1,848
8	Dadra and Nagar Haveli and Daman and Diu	17
9	Goa	—
10	Gujarat	10,623
11	Haryana	2,439
12	Himachal Pradesh	280

S. No.	State/UT	Operational PoPs at GPs
13	Jammu and Kashmir	404
14	Jharkhand	2,213
15	Karnataka	3,960
16	Kerala	937
17	Ladakh	5
18	Lakshadweep	1
19	Madhya Pradesh	3,125
20	Maharashtra	2,721
21	Manipur	101
22	Meghalaya	91
23	Mizoram	86
24	Nagaland	15
25	Odisha	3,320
26	Puducherry	94
27	Punjab	9,414
28	Rajasthan	6,556
29	Sikkim	5
30	Tamil Nadu	9,624
31	Telangana	4,403
32	Tripura	149
33	Uttar Pradesh (E)	5,219
34	Uttar Pradesh (W)	2,588
35	Uttarakhand	1,324
36	West Bengal	2,311

S. No.	State/UT	Operational PoPs at GPs
	Total	78,899

Urban Infrastructure and Tower Challenges

117. When asked for the Departments plan for improving mobile network quality in dense urban areas where multi-storey buildings obstruct signal coverage, the Department stated as follows-:

“For improving service quality of mobile network, following initiatives are being taken:

- i. **Review of Quality of Service (QoS) benchmark for various Quality of Service parameters:** TRAI has revised QoS benchmarks and has notified “The Standards of Quality of Service of Access (Wireline and Wireless) and Broadband (Wireline And Wireless) Service Regulations, 2024” on 02.08.2024, prescribing QoS parameters and their benchmarks for both access and broadband services provided on wireline as well as wireless media. The regulations have come into force with effect from 1st October 2024.
- ii. **Monitoring the Performance:** TRAI regularly monitors the performance of service providers against the benchmark for various Quality of Service parameters laid down by TRAI. Wherever the Quality-of-Service benchmarks are not met, the explanation of the concerned service provider is called for and after considering the response of the service provider financial disincentive are imposed on service provider for non-complied QoS parameters.

118. Further, the following inputs in this regard have been received from TRAI:

- i. **Recommendations on “Rating of Buildings or Areas for Digital Connectivity:** To address the network coverage issues in large indoor areas, TRAI has submitted the recommendations on “Rating of Buildings or Areas for Digital Connectivity” to Department of Telecommunications (DoT) on 20.02.2023. The recommendations suggest a collaborative approach among various stakeholders viz, Building Developers, Service Providers, Infrastructure Providers, DCI Professionals and most importantly the users to come together to plan and build Digital Connectivity Infrastructure (DCI) along with entire Building Plan and Development activities, similar to other building services such as water, electricity, fire & safety services etc.
- ii. **Regulations on Rating of Properties for Digital Connectivity:** TRAI in its recommendations dated 20.02.2023 has also suggested a framework for rating of buildings to nudge the property managers. Accordingly, TRAI has notified ‘The

Rating of Properties for Digital Connectivity Regulations, 2024' on 25th October 2024 prescribing a framework for rating of buildings or properties for digital connectivity to promote creation of good digital connectivity through a collaborative and self-sustainable approach.”

State Government Engagement & Participation

119. On being asked about the States which had opted for the State-led model under BharatNet Phase-II, their fund contributions (if any), States which had refused to contribute funds or refused participation in the BharatNet implementation and whether the Department had signed any MoUs or agreements with State Governments regarding operation, maintenance, or cost-sharing, the Department replied as follows:-

“Eight States had opted for State-led model under BharatNet Phase-II. As per MOU signed between DBN, BBNL, SIA and PIA, DBN will fund for GPON technology in linear architecture. The cost of any enhanced network architecture beyond the approval of TC shall be borne by the State. Accordingly, approved cost by Central Government and additional State contribution for enhanced network as informed by BBNL is given below:

S. No.	State Name	Approved Cost	Fund contribution of the State (in ₹ Crore)
1	Andhra Pradesh	1,583.93	571.13
2	Chhattisgarh	2,535.49	-
3	Gujarat	3,022.38	618
4	Jharkhand	752.18	-
5	Maharashtra	4,019.77	1600
6	Odisha	657.56	39.2
7	Tamil Nadu	2,142.07	-
8	Telangana	2,436.94	504.7”

120. As regards the key points of failure identified in State-led vs Centralized implementation models, based on Phase-I and II experiences, the Department submitted that:

“BharatNet Phase-II has been implemented through multiple models, including the State-led model, CPSU-led implementation, BBNL-led private-led and on VSAT technology. Under the State-led model, significant delays were observed primarily due to capacity limitations within State Special Purpose Vehicles (SPVs) contractual disputes with Project Implementation Agencies (PIAs), and

inadequate inter-departmental coordination, particularly in obtaining Right of Way (Row) clearances.”

Implementation Partners

121. When asked to provide a list of private and public partners (e.g., HFCL, Reliance Jio, Airtel, RailTel, PGCIL) involved in BharatNet Phase-I and Phase-II implementation, with project areas and progress status, the Department submitted the following:

Phase-I:

CPSU	Planned GPs	Operational PoP at GPs
BSNL	1,01,823	34,924
RailTel	7,990	2,422
PGCIL	10,395	3,264
Total	1,20,208	40,610

Phase-II:

(a) State Led Model

S. no.	State	PIA (Package wise)	Planned GPs
1	Andhra Pradesh	A - TCIL	4,899
		B- L&T	2,717
		C - TCIL	3,638
		Total	11,254
2	Maharashtra	A - ITI	4,003
		B- Sterlite	3,960

		C - ITI	4,550
		Total	12,513
3	Gujarat	A - ITI	3,942
		B- GTPL	3,767
		Total	7,709
4	Telangana	A- L&T	3,599
		B- Sterlite	3,344
		C-TCL	2,719
		Total	10,787
5	Chhattisgarh	TATA Project	5,964
6	Jharkhand	HFCL	1,672
7	Odisha	Terasoft	2,932
8	Tamil Nadu	A - Polycab	3,095
		B-Pace Digit	3,001
		C- L&T	3,326
		D- ITI	3,103
		Total	12,525
	Total State-led model		65,356

As on 28.2.2026, BharatNet Point of Presence (PoP) at 28,248 GPs under State-led model are operational.

(b) CPSU (BSNL) led model

CPSU	State	Planned GPs	Remark
BSNL	Madhya Pradesh	5,268	
	Uttar Pradesh	16,708	Balance 163 GPs proposed under ABP
	Uttar Pradesh	2,139	
	Sikkim	114	Now 114 GPs proposed under ABP
	Total	24,229	

As on 28.2.2026, BharatNet Point of Presence (PoP) at 2,918 GPs under CPSU (BSNL) led model of BharatNet Phase-II are operational.

(c) BBNL Led (Private) Model

State	Planned GPs
Bihar Total	2,669
B1-VTL	807
B2-VTL	918
B3-Polycab	948
Punjab Total	4,713
P1-VTL	1,540
P2- HFCL	1,511
P3- HFCL	1,662

As on 28.2.2026, BharatNet Point of Presence (PoP) at 6,872 GPs under BBNL Led (Private) model of BharatNet Phase-II are operational.

122. As regards the performance metrics which have been adopted to evaluate these partners, and how many penalties or liquidated damages have been levied for underperformance or delay, the Department replied as follows:

“Under Phase I and II of BharatNet, BBNL was set up as a Special Purpose Vehicle (SPV), by the Government of India for the establishment, management and operation of BharatNet Project. BBNL has informed that the implementing agencies under BharatNet Project have put the penalty clause in their RFP for delay in implementation of project. The penalty / LD imposed by Implementing Agencies is to be passed to DBN / BBNL while doing the final adjustment of advance / releasing the payment due”.

Utilization Certificates and Fund Flow

123. Regarding the States which have not submitted Utilization Certificates (UCs) or Progress Reports, thereby causing delay in fund release, the Department stated that:-

“All concerned eight States (except Chhattisgarh) which are implementing State-led models have been provided the utilization details. There is no delay in fund release due to pending UCs.”

124. Submitting details about DBN or USOF funds that remain unutilized in the last 3 years due to pending UCs or implementation backlog, the Department stated as follows:-

“The funds allocated and utilized in BharatNet Project from DBN during last 3 financial years (2022-23 to 2024-25) are given below:

(Rs. in crores)

Financial Years	Budget allotment	Actual Expenditure
2022-23	1,500.00	1,500.00
2023-24	5,000.00	3,075.54
2024-25	6,500.00	3,995.01

Documentation & Reporting

125. When the Committee sought to know about the lessons that have been officially documented by the Department from implementation failures or gaps in earlier phases, the Department stated as follows:-

“Several key lessons have been identified from past implementation and are now reflected in the redesign of the Amended BharatNet Program. These include the necessity of robust O&M arrangements through long-term SLA-based PMA/FMA contracts to prevent deterioration of network assets, adoption of ring topology and Centralised monitoring through the CNOC, along with clearly defined O&M roles, has been emphasised to ensure strict SLA adherence. Stronger project management practices and improved state-level coordination, particularly through State Level Implementation Committees, have also been highlighted as essential for expediting RoW and clearance processes.

