

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.
 - \circ $\mathbf{Importance}$ 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 <u>2nd largest telecom industry</u> in the world.
- It is the <u>4th largest sector in terms of FDI inflows</u>, 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, <u>40.91% belong to the rural areas</u>.
- 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** - <u>Connecting 250,000 village</u> councils with high-speed broadband through

optical fiber cables & Wi-Fi hotspots.

- **Digital India program** Transforming India into a digitally empowered society by providing <u>*e-governance services*</u> and establishing <u>*Common Service Centers*</u> (CSCs) at the village level.
- **USOF** Universal Service Obligation Fund is a pool of funds <u>generated by a 5%</u> <u>Universal Service Levy</u> 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** - <u>*Promoting access, affordability and delivery*</u> 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 <u>open and</u> 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 <u>underspending on the BharatNet</u> <u>project</u> 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** <u>Vandalism and theft</u> 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

