BharatNet Project

For Prelims: BharatNet Project, Optical Fibre, Bharat Broadband Network, Companies Act, 1956, Village Level Entrepreneurs (Udyamis), Digital Divide.

For Mains: BharatNet Project, Significance and Challenges.

Source: IE

Why in News?

Recently, the Union Cabinet has approved Rs 1.39 lakh crore for the **Modernization of the** BharatNet project.

What is BharatNet Project?

- **About:**
  - **National Optical Fibre Network (NOFN)** was launched in October 2011 and was renamed as **Bharat Net Project in 2015.**
  - It is the **world's largest rural broadband connectivity programme** using **Optical Fiber.** And also a flagship mission implemented by **Bharat Broadband Network Ltd. (BBNL).**
    - BBNL is a Special Purpose Vehicle (SPV) set up by the Government of India under the **Companies Act, 1956.**
    - It is being implemented by the Department of Telecommunication under the Ministry of Communications.
  - This project involves altering the **execution strategy and employing** Village Level Entrepreneurs (Udyamis) to provide fiber connections to the last mile, thereby **accelerating the connectivity process** over the next 2.5 years.
  - It is financed by