Financial restructuring and the professionalisation of O&M and service delivery have been built into the program to incentivise greater utilisation, supported by initiatives like BharatNet Udyamis, FTTH targets, and expanded use cases. These learnings have been formally integrated into the Amended BharatNet framework.”

Global Perspective

126. On being asked about how the Digital Bharat Nidhi initiative compared with similar universal service obligations or digital inclusion programs in other countries, particularly in terms of scope, funding, and implementation challenges, the Department responded as under:-

“Digital Bharat Nidhi (DBN) is one of the world’s largest universal service programmes, funding BharatNet to connect over 2.6 lakh Gram Panchayats and 3.8 lakh on-demand rural villages with high-speed broadband, including mobile and island projects, at a cost of about ₹1.39 lakh crore. Like Australia’s NBN, it is heavily government-financed and centrally managed, unlike the U.S. and Canada which use smaller, auction-based or co-funded schemes. DBN’s challenges—remote terrain, Right-of-Way issues, procurement delays, and ensuring last-mile utilisation—mirror those faced internationally, but its scale and ring-network approach make it more ambitious than most peer programs.”

127. On the issue of the Department leveraging international collaborations or technology partnerships to enhance indigenous telecom solutions under the Telecom Technology Development Fund (TTDF) and promote innovation aligned with global standards, the Department stated that:-

“The Department of Telecommunications (DoT) is implementing the Telecom Technology Development Fund (TTDF) to promote indigenous research, development, and innovation in telecom technologies, while ensuring alignment with international standards by way of funding to Indian start-ups, academic institutions and industry partners, individually or through a joint consortium. The salient features of the scheme to promote indigenous technologies are:

1. **Standards and IPR Promotion:** The Fund supports projects that conform to international telecom standards and promotes the generation of Intellectual Property Rights (IPRs) within India.
2. **Focus on Emerging Technologies:** Priority is given to projects in advanced areas such as 5G, 6G, Quantum Communication, Artificial Intelligence, and Internet of Things, which require global benchmarking and cooperation.
3. **Pilot Testing and Validation:** Financial support is extended for pilot trials and field testing so that developed solutions meet international performance benchmarks.

Further, TTDF encourages all beneficiaries to align their projects with **3GPP** and **ITU** standards and guidelines to ensure global acceptance.”

PART-II
OBSERVATIONS/ RECOMMENDATIONS

Introductory

1. The Universal Service Obligation Fund (USOF) was created w.e.f. 01.04.2002 when the Indian Telegraph Act, 1885 was amended in December, 2003 vide the Indian Telegraph (Amendment) Act, 2003 and with that the Universal Service Support Policy for provision of telecom facilities in rural and remote areas of the Country came into effect. The fundamental objective was to provide fund support for access to 'Basic' telegraph services to people in the rural and remote areas at affordable and reasonable prices. Subsequently, the Indian Telegraph Act was amended on 29.12.2006 widening the scope of USOF to provide access to various telegraph services (including mobile services, broadband connectivity and creation of infrastructure like optical fibre cable (OFC) in rural and remote areas. The Fund is headed by an Administrator who is appointed by the Central Government, for the administration of the fund and it is an attached office of the Department of Telecommunications (DoT), Ministry of Communications. As per the Telecommunications Act, 2023 (No.44 of 2023) and the subsequent notification of Telecommunications (Administration of Digital Bharat Nidhi) Rules, 2024 dated 30.08.2024, the USOF created under the Indian Telegraph Act, 1885, has been renamed as Digital Bharat Nidhi (DBN). The Telecommunications Act, 2023 also expanded the scope of DBN to: (a) support universal service through promoting access to and delivery of telecommunication services in underserved rural, remote and urban areas;(b) support research and development of telecommunication services, technologies, and products;(c) support pilot projects, consultancy assistance and advisory support towards provision of service under clause (a) above; and (d) support introduction of telecommunication services, technologies, and products.

2. According to the Department, the scope of this fund partly arose from the Prime Minister's vision of ensuring that digital communication extends to every nook and corner of the Country. The Department points out that its relevance and its use was proven during the COVID pandemic when all the physical services came to virtual halt. It was only through digital communications and digital means that the economic activities and life sustaining activities of citizens were supported through the digital initiatives taken till then by various Ministries in Government of India. The resources for implementation of DBN are raised by way of collecting a Universal Access Levy (UAL) from all the Licensees of Department of Telecommunications, which is 5% of the Adjusted Gross Revenue (AGR) of Telecom Licenses. It is a non-lapsable Fund. Levied amount is credited to the Consolidated Fund of India. Fund is made available to DBN through budgetary

provision after due appropriation by Parliament. Examination of the utilisation of the Fund by way of implementation of various Schemes under it are brought out in the ensuing paragraphs.

Overview

3. BharatNet Programme is the flagship project funded by the DBN that has been approved for providing broadband connectivity in a phased manner to all Gram Panchayats (GPs) in the Country and is an important pillar of Digital India programme. Originally approved as the National Optical Fibre Network (NOFN) by the Union Cabinet on 25.10.2011 it was to provide broadband connectivity to all Gram Panchayats (GPs) by connecting Block Headquarters (BHQs) through existing fibre of CPSUs such as BSNL, RailTel and PGCIL and by laying incremental Optical Fibre Cable (OFC). The Department informed the Committee that BharatNet Phase-I was completed in December 2017 and covered over 1,20,210 GPs. Phase-II, approved on 19.07.2017, adopted a modified strategy with a mix of OFC, radio and satellite technologies and multiple implementation models across various States. As on 28.02.2026, a total of 7,19,241 kms OFC has been laid and 78,899 GPs have operational Points of Presence (PoPs), including 40,610 GPs under Phase-I, 38,289 under Phase-II and 2,884 under the Amended BharatNet Program. During the comprehensive review of the Scheme the representative of DoT admitted that despite spending a significant amount on resources, BharatNet Phase-I and Phase-II could not achieve the intended level of success which was to be able to actually provide 1 Gigabyte per second connectivity in every Gram Panchayat along with associated utilisation. Putting forth the reasons in this regard, the Department conveyed that in the State-led model (Chhattisgarh, Maharashtra, Telangana, Tamil Nadu), delays arose due to prolonged SPV-led procurement and tender finalisation processes, disputes with selected Project Implementing Agencies (PIAs), and Right of Way (RoW) or local clearances—especially for forest land and utility crossings—that stalled civil works. Difficult terrain and the need to connect remote Gram Panchayats (GPs), particularly in tribal and LWE affected areas of Chhattisgarh and Telangana, further impeded progress. In the CPSU-led model, particularly in Eastern and Western parts of UP, the scale and high number of GPs led to capacity constraints of implementing agencies, necessitating phased handovers; operational hurdles and incomplete last-mile commissioning also remained as a significant bottleneck. Additionally, local issues such as damage to OFC routes due to road works, urban development, and shifting utilities further contributed to implementation delays. The Committee find that while substantial infrastructure has been created, the number of operational GPs has remained below the envisaged universal coverage and the pace of implementation is uneven across States and models. This indicate gaps in planning, coordination and execution.

The Committee therefore, call upon the Department to undertake a comprehensive, model-wise and State-wise performance audit of BharatNet scheme. The bottlenecks and loopholes in implementation ought to be clearly identified and addressed. A revised, timebound roadmap with defined accountability be put in place to ensure completion of connectivity to all Gram Panchayats of the country.

Utilisation of BharatNet

4. While examining the utilisation of BharatNet infrastructure, the Committee note that it is being utilised through FTTH connections, leasing of bandwidth and dark fibre, and by providing connectivity to Government institutions such as schools, health centres, anganwadis, police stations, Krishi Vigyan Kendras, Post Offices and ration shops, as well as to private institutions and households. The Department has informed that 9,48,237 active FTTH connections have been provided, leasing of 1,24,599 kms of dark fibre has been executed and 4,01,654 Mbps bandwidth has also been achieved. The FTTH data consumption in February 2026 was 1,77,371 TB. The Committee find that despite the availability of a dedicated funding mechanism and creation of extensive infrastructure; utilisation levels remain sub-optimal when compared to the scale and potential of the network. The benefits of digital connectivity have not fully reached rural and remote areas. The Committee recommend that the Department adopt a focussed strategy to enhance utilisation of BharatNet with greater emphasis on increasing FTTH connections and ensuring saturation of connectivity in the nook and corner of the country. Further expansion of leasing of bandwidth and dark fibre may also be explored. The Committee is of the view that the DBN funds may be utilised in a targeted and outcome-oriented manner with strong monitoring mechanisms to ensure optimal achievement of universal and affordable access to telecommunication services. The Committee would also like to be apprised of the updated figures of utilization of DBN funds in this regard.

