

## Digital Connectivity in Rural India

### Why in News?

The Department of Telecommunications (DoT) has recently released draft rules to operationalise the Digital Bharat Nidhi.

### What is Telecom and Digital connectivity?

- **Telecom & Digital connectivity** - A systems of *interconnected communication devices* and equipment that enable *people to communicate* with each other over long distances.
- They facilitate the transmission of *voice, data, and video* signals between devices, including smartphones, computers, and other communication devices.
- The foundation of digital transformation is telecom infrastructure.
  - **Importance** - It allows extensive access, fast data transfer, and seamless communication.
- It propels the world's transition to a *digitally empowered society*.
- Integrating cutting-edge technologies like cloud computing, artificial intelligence, and the Internet of Things promotes *creativity* and *global connectedness* across sectors.

### Status of Telecom and Digital Connectivity in India

- **Global position** - It secures 60<sup>th</sup> rank in Network Readiness Index 2023
- It secures 2nd rank in Mobile broadband internet traffic within the country and in International Internet bandwidth.
- **Telecom sector** - It is *2<sup>nd</sup> largest telecom industry* in the world.
- It is the *4<sup>th</sup> largest sector in terms of FDI inflows*, contributing 6% of total FDI inflow.
- 100% Foreign Direct Investment (FDI) has been allowed.
- It contributes directly to 2.2 Mn *employment* and indirectly to 1.8 Mn jobs.
- **Teledensity** - Telephone density is the number of telephone connections for every hundred individuals living within an area.
  - India has an *overall tele-density of 85.76%*,
    - Rural market - 59.44%
    - Urban market - 133.42%.
- **Internet subscribes** - Till 2023, the total number of internet subscribers increased to 918.19 Mn (narrowband + broadband subscribers).
  - Out of total subscribers, *40.91% belong to the rural areas*.
- **5G network** - It has been *rolled out in all 28 states and 8 UTs*.
- India, in terms of median mobile broadband speed, has reached 43rd position.
- **Data consumption** - India is one of the highest consumers of data per day with *approximately 5 hours of daily time* spend on smartphones.

### What are the steps taken to promote digital connectivity in rural India?

- **BharatNet** - *Connecting 250,000 village* councils with high-speed broadband through

optical fiber cables & Wi-Fi hotspots.

- **Digital India program** - Transforming India into a digitally empowered society by providing *e-governance services* and establishing *Common Service Centers* (CSCs) at the village level.
- **USOF** - Universal Service Obligation Fund is a pool of funds *generated by a 5% Universal Service Levy* charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR).
- This money would be used to fund the expansion of telecom networks in remote and rural areas, where private companies resist to invest and develop.
- **PM-WANI** - Expanding *public Wi-Fi hotspots across rural areas* with simplified processes for setting up Wi-Fi service providers.
- **Skill development and digital literacy** - Enhancing digital literacy through programs like *DISHA and PMGDISHA*, offering digital skills training to rural populations.
- **Financial inclusion** - Providing banking and financial services through digital means with projects like *Jan Dhan Yojana, Aadhaar, and promoting digital payments*.
- **Smart villages and digital villages** - Developing *model villages* with comprehensive digital infrastructure and integrating digital technologies to improve rural life quality.
- **Digital Bharat Nidhi** - It is aimed at increasing telecom connectivity in rural areas.

### Digital Bharat Nidhi

- It will *replace Universal Service Obligation Fund* and has wider scope than USOF.
- **Objectives** - *Promoting access, affordability and delivery* of telecommunication services in under-served rural, remote and urban areas.
- Providing *targeted access for underserved groups* of society such as women, persons with disabilities and economically and socially weaker sections.
- *Funding research and development* of telecommunication services, technologies, and products.
- Supporting pilot projects, consultancy assistance and advisory support for improving connectivity.
- Creation of regulatory sandboxes.
- Developing and establishing relevant standards to meet national requirements and their standardisation in international standardisation bodies.
- *Encouraging start-ups* including the manufacturing of telecom equipment, among other things.
- **Funding** - As per the Telecom Act, contributions made by telecom companies towards this fund will *first be credited to the Consolidated Fund of India* (CFI).
- The collected funds will be *moved to the DBN* from time to time.
- **Implementation** - Centre will appoint an “administrator” who will select “DBN implementers” through “bidding” or invitation of applications from eligible persons.
- Any DBN implementer receiving funding from the DBN for establishing, operating, maintaining, or expanding a telecommunication network shall be delivered on an *open and non-discriminatory basis*.

### What impedes rural digital connectivity?

- **Infrastructure deficit** - Still there are places which lack of basic infrastructure like electricity and roads, which can hinder the establishment and maintenance of telecom networks.

- **Geographical challenges** - *Difficult terrain*, such as mountains and forests, makes infrastructure development challenging and expensive.
- **High implementation costs** - The *cost of laying fiber optic* cables and setting up telecom towers in remote areas is high.
- **Underutilisation of USOF** - It is primarily due to *underspending on the BharatNet project* for village fiber connectivity.
- **Resistance by private companies** - They resist in offering their services in rural and remote areas as they are *not considered as revenue-generating markets*.
- **Financial constraints** - *Lower income levels in rural areas* limit the ability of residents to afford digital devices and internet services.
- **Security concerns** - *Vandalism and theft* of telecom equipment and challenges in ensuring cybersecurity and protecting user data.

### What lies ahead?

- **Enhance mobile connectivity** - Setting up mobile towers in remote regions and partnering with private operators to extend mobile network coverage.
- **Provide satellite connectivity** - Using satellite communication to provide connectivity in areas with challenging terrain for terrestrial infrastructure.
- **Develop localized content & applications** - Local languages and locally relevant digital content can increase engagement.

### References

1. [The Indian Express | Digital Bharat Nidhi](#)
2. [INVEST INDIA | India's Telecom sector](#)