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 60th 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 *2nd largest telecom industry* in the world. • It is the *4th 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

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