Amended BharatNet Program (ABP)

5. During examination of the subject, the Department informed the Committee that the Amended BharatNet Program has been approved under a Design, Build, Operate and Maintain (DBOM) model to upgrade the existing network created under Phase-I and Phase-II and to extend connectivity to the remaining Gram Panchayats (GPs) and non-GP villages on demand basis, with provision for operation and maintenance for 10 years and rollout of 1.5 crore home fibre connections. Further, the Department stated that out of 2.64 lakh GPs, only 78,899 GPs currently have operational Points of Presence (PoPs) and these are to be integrated into an IP-MPLS ring topology under ABP, and that BSNL as Project

Management Agency has floated Request for Proposals for 16 packages (excluding eight State-led model States). Agreements have been signed for 12 packages while the remaining packages are at stages of retendering or evaluation, and that implementation has commenced in 12 packages covering 15 States and 3 UTs and 1,36,655 GPs (about 52% of total GPs). The Department has also indicated that in several State-led models, strategies are still under finalisation or at bid evaluation stage.

The Committee observe that although an improved implementation model and significant progress in award of packages, delays in finalisation of certain packages, retendering in some cases, and slow progress in some State-led models, may be streamlined to achieve timely completion, particularly when a substantial number of GPs (approximately 47,000) and a large number of non-GP villages remain to be connected, and when the programme involves large-scale upgradation as well as fresh network creation across diverse geographies. The Committee would like to emphasise that the Department ensure expeditious finalisation of all pending packages and State led strategies, strengthen coordination between BSNL, States and Implementing Agencies, and put in place milestone-based monitoring mechanism for each package, so that the entire Amended BharatNet Program is implemented in a time-bound manner without further delays, ensuring completion of connectivity to all GPs and targeted villages of the country.

Ensuring Network Reliability, Long-term Maintenance and Effective Last-mile Utilisation under Amended BharatNet Program

6. The Committee note that Amended BharatNet Program incorporates key design features such as creation of IP-MPLS based ring topology with multiple rings (8–10 GPs per ring) to ensure improved reliability, expansion of scope to cover approximately 47,000 remaining GPs and about 3.8 lakh non-GP villages on demand basis. Emphasis has also been on long-term operation and maintenance through professional agencies for a period of 10 years with Service Level Agreements (SLA) and Remote Fibre Monitoring System (RFMS), and establishment of a Network Operations Centre (NOC) through private sector participation. Further, the programme emphasises on utilisation through the BharatNet Udyami (BNU) model involving local entrepreneurs, Internet Service Providers (ISPs) and Self Help Groups with financial incentives and revenue sharing to promote last-mile connectivity, and aims to provide 1.5 crore rural home fibre connections with minimum assured speed of 25 Mbps to subscribers through Internet Leased Lines at block levels, along with flexibility to adopt alternate technologies such as radio and satellite including LEO/MEO systems where Optical Fibre Cable (OFC) deployment is not feasible. The Committee find that while the design of Amended BharatNet Program (ABP) appropriately

addresses earlier shortcomings relating to network reliability, maintenance and utilisation, the success of the programme will critically depend on effective implementation of these provisions, particularly ensuring high service availability, timely maintenance, and actual activation of last-mile connections through BNUs, as past experience indicates that creation of infrastructure alone could not translate into adequate utilisation. The Committee recommend that the Department to put in place a robust mechanism for monitoring service quality and uptime under SLA conditions, ensure time bound operationalisation of NOC and RFMS systems, and closely track performance of BNUs in delivering last mile connectivity, with appropriate incentives and accountability, so as to achieve the targeted 1.5 crore home fibre connections and ensure that the enhanced infrastructure under ABP results in reliable, affordable and widely utilised broadband services in rural and remote areas.

Expediting Implementation and Ensuring Timely Completion of Mobile Connectivity Projects

7. The Committee are aware that the Union Cabinet on 27.07.2022 approved a DBN funded project for saturation of 4G mobile services in uncovered villages across the Country at a total cost of ₹26,316 Cr (excluding Taxes). The project has provision to provide 4G mobile services in 24,680 uncovered villages in remote and difficult areas with additional provision to include 20% additional villages on account of rehabilitation, new settlements, withdrawal of services by existing operators etc. In addition, 6,279 villages having only 2G/3G connectivity shall be upgraded to 4G. Agreement for the implementation of the project has been signed with BSNL on 06.02.2023. While explaining about Mobile Connectivity Projects, the Department enlightened the Committee that multiple mobile connectivity projects are under implementation across the Country with a total outlay of ₹42,467 crore. These projects cover 34,780 towers and 46,331 villages/locations. As on 28.02.2026, 24,198 towers have been commissioned covering 33,984 villages/locations. This reflects an overall completion of 69.6%. The Department further informed that the 4G Saturation Scheme, with a cost of ₹30,620 crore, envisages 23,570 towers and 32,153 villages. Out of these, 14,301 towers covering 21,328 villages have been commissioned, indicating 60.7% completion. The BOP/BIP project has achieved only 41.7% completion, with 251 towers commissioned out of 602 planned. Other major schemes such as LWE Phase-II have reached 86.1% completion. The 7,287 Aspirational District villages scheme has achieved 81.4% completion. These projects are expected to be completed by December 2026. The Committee note that while substantial progress has been made, some of the largest and most critical projects are lacking completion and therefore, desire that the pace of implementation across such schemes be accelerated, particularly in uncovered villages and border areas

to achieve the objective of universal mobile connectivity. The Committee recommend the Department to strengthen scheme-wise monitoring and ensure strict adherence to timelines. Priority may be given to critical projects such as the 4G Saturation Scheme and BOP/BIP scheme. A milestone-based review mechanism may be institutionalised to monitor Implementing Agencies in order to ensure timely completion of all projects within the prescribed deadlines.

Strengthening Service Quality, Technology Upgradation and Coverage in Remote and Priority Areas

8. As regards Technology upgradation and coverage in remote and priority areas the Department has submitted that several targeted schemes have been implemented to improve connectivity in remote, border and Left Wing Extremism (LWE) affected areas. A number of projects have already been completed. These include Lakshadweep Islands, where 37 towers have been installed and 8,261 FTTH connections provided. 354 uncovered villages scheme has also been completed with 295 towers covering 319 villages. Similarly, the Andaman & Nicobar Islands project has been completed with 68 towers covering 69 locations. The Rest of North Eastern Region Scheme has also achieved 100% completion. The Department further submitted that near completion has been achieved in Meghalaya (99.8%), Arunachal Pradesh and Assam (99.3%), and the 502 Aspirational District villages scheme (98.8%). Under LWE Phase-I, 2,340 towers have been commissioned. Out of these, 2,275 towers have already been upgraded to 4G. LWE Phase-II envisages 1,377 towers, of which 1,186 towers have been commissioned covering 1,245 locations. The 4G Saturation project also includes coverage of 24,680 uncovered villages, along with provision for 20% additional villages. It also includes upgradation of 6,279 villages from 2G/3G to 4G. The Committee observe that while several schemes have been successfully completed and others are nearing completion, the Department may further aspire for full saturation and seamless coverage, particularly in large-scale schemes and difficult areas. The benefits of 4G connectivity have not yet reached all targeted populations. The Committee would like to prevail upon the Department to maintain focused and concerted efforts on completing technology upgradation to 4G across all remaining sites. Greater and dedicated attention should be given to improve service quality and reliability in remote and strategic areas. The Department should also imbibe best practices from successfully completed schemes and these learnings could accelerate ongoing projects and ensure effective and uniform mobile connectivity across the Country.

Enhancing Last-mile Connectivity and Utilisation under BharatNet

9. Enhancing last mile connectivity and utilisation under BharatNet remains a core objective in bridging digital divide in the Country. The Department apprised the Committee that the Amended BharatNet Program (approved on 04.08.2023) aims to provide Optical Fibre connectivity to approximately 2.65 lakh Gram Panchayats (GPs) in ring topology and to connect around 3.8 lakh non-GP villages on demand basis, with a network construction period of 36 months from signing of Master Service Agreements (MSAs) and operation and maintenance thereafter. MSAs have been signed in 12 packages between February–June 2025 covering 15 States, 3 UTs and 1,36,655 GPs (about 52% of total GPs), and implementation has commenced. The Department further highlighted that Phase-II faced challenges such as Right of Way (RoW) delays from agencies like Forest Departments, Railways and NHAI, difficult terrain, security-affected regions, last-mile commissioning issues and contractual disputes. Further, delays in some State-led models and CPSU-led models were also due to procurement delays, capacity constraints, difficulty in local clearances and damage to OFC routes due to road works, urban development and shifting utilities. It was also informed that utilisation of BharatNet as on 28.02.2026 includes 9,48,237 active FTTH connections, leasing of 1,24,599 kms of dark fibre and 4,01,654 Mbps bandwidth, with data consumption of 1,77,371 TB. Under the Amended BharatNet Program, 1.5 crore FTTH connections are targeted over five years through the BharatNet Udyami (BNU) model with focus on connecting Government institutions and improving demand through initiatives such as demand registration portal and Franchisee Management System. The Committee find that while a structured implementation framework and improved design features have been introduced under the Amended BharatNet Program, some challenges relating to RoW clearances, State-level coordination, capacity constraints and last mile connectivity cause delay in timely execution. Further, the target of 1.5 crore FTTH connections is in its early stages. The Committee recommend the Department to take concerted measures to resolve RoW and local clearance issues through stronger inter-agency coordination and vigorous perusal, strengthen implementation capacity and monitoring at State and package levels. Simultaneously, the Department may accelerate last-mile connectivity by effectively operationalising the BNU model, increasing institutional demand and improving awareness and accessibility, so as to ensure timely completion of the programme and optimal utilisation of the BharatNet network.

Strengthening Technology Deployment Strategy and Ensuring Network Reliability and Service Quality under BharatNet

10. The Department has submitted that under the Amended BharatNet Program, connectivity to Gram Panchayats is to be executed under a Design Build Operate and Maintain (DBOM) model with a preference for underground Optical Fibre in ring topology, while alternate technologies such as radio or satellite are to be deployed only where OFC is not feasible, based on field verification by Independent Engineer and final decision by BSNL. It was further presented that IP-MPLS based ring topology has been adopted to improve reliability and performance over the earlier linear topology, as it enables traffic management, better Quality of Service (QoS), and redundancy in case of fibre cuts. The Department had envisaged that Internet Leased Line (ILL) connectivity will be provided at block levels to ensure a minimum download speed of 25 Mbps to every home and institutional subscriber, and that connectivity to approximately 3.8 lakh non-GP villages will be extended on demand basis subject to a minimum requirement of five FTTH connections. The Committee find that while the adoption of ring topology and provision for alternate technologies reflect an improved and flexible infrastructure strategy, the effectiveness of this approach will depend on timely decision-making in field conditions, consistency in updated technology deployment across regions, and actual delivery of assured service quality, particularly in remote and difficult terrains where connectivity challenges are most acute. The Committee recommend the Department to establish clear and standardised guidelines for technology selection and deployment, ensure timely approvals for alternate technologies in difficult areas, put in place a robust mechanism to monitor network reliability, delivery of minimum assured speeds etc., so that the intended benefits of IP-MPLS architecture and multi technology approach are fully realised across all Gram Panchayats and connected villages.

Enhancing Project Monitoring, Digital Oversight and Efficient Fund Disbursement Mechanisms

11. According to the Department, a multi-layered monitoring framework has been established for BharatNet and other DBN projects, including Empowered and Steering Committees, regular reviews by DoT/DBN, and the setting up of Central and State Network Operations Centres (NOCs). It was further informed that an AI-driven, app-based progress monitoring system (e-Mulyankan) has been implemented for mobile tower projects, enabling real-time tracking through geo-tagging, stage-wise monitoring of construction, predictive analytics and centralized dashboards. Thereby transparency, planning and risk mitigation have improved. Additionally, the Claim Settlement and Management System (CSMS

2.0) has been developed as an end-to-end digital platform for subsidy disbursement, integrating automated workflows, real-time dashboards and KPI monitoring. This has resulted in significant reduction in processing timelines, elimination of extensive paperwork and digital processing of approximately ₹14,000 crore with over 500 sanctions generated. The Committee find that the introduction of advanced digital monitoring tools and automated financial management systems represents a significant improvement in transparency, efficiency and accountability. However, their effectiveness will depend on consistent implementation of the above measures across all implementing agencies, timely data inputs and integration with decision-making processes at various levels. The Committee recommend the Department to ensure mandatory adoption and effective utilisation of systems such as e-Mulyankan and CSMS 2.0 across all DBN projects, strengthen integration between technical and financial monitoring platforms, and continuously refine these systems based on field feedback, so as to enable real-time oversight, faster decision-making and efficient fund utilisation for timely completion of telecom infrastructure projects.

Strengthening Third-party Audit Mechanisms, Private Sector Participation and Resolution of Field-level Challenges

12. While examining the subject, the Committee find that the Department has instituted a Third-Party Audit (TPA) mechanism through a 10-year agreement with M/s ITI (since July 2024) for verification of DBN-funded mobile projects. This includes physical verification of commissioned sites, coverage evaluation through drive tests, identification of redundant or duplicate infrastructure across Telecom Service Providers (TSPs), and verification of subsidy disbursal. The Department has also informed that audits have identified issues such as data outages, coverage gaps, weak signal strength and infrastructure duplication, which are being communicated to TSPs for rectification and are also being integrated into future planning to improve network design and service quality. Further, it was also stated that Bharat Net Udyamis (BNUs) are being engaged for last mile connectivity with financial incentives and revenue-sharing arrangements to ensure sustainability, and that coordination mechanisms are in place to avoid duplication of infrastructure in schemes such as LWE Phase-II through clear allocation of States among TSPs. Further, the Department highlighted the issues faced by private operators, including land, forest clearances, security concerns and accessibility challenges, are being addressed through coordination with State Governments, Ministry of Home Affairs, CRPF, PMG portal and other institutional mechanisms, with over 1,400 issues already resolved though around 200 locations still face constraints. The Committee find that while the introduction of third-party audits and structured private sector participation reflects a robust framework for improving accountability and service delivery, persistent field-level

challenges such as security concerns, local opposition, clearance-related issues impact timely execution and quality of outcomes, and the effectiveness of audit findings depends on timely corrective action and integration into planning and implementation processes. The Committee recommend the Department to further strengthen the TPA framework by ensuring time-bound compliance of audit observations by TSPs, enhance support mechanisms for BNUs to sustain last-mile connectivity, and take up coordinated efforts with State Governments and security agencies to resolve pending field-level issues, for efficient infrastructure deployment and high-quality telecom services in rural and remote areas. The Committee urge the Department to take comprehensive and stringent action on audit findings such as data outages, coverage gaps, weak signal and infrastructure duplication.

Mobile connectivity in the North-East and remote areas

13. While examining the mobile connectivity in the North-East and remote areas, the Committee note that it is being ensured through planned tower installations supported by power backup, microwave/OFC backhaul, 24x7 centralized monitoring, and penal provisions for uptime, along with deployment of appropriate technologies. The Department has submitted that under the Aspirational Districts scheme, out of 7,287 ‘as per agreement villages’, 7,234 have been surveyed and 4,695 villages covered through commissioning of 3,050 towers (against an executable scope of 3,707 towers), while in North-East States, 3,874 towers are providing connectivity to 5,604 villages/locations. The Committee find that although substantial progress has been achieved in terms of infrastructure creation, the Department may also adequately ensure reliable and continuous quality of service, sharing of towers by telecom operators particularly in difficult terrains where network performance is critical. The Committee, opine that the Department may shift towards an outcome-based framework with clearly defined service quality benchmarks, ensure time-bound commissioning of the remaining towers under executable scope, strengthen real-time monitoring of uptime and service quality, and prioritize saturation of uncovered and partially covered villages to bridge the digital divide.

Connectivity Projects in LWE areas, border regions, and security-sensitive zones

14. The Department has submitted that connectivity projects in LWE areas, border regions and security-sensitive zones are being implemented under various schemes, with 2,275 out of 2,343 towers upgraded under LWE Phase-I (about 97%), and 1,186 towers commissioned covering 1,245 locations under LWE Phase-II. While in Border Out Post (BOP) projects, 251 towers have been commissioned providing coverage to 337 locations (against an initial plan of 585

towers), with additional sites under erection. The Department cited challenges such as difficult terrain, security constraints, forest and wildlife clearances, Right of Way issues, and logistical limitations. The Committee find that although progress has been made, better project execution will help remove any challenges that cause delays and extensions in timelines in strategically critical border areas. The Committee note that timely provisioning of reliable connectivity in such areas is of utmost importance not only for socio-economic development but also for national security, and delays in execution dilute the intended strategic outcomes. The Committee, therefore, call upon the Department to establish a high-level empowered coordination mechanism involving concerned Ministries and agencies to fast-track clearances, introduce frequent follow up meetings for expediting land clearance/Right of way/ forest and wildlife clearances in security sensitive and border areas, enhance logistical and security support to Implementing Agencies, and enforce strict timelines with accountability frameworks to ensure earliest completion and operationalization of all projects in such critical regions.

Telecom Technology Development Fund (TTDF)

15. The Department has submitted that Telecom Technology Development Fund (TTDF) Scheme launched on 01.10.2022 is aimed at promoting research and development in rural-specific communication technologies, fostering collaboration among academia, start-ups, research institutions and industry to enhance the telecom ecosystem in India. Key features of the scheme include: Grants to Indian entities to develop technologies tailored to India's unique needs and build a telecom product ecosystem; Promotion of R&D in Telecommunications Technologies and Solutions; Commercialization of technology to promote Atmanirbhar Bharat and reduce dependence on imports; Enabling affordable broadband and mobile services; Creation of Intellectual Property Rights (IPR); and opening export opportunities while reducing imports and contributions to International Telecom Standard bodies.

As on 28.02.2026, a total of 136 R&D projects have been approved with sanctioned funding of about ₹543 crore, covering advanced domains such as 6G (104 projects; ₹271 crore), 5G (11 projects; ₹34.5 crore), quantum communication (5 projects; ₹22 crore), optical communication (3 projects; ₹174 crore), satellite communication (4 projects; ₹19 crore), and other areas (9 projects; ₹ 22.5 crore). The scheme also includes support mechanisms such as reimbursement of testing and certification costs (up to ₹50 lakh per entity); proposals for Quantum Standardisation and Testing Labs (59 proposals under evaluation); and pilot initiatives like the "Samriddh Village – Integrated Phygital Services" in selected rural locations with an approved budget of ₹5.5 crore. The Department has also submitted that project selection is undertaken through a structured multi-stage process involving screening, Technical Evaluation Committee (TEC) assessment,

and Administrative Committee approval, based on parameters such as technical feasibility, scalability, commercialization potential and innovation, while monitoring is ensured through Project Execution Committees (PECs), milestone-based funding and periodic reviews. The Committee understand that the TTDF scheme has made notable progress in sanctioning a large number of projects across emerging and frontier technologies and there appears to be a greater concentration of projects in highend domains such as 6G and 5G to bridge the digital divide. The Committee note that although a structured monitoring framework exists, the outcomes in terms of commercialization, scalability, and tangible impact on rural connectivity may also be clearly demonstrated. The Committee observe that while TTDF is a significant initiative for fostering innovation and promoting Atmanirbhar Bharat in the Telecom Sector, successful translation of funded R&D into scalable, deployable and affordable solutions addressing connectivity challenges in rural and remote areas will make it more effective as well as productive. Taking various aspects into consideration, the Committee recommend that the Department may prioritize applied and field-ready technologies along with advanced research, significantly expanding pilot deployments in rural and underserved areas for real-world validation, and establishing clear outcome based metrics to assess commercialization, scalability, and socio-economic impact of funded projects. The Committee further recommend that stronger linkages may be created between TTDF-funded innovations and existing flagship connectivity programmes such as BharatNet and DBN to facilitate faster adoption, while enhancing monitoring and accountability mechanisms to ensure timely completion of projects, effective utilization of funds and measurable improvements in rural telecom connectivity.

Public Sector Undertakings (PSUs) *vis-à-vis* Digital Bharat Nidhi (DBN) and Amended BharatNet Program (ABP)

16. The Committee, while examining the subject, found that various Public Sector Undertakings (PSUs) have been engaged under the Digital Bharat Nidhi (DBN) and Amended BharatNet Program (ABP). Bharat Sanchar Nigam Limited is the Project Management Agency and executing agency for major projects, While PSUs such as Rail Vikas Nigam Limited and ITI Limited have been appointed as Project Implementation Agencies, RailTel Corporation of India Limited, Engineering Projects India Limited and Broadcast Engineering Consultants India Limited have been appointed as Independent Engineers. The Department has submitted that as on 28.02.2026, under major DBN funded projects with a total outlay of ₹34,628 crore, against a scope of 26,549 towers covering 35,260 villages, only 16,864 towers have been commissioned covering 23,977 villages. Project-wise progress indicates that under 4G Saturation, 14,301 out of 23,570 towers could be commissioned; under BOP/BIP projects, 251 out of 602 towers have been commissioned; while better progress is observed in Lakshadweep (100%

completion) and LTE Phase-I (2,275 out of 2,340 towers upgraded). The Department also highlighted delays in earlier projects in North-East regions due to difficult terrain, repeated time extensions, and requests for additional funding outside contractual provisions. The Committee note that although substantial financial outlay and institutional mechanisms are in place, variance in time taken for execution, particularly in large-scale projects like 4G saturation and border connectivity, with uneven performance and delay in execution across PSUs and regions is seen. The Committee find that this indicates avenues for optimisation in project planning, need for expediting execution, risk assessment and ensuring accountability mechanisms. The Committee recommend that the Department may strengthen pre-project appraisal and realistic costing, enforce strict adherence to timelines and contractual obligations, explore performance linked incentives and disincentives for PSUs, and establish a unified monitoring framework to track efficient progress/completion of DBN and BharatNet projects.

17. In its submission, the Department has informed the Committee that Power Grid Corporation of India Limited is playing a significant role in telecom and digital infrastructure through initiatives such as smart grid systems (ULDC, URTDSM), deployment of advanced HVDC technologies, expansion of telecom services through its subsidiary Power Tel, and support to BharatNet through OFC laying. The Department has further highlighted that POWERGRID Corporation has implemented 13 Renewable Energy Management Centres (with one more under implementation), installed 20 STATCOM/SVC systems (with 10 more underway), and adopted asset monetization through Infrastructure Investment Trust (InvIT), raising ₹8,876.56 crore to fund infrastructure expansion. However, challenges such as difficult terrain, Right of Way delays, multi-agency clearances, non-readiness of downstream networks, power supply constraints, and seasonal limitations continue to affect project execution, particularly in BharatNet Phase-I. The Committee note that if we address these challenges, the full potential of PSU-led infrastructure development and digital connectivity initiatives can be realized. The Committee, therefore urge the Department to institutionalize a high-level coordination mechanism involving all relevant stakeholders to expedite clearances and resolve Right of Way issues, ensure synchronization between backbone infrastructure and last mile readiness. The Committee further desire that the Department may promote greater integration of telecom and power infrastructure for efficient resource utilization and encourage PSUs to leverage innovative financing and technological solutions while maintaining strict oversight to ensure timely completion and optimal utilization of assets.

18. According to the Department, as on 28.02.2026, a total of 33,422 towers has been planned under various 4G schemes, out of which 22,840 towers have been commissioned across States/UTs, reflecting an overall commissioning level of about 68%. Scheme-wise analysis reveals that out of 26,549 towers planned

under BSNL-led projects, 16,864 towers have been commissioned, while under private TSP-led projects, 5,976 out of 6,873 towers have been commissioned. The Department further submitted that 28.73 lakh subscribers (approximately 1.4 crore population, based on an assumed family size of five) are currently benefiting from these services, with projected coverage expected to reach about 40.5 lakh subscribers (around 2 crore population) upon completion of the planned ~34,700 towers. The Department also submitted that total data consumption across schemes stood at 60,269 TB in February 2026, with an average monthly usage of 21.48 GB per subscriber, which is lower than the national average of 25.70 GB. The State-wise details given by the Department indicate that while substantial progress has been made in tower commissioning and expansion of network coverage, cross-State variance in execution (with relatively lower commissioning in difficult regions such as Arunachal Pradesh, UT of Jammu & Kashmir and certain North-Eastern States), as well as variance between planned and commissioned towers is seen. Further, the lower-than-national-average data consumption suggests possible issues relating to network quality, accessibility, affordability or lack of digital awareness in the targeted regions. The Committee find that although the schemes have begun to deliver tangible benefits in terms of connectivity and usage, the pace of execution and quality of service need further improvement to fully realize the intended socio-economic impact, particularly in remote, border and underserved areas. The Department ought to accelerate the work for completion of the remaining towers in a time-bound manner with special focus on underperforming States and difficult terrains, adopt targeted measures to improve service quality and network reliability so as to enhance data usage closer to national levels. The Committee observe the need to develop a more robust and transparent framework for assessing actual population coverage and impact beyond notional assumptions. The Committee also recommend that periodic State wise performance reviews and corrective interventions be institutionalized in order to ensure balanced and equitable expansion of telecom services across the Country.

19. The Committee are informed that multiple schemes have been implemented over time to provide mobile connectivity in remote, LWE affected, border and underserved areas through a combination of PSU-led and private operator-led models. Under LWE Phase-I (2G), 2,340 out of 2,355 approved sites have been commissioned and the project stands largely completed, barring a few sites affected by security and permission issues. Similarly, under LWE Phase-II (4G), 1,186 locations have been covered through commissioning of 1,245 towers. In the CTD P-NER (2G) scheme, 1,358 towers have been installed covering 1,246 villages and 283 National Highway sites against the original target of 2,004 towers. Under schemes operated by Bharat Sanchar Nigam Limited, significant projects such as the 4G Saturation Scheme (14,301 out of 23,570 towers commissioned covering 21,328 villages), BOP/BIP Scheme (251 out of 584 towers commissioned covering

337 locations), and LWE Phase-I upgradation (2,275 out of 2,343 towers upgraded) are still under implementation stage, though timelines have been extended. Further, under schemes implemented through private operators such as Reliance Jio Infocomm Limited, Bharti Airtel Limited and Bharti Hexacom Limited, notable progress has been achieved in 7,287 Aspirational Districts (4,695 villages covered through 3,050 towers), 502 Aspirational Districts (245 towers commissioned), Arunachal Pradesh & Assam (696 sites covering over 1,200 villages), Meghalaya (436 towers covering 626 villages), and 354 uncovered villages (completed with 295 towers). While several legacy schemes such as LWE Phase-I and certain smaller schemes have achieved near-completion, many ongoing schemes— particularly large-scale ones like 4G Saturation, BOP/BIP, CTDN-NER and Aspirational District programmes—are facing delays, scope revisions and shortfalls between planned and commissioned infrastructure. The data further reveals a pattern of time overruns, reduction in executable scope after surveys, and persistent challenges such as security constraints, Right of Way issues, difficult terrain and dependence on various Implementing Agencies. The Committee observe that although several schemes have enabled expansion of telecom infrastructure across diverse geographies, fragmented implementation, frequent timeline extensions and variation between planned targets and actual achievements may impact the overall efficiency and timeliness of service delivery. The Committee, therefore, call upon the Department to adopt a sound implementation strategy with unified planning and monitoring across all projects, ensure adherence to timelines, strengthen coordination among PSUs and private operators to avoid duplication and delays and addressing recurring challenges such as RoW permissions, security clearances, and backhaul constraints through a dedicated institutional mechanism. The Committee further recommend that scheme-wise financial and physical progress may be closely aligned and periodically monitored/reviewed to ensure optimal utilization of public funds and timely realization of connectivity objectives across all targeted regions.

20. The Department has implemented BharatNet across Phases I and II and the Amended BharatNet Program (ABP) through multiple Implementing Agencies including PSUs, State-led Special Purpose Vehicles (SPVs) and private entities. Phase-I was largely completed in most States by agencies such as Bharat Sanchar Nigam Limited, Power Grid Corporation of India Limited and RailTel Corporation of India Limited. While Phase-II has seen a mix of completed and ongoing works through State-led models and central agencies. The Department has submitted that ABP is currently under implementation across most States through agencies such as ITI Limited, Rail Vikas Nigam Limited, HFCL Limited, Polycab India Limited, and State SPVs, with varied progress statuses. The Committee note that while Phase-I has been largely completed, Phase-II and ABP implementation show significant inter-State variation, with many States

witnessing a lag or transition of unfinished scope to subsequent phases. Instances such as diversion of unfinished works in Arunachal Pradesh to ABP, court-related delays in Chhattisgarh, damage to OFC due to road widening in Sikkim and ongoing implementation in large States such as Maharashtra, Uttar Pradesh and Telangana highlight persistent structural and execution challenges. The various Implementing Agencies and models ranging from PSU-led to State-led and private participation—may also result in coordination issues, lack of uniformity in execution standards and progress. Taking the above into consideration, the Committee recommend the Department to streamline the implementation framework by strengthening centralized oversight while ensuring effective coordination among PSUs, State agencies and private partners; standardize execution and monitoring protocols across all States; put in place robust mechanisms to address recurring issues such as OFC damage, delays due to clearances and scope spillovers between phases. The Committee further recommend that special focus be given to expedite the work of States running behind schedule and those with transitioned or disrupted works. They may be given clearly defined timelines and accountability to ensure set goals for completion and optimal utilization of BharatNet infrastructure across the Country.

21. The Department has informed the Committee that BharatNet implementation across Phase-I and Phase-II has involved a mix of Public Sector Undertakings and private partners. In Phase-I, agencies such as Bharat Sanchar Nigam Limited, RailTel Corporation of India Limited, and Power Grid Corporation of India Limited were responsible for implementation of BharatNet in 1,20,208 Gram Panchayats (GPs), out of which only 40,610 GPs have operational Points of Presence (PoPs). In Phase-II, implementation has been undertaken through three models—State-led, CPSU-led, and BBNL-led private model—involving agencies such as HFCL Limited, Polycab India Limited, ITI Limited and others. Under the State-led model, 65,356 GPs were planned, out of which 28,248 GPs have operational PoPs; under the CPSU-led model, 2,918 GPs are operational out of 24,229 planned; and under the BBNL-led private model, 6,872 GPs are operational against planned targets in Bihar and Punjab. These indicate a significant variance between planned targets and operationalization of infrastructure across all models, particularly in Phase-I where less than half of the planned GPs have functional PoPs, and in Phase-II CPSU-led model where progress remains particularly slow. The data further reflects variation in performance across implementation models and agencies with relatively better progress in the BBNL-led private model compared to CPSU-led implementation. The Committee find that while the involvement of various public and private partners has enabled scaling up of BharatNet, variable performance standards, inadequate accountability mechanisms and non-synchronized execution has resulted in sub-optimal outcomes and underutilization of created infrastructure. The Committee would like to emphasise that the Department may rationalize and streamline the

implementation framework by introducing uniform performance benchmarks and accountability standards across all implementing partners, undertake a comparative performance evaluation of PSU-led and private-led models to emulate best practices, and prioritize the operationalization of already created infrastructure at the earliest. The Committee further recommend that lagging models, particularly CPSU-led implementation, be strengthened through capacity augmentation or reallocation of work where necessary, and a robust, real-time monitoring mechanism be instituted to ensure timely completion and effective utilization of BharatNet infrastructure across all States.

Based on Fund Allocation & Utilisation – Annexure III

22. Under BharatNet Phase-I and Phase-II, a total expenditure of ₹12,313.42 crore and ₹28,321.10 crore respectively has been incurred across States/UTs, with significant allocations in large States such as Uttar Pradesh (₹1,769.33 crore in Phase-I and ₹3,556.25 crore in Phase-II), Maharashtra (₹1,777.72 crore and ₹3,566.43 crore), Madhya Pradesh (₹1,749.14 crore and ₹2,040.98 crore), and Gujarat (₹504.62 crore and ₹3,293.65 crore), along with a substantial ₹2,995.99 crore categorized under central/other expenditures. These are indicative of wide inter-State variation in fund allocation and utilization, with disproportionately high investments in certain States while relatively lower allocations are observed in smaller and North-Eastern States. The Committee note that while financial outlays have been substantial, the funds allocated and actual operational outcomes across States may be uniformly evident with regard to its actual requirement, efficiency and equity in resource utilization. Therefore, the Committee recommend that the Department establish a clearer linkage between financial allocation and measurable outcomes while also enhance transparency by disaggregating central-level expenditures. Periodic State-wise financial performance audits be undertaken to ensure optimal utilization of public funds.

RFP & Implementation Status

23. The Department has apprised the Committee that under the Amended BharatNet Program (ABP), multiple packages have been awarded to Implementing Agencies such as NCC Limited, Rail Vikas Nigam Limited, Polycab India Limited, ITI Limited, HFCL Limited, and STL Limited, with several packages having reached agreement stage during 2025, while others are still at the stage of Award of Work Order (AWO). The Department has also indicated that State-led models in several States are at varying stages, including proposal, SPV formation, and tendering. Independent Engineers such as Engineering Projects India Limited, Broadcast Engineering Consultants India Limited and RailTel Corporation of India Limited have also been appointed for oversight. Though progress has been made in awarding contracts, a significant number of packages remain at preliminary or intermediate stages, and State-led models are yet to reach execution stage in

several States due to delays in SPV formation and approvals. The Committee are, therefore of the opinion that timely tendering and contract finalization will positively impact rollout of the ABP in an efficient manner. The Committee would like to prevail upon the Department to streamline the procedure so as to expedite completion of all pending AWOs and agreements, closely monitor the progress of State-led SPVs, and ensure timebound transition from award stage to execution stage. The Committee further recommend that the role of Independent Engineers may be strengthened for real-time oversight and instituting strict milestone-based timelines to avoid any possible slippages in implementation.

Scope & Infrastructure Planning

24. According to the Department, under the ABP, a massive infrastructure rollout has been envisaged covering 4,216 blocks, 1,60,930 Gram Panchayats (including upgradation and new connections), and approximately 4,40,994 km of Optical Fibre Cable (OFC) under BSNL-led packages, along with additional coverage of 1,04,115 GPs and 1,68,173 km OFC under State-led models. Largescale packages such as Madhya Pradesh (22,896 GPs; 65,648 km OFC), Uttar Pradesh (East & West combined over 59,000 GPs), and Maharashtra (28,237 GPs under State-led model) indicate the magnitude of the programme. The Committee observe that the scale and complexity of the project are extremely high, involving extensive new network creation in addition to upgradation of existing infrastructure, with significant inter-State variation in scope and readiness. Further, certain areas in State such as Sikkim are yet to be tendered, while others involve minimal upgradation but substantial new deployment, indicating sound planning requirements. The Committee would like to emphasise that the Department may adopt a phased and prioritized implementation strategy through robust planning and coordination, focus on high-impact and readiness-based areas, ensure adequate capacity and resource planning for large packages, and integrate upgradation and new deployment activities. The Committee further recommend close monitoring of OFC rollout progress and alignment with last-mile connectivity to ensure that the created infrastructure translates into actual service delivery outcomes.

NEW DELHI;
05 August, 2026

14 Sravana, 1948 (Saka)

DR. NISHIKANT DUBEY,
Chairperson,
Standing Committee on
Communications and Information Technology.

Annexure III

Fund allocation and utilisation under BharatNet Phase-I and Phase-II (as on 28.2.2026)

S. No.	Name of States / UT	In crore ₹	
		Phase-I	Phase-II
1	Andaman and Nicobar Islands	16.60	15.01
2	Andhra Pradesh	300.56	1,435.39
3	Assam	177.70	88.69
4	Bihar	506.30	1,075.92
5	Chhattisgarh	560.04	2,059.01
6	Gujarat, Dadra and Nagar Haveli and Daman and Diu	504.62	3,293.65
7	Haryana	394.70	237.55
8	Himachal Pradesh	85.05	36.95
9	Jammu and Kashmir (including Ladakh)	77.11	218.19
10	Jharkhand	301.93	782.00
11	Karnataka	673.27	551.61
12	Kerala (including Lakshadweep)	59.81	193.55
13	Madhya Pradesh	1,749.14	2,040.98
14	Maharashtra	1,777.72	3,566.43
15	NE-I (Meghalaya, Mizoram and Tripura)	214.60	52.89
16	NE-II (Arunachal Pradesh, Manipur and Nagaland)	216.32	135.80
17	Odisha	541.47	737.84
18	Puducherry	5.20	5.02
19	Punjab (including Chandigarh)	385.78	1,015.09
20	Rajasthan	1,023.05	640.31
21	Sikkim	15.21	71.82
22	Tamil Nadu	10.81	1,356.51
23	Telangana	230.76	1,912.05
24	Uttar Pradesh	1,769.33	3,556.25
25	Uttarakhand	277.03	68.86
26	West Bengal	439.31	177.74
27	Others (NOC, BBNL administrative expenses and other central level expenses etc.) for Phase I & II	0	2,995.99
	Total	12,313.42	28,321.1

Status of RFP for selection of PIA of different packages under Amended BharatNet Program

Package no	Package name	Lead bidder	Status
1	Madhya Pradesh, Dadra and Nagar Haveli and Daman and Diu	M/s NCC Ltd.	AWO issued on 25.3.2025 and agreement signed on 19.5.2025
2	Rajasthan		AWO has been issued
3	Uttar Pradesh (East)	M/s RVNL	AWO issued on 15.1.2025 and agreement signed on 20.2.2025
4	Karnataka, Goa, Puducherry	M/s Poly Cab	AWO issued on 5.5.2025 and agreement signed on 17.6.2025
5	Uttarakhand	M/s NCC ltd	AWO issued on 25.3.2025 and agreement signed on 19.5.2025
6	Uttar Pradesh (West)	M/s RVNL	AWO issued on 15.1.2025 and agreement signed on 20.2.2025
7	Bihar	M/s Poly Cab	AWO issued on 15.1.2025 and agreement signed on 12.3.2025
8	Himachal Pradesh	M/s ITI	AWO issued on 12.1.2025 and agreement signed on 25.2.2025
9	West Bengal, Andaman and Nicobar Islands	M/s ITI	AWO issued on 12.1.2025 and agreement signed on 25.2.2025
10	Haryana		AWO has been issued
11	NER-1 (Meghalaya, Mizoram and Tripura)		AWO has been issued
12	Punjab	M/s HFCL	AWO issued on 15.1.2025 and agreement signed on 19.2.2025
13	Jammu and Kashmir and Ladakh	M/s STL	AWO issued on 26.3.2025 and agreement signed on 11.6.2025
14	Assam		AWO has been issued
15	NER-2 (Arunachal Pradesh, Nagaland and Manipur)	M/s ITI	AWO issued on 5.5.2025 and agreement signed on 26.6.2025
16	Kerala	M/s GR Infra projects Ltd	AWO issued on 5.5.2025 and agreement signed on 16.6.2025

State-led model		
S.	State	Status

no.		
1	Gujarat	Quadripartite Agreement signed between Government of Gujarat and GFGNL with DBN and BSNL. GFGNL has floated RFP for selection of PIA on 29.1.2025 and for State NoC on 3.3.2025 and the bids are under evaluation
2	Odisha	Odisha State Government has conveyed the approval for implementation of ABP through BSNL on 6.1.2026
3	Maharashtra	In principle approval has been issued. Formation of new SPV is under process
4	Andhra Pradesh	In principle approval for the implementation of ABP in the State has been issued. New SPV is formed. Draft agreement under discussion with State.
5	Tamil Nadu	In principle approval for implementation of ABP in the State of Tamil Nadu, for utilisation part only, has been issued.
6	Telangana	In principle approval has been issued. Formation of new SPV is under process.
7	Jharkhand	In principle approval has been issued. Formation of new SPV is under process.
8	Chhattisgarh	In principle approval has been issued. Formation of new SPV is under process.

Independent Engineer			
1	For PIA packages Rajasthan, Himachal Pradesh, Jammu and Kashmir, Ladakh, Haryana and Punjab	M/s EPIL Ltd.	AWO issued on 2.7.2025 and agreement signed on 8.8.2025
2	For PIA packages Madhya Pradesh, Dadra and Nagar Haveli and Daman and Diu, Uttarakhand and Uttar Pradesh (West)	M/s EPIL	AWO issued on 3.7.2025 and agreement signed on 8.8.2025
3	For PIA packages Karnataka, Goa, Puducherry, NER 1, NER 2, Kerala	M/s BECIL Ltd	AWO issued on 22.8.2025 and agreement signed on 30.9.2025
4	For PIA packages Uttar Pradesh (East), Bihar, West Bengal and Andaman and Nicobar Islands	M/s RAILTEL	AWO issued on 1.8.2025 and agreement signed on 16.9.2025

Annexure B

S. no.	Package number	Package name	ABP scope as per tender floated by BSNL for BSNL-led packages				
			Block	GP			OFC km
				Upgradation	New	Total	
1	1	Madhya Pradesh, Dadra and Nagar Haveli and Daman and Diu	316	17850	5046	22896	65,648
2	3	Uttar Pradesh (East)	587	34,428	8,644	43,072	56,343
3	4	Karnataka, Goa, Puducherry	245	6,182	209	6,391	51,504
4	5	Uttarakhand	95	1,819	6,118	7,937	26,699
5	6	Uttar Pradesh (West)	240	12,449	3,769	16,218	26,264
6	7	Bihar	534	8,324	81	8,405	22,664
7	8	Himachal Pradesh	80	252	3,363	3,615	20,115
8	9	West Bengal, Andaman and Nicobar Islands	353	2,744	668	3,412	18,825
9	12	Punjab	151	12,664	673	13,337	15,421
10	13	Jammu and Kashmir and Ladakh	318	413	4,079	4,492	13,308
11	15	NER-2 (Arunachal Pradesh, Nagaland and Manipur)	258	508	5,394	5,902	12,190
12	16	Kerala	152	977	1	978	8,500
13	2	Rajasthan	352	8,746	2,606	11,352	57,543
14	10	Haryana	142	6,082	174	6,256	18,023
15	11	NER-1 (Meghalaya, Mizoram and Tripura)	130	761	3,056	3,817	15,623
16	14	Assam	229	1,502	1,163	2,665	12,324
17	—	Sikkim	34	173	12	185	To be tendered by BSNL
Total			4,216	1,15,874	45,057	1,60,930	4,40,994
18	State-led	Gujarat	238	14,264	23	14,287	30,836
19		Andhra Pradesh	664	1,692	480	13,426	5,761
20		Chhattisgarh	142	4,048	1,670	11,682	26,926
21		Jharkhand	260	4,387	8	4,395	9,901
22		Tamil Nadu	385	-	-	12,520	-
23		Maharashtra	351	15,171	326	28,237	64,197
24		Odisha	314	6,755	44	6,799	26,128
25		Telangana	691	1,946	36	12,769	4,424
		Total	3,045	48,263	2,587	1,04,115	1,68,173

**STANDING COMMITTEE ON COMMUNICATIONS AND
INFORMATION TECHNOLOGY (2024-25)**

MINUTES OF THE TWENTY-SECOND SITTING OF THE COMMITTEE

The Committee sat on Tuesday, the 9th September, 2025 from 1500 hours to 1635 hours in Committee Room 'C', Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey- Chairperson

MEMBERS

Lok Sabha

2. Shri C. N. Annadurai
3. Dr. Rabindra Narayan Behera
4. Shri Anup Sanjay Dhotre
5. Shri Gurmeet Singh Meet Hayer
6. Shri Sanjay Haribhau Jadhav
7. Shri S. Supongmeren Jamir
8. Smt. Poonamben Hematbhai Maadam
9. Shri G. Kumar Naik
10. Shri Shafi Parambil
11. Dr. M.K. Vishnu Prasad
12. Shri Radheshyam Rathiya
13. Shri Ramasahayam Raghuram Reddy
14. Shri Arun Kumar Sagar
15. Shri Devesh Shakya
16. Shri Vishnu Datt Sharma

Rajya Sabha

17. Smt. Priyanka Chaturvedi
18. Shri Amar Pal Maurya
19. Shri Kartikeya Sharma
20. Shri Lahar Singh Siroya
21. Shri K.T.S. Tulsi

Secretariat

- | | | | |
|----|---------------------|---|----------------------|
| 1. | Shri Y. M. Kandpal | - | Additional Secretary |
| 2. | Smt. A. Jyothirmayi | - | Director |
| 3. | Shri Amrish Kumar | - | Deputy Secretary |
| 4. | Shri Rajesh Mohan | - | Deputy Secretary |

The Committee considered and adopted the following Draft Reports:-

- (i) Draft Report on the Subject 'Impact of Information Technology Agreement in the new age' relating to the Ministry of Electronics and Information Technology.
- (ii) Draft Report on the Subject 'Review of mechanism to curb Fake News' relating to the Ministry of Information and Broadcasting.

2. Thereafter, the Subject 'Review of the performance of schemes/ projects under Digital Bharat Nidhi (DBN) implemented by Public and Private Sector' was taken up for discussion.

LIST OF WITNESSES

DEPARTMENT OF TELECOMMUNICATIONS (DBN)

Sl. No.	Name	Designation
1.	Dr. Neeraj Mittal	Secretary (T)
2.	Shri Mukesh Kumar Gupta	DDG (SP)
3.	Shri Upendra Bakolia	JA(T), DBN
4.	Dr. Sanjiwan Sinha	DDG (PMU), DBN
5.	Shri Ritesh Kavdia	DDG (Mobile), DBN
6.	Shri Sanjay Kumar	JA(F), DBN
7.	Shri Bidhi Prakash Sharma	DDG (I), DBN

BSNL

Sl. No.	Name	Designation
1.	Shri A. Rober J. Ravi	CMD
2.	Shri Sandeep Govil	Director (CM)
3.	Shri Sudhakara Rao Papa	Director (EB)

PGCIL

Sl. No.	Name	Designation
1.	Shri R. K. Tyagi	CMD
2.	Shri Yatindra Dwivedi	Chairman (Powergrid Teleservices)

3.	Shri L. K. Khajkumar	Executive Director, CP (Power Grid)
4.	Shri Sanjay Sharma	CEO, Powergrid Teleservices
5.	Shri A Jagannath Rao	Chief General Manager, CP

RAILTEL

Sl. No.	Name	Designation
1.	Shri Sanjai Kumar	Chairman and Managing Director
2.	Shri Manoj Tandon	Director/Project, Operations and Maintenance
3.	Shri Harish Pawaria	Executive Director/ Corporate Coordination
4.	Shri Manish Mishra	Director (IT)

BHARTI AIRTEL

Sl. No.	Name	Designation
1.	Shri Rahul Vatts	Chief Regulatory Officer
2.	Shri Rajani Kant Pandey	AVP, Head Regulatory Finance

RJIL

Sl. No.	Name	Designation
1.	Shri Ravi Gandhi	President- Regulatory
2.	Shri Praveen Tiwari	Vice President- Regulatory
3.	Shri Ashok Chhoker	Project Manager- Regulatory

CSC e-Governance Services India Limited

Sl. No.	Name	Designation
1.	Shri Sanjay Kr. Rajesh	(MD & CEO), CSC SPV
2.	Shri Rajat Prasad	(CFO) CSC SPV

(The witnesses were then called in)

3. After welcoming the representatives of the Ministry of Communications (Department of Telecommunications) (DoT), PGCIL, RailTel, CSC e- Governance

Services India Ltd., BSNL, Bharti Airtel and RJIL to the sitting of the Committee, the Chairperson sought to know the performance of various schemes and projects under the Digital Bharat Nidhi (DBN), formerly known as the Universal Service Obligation Fund (USOF). The Committee sought a detailed briefing on the progress of BharatNet, especially Phase II, the total optical fibre laid, and the delays in States like Chhattisgarh, Maharashtra, Telangana, Tamil Nadu, Jharkhand, and UP (East/West). The Committee also reviewed the utilisation of the BharatNet network through leasing, Wi-Fi, and FTTH services and asked for updates on steps taken to enhance its adoption.

4. Thereafter, the representatives of DoT introduced themselves to the Committee and made a Power Point presentation highlighting the progress and challenges of the Digital Bharat Nidhi schemes, including the BharatNet Phase II rollout, optical fibre deployment, and delays in several States under different implementation models. They also highlighted the utilisation of BharatNet through bandwidth leasing, Wi-Fi, and FTTH services, as well as the status of the Amended BharatNet Programme aimed at connecting all inhabited villages. The Department also addressed the upgradation of LWE towers from 2G to 4G, the slow commissioning of mobile towers at Border Out Posts, and the rollout of 4G services in aspirational districts. Additionally, updates were provided on ongoing projects by public and private sector agencies, the Telecom Technology Development Fund, and efforts to monitor and improve scheme performance.

5. The Members then raised a range of queries and concerns, particularly w.r.t. the implementation of the Amended BharatNet Programme, connectivity issues in various parts of the country, LWE tower upgradation to 4G, mobile service provisioning at Border Out Posts and expressed concern over significant delays. Members emphasised on review of progress in various schemes, 4G service rollout in aspirational districts and the CTD schemes for the North-Eastern Region. Members sought updates on major ongoing projects by public and private entities and ascertained details on completion of the projects. The Committee emphasized the importance of a robust monitoring and control system to ensure timely implementation and performance of all telecom-related schemes.

6. The representatives of Ministry of Communications (Department of Telecommunications) (DoT) responded to most of the queries raised by the Members. The Chairperson, then, directed that written replies to the points on which information was not readily available may be furnished to the Committee within ten days.

7. Thereafter, the Chairperson thanked the representatives of the Ministry/Department/ Public Undertakings/Private Organisations for depositing before the Committee.

The witnesses then withdrew.

A copy of verbatim record of the proceedings was kept on record.

The Committee, then, adjourned.

**STANDING COMMITTEE ON COMMUNICATIONS AND
INFORMATION TECHNOLOGY (2025-26)**

MINUTES OF THE FIFTEENTH SITTING OF THE COMMITTEE

The Committee sat on Monday, the 3rd August, 2026 from 1600 hours to 1900 hours in Committee Room No. '3', Extension to Parliament House Annexe, New Delhi.

PRESENT

Dr. Nishikant Dubey - Chairperson

MEMBERS

Lok Sabha

2. Shri C.N. Annadurai
3. Shri Anil Baluni
4. Dr. Rabindra Narayan Behera
5. Shri Anup Sanjay Dhotre
6. Shri S. Supongmeren Jamir
7. Smt. Poonamben Hematbhai Maadam
8. Shri Shafi Parambil
9. Dr. M. K. Vishnu Prasad
10. Ms. Kangna Ranaut
11. Shri Radheshyam Rathiya
12. Shri Arun Kumar Sagar
13. Shri Devesh Shakya
14. Shri Vishnu Datt Sharma
15. Shri Rajesh Verma

Rajya Sabha

16. Shri Sanjay Bhatia
17. Shri Christopher Manickam
18. Shri Amar Pal Maurya
19. Shri Rajneesh Kumar Agrawal
20. Shri Kanad Purkayastha
21. Shri Kartikeya Sharma
22. Shri Lahar Singh Siroya
23. Shri Bhashyam Rama Krishna

Secretariat

- | | | |
|-----------------------------|---|------------------|
| 1. Shri Harish Chandra Bist | - | Joint Secretary |
| 2. Smt. A. Jyothirmayi | - | Director |
| 3. Shri Rajesh Mohan | - | Deputy Secretary |

LIST OF WITNESSES

MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)

Sl. No.	Name	Designation
1.	SHRI S. KRISHNAN	SECRETARY
2.	SHRI AJIT KUMAR	JOINT SECRETARY
3.	SHRI DEEPAK GOEL	SCIENTIST 'G' AND GROUP COORDINATOR

MINISTRY OF HOME AFFAIRS

Sl. No.	Name	Designation
1.	SHRI GOVIND MOHAN	SECRETARY
2.	SHRI RAJESH KUMAR	CEO (I4C)
3.	SHRI RAKESH RATHI	JS (CIS)

SOCIAL AND DIGITAL PLATFORMS

Sl. No.	Name	Designation
1.	MS. UTTARA GANESH	HEAD OF PUBLIC POLICY, ASIA-PACIFIC REGION, SNAPCHAT
2.	SHRI VINAY PRAKASH	CHIEF COMPLIANCE OFFICER, X CORP.
3.	MS. JASPREET KAUR GREWAL	HEAD OF GLOBAL GOVERNMENT AFFAIRS, INDIA, X CORP.
4.	MS. PRIYADARSHINI SREENIVASA	HEAD OF CONTENT REGULATIONS, INDIA, META
5.	SHRI AMAN JAIN	SENIOR DIRECTOR, PUBLIC POLICY, META
6.	MS. NATASHA JOG	DIRECTOR, PUBLIC POLICY, META

7.	MS. SAANJH PUROHIT	DIRECTOR, META
8.	SHRI PRASHANT ABHILEKH	GLOBAL AFFAIRS REP. GOOGLE
9.	SHRI SHAILENDRA JHA	DIRECTOR, GOVERNMENT AFFAIRS AND PUBLIC POLICY, YOUTUBE
10.	MS. MIRA SWAMINATHAN	MANAGER, PUBLIC POLICY, YOUTUBE
11.	MS. YOLYND MARIA CLIFFORD LOBO	DIRECTOR, GOOGLE INDIA
12.	SHRI S PRAVEEN KUMAR	LEAD, REGULATORY COMPLIANCE, GOOGLE

2. At the outset, the Chairperson welcomed Hon'ble Members and informed the Committee about nomination of Shri Rajneesh Kumar Agrawal and Shri Bhashyam Rama Krishna, Members of Parliament from Rajya Sabha to this Committee on 23rd July, 2026. He, on behalf of the Committee, welcomed the new Members of the Committee and expressed that their rich and varied experience will enrich Committee's deliberation and Reports. Thereafter, consideration and adoption of the following Draft Reports were taken up:

(i) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(ii) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(iii) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(iv) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(v) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(vi) XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX

(vii) Draft Report on the Subject 'Review of the performance of schemes/projects under Digital Bharat Nidhi (DBN) implemented by Public and Private Sectors' relating to Department of Telecommunications (DoT).

3. The Reports were adopted unanimously without any modification.

4. XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX..... XXXX....XXXX.

The Committee, then, adjourned.

XXXX....XXXX *Matter not related to the Report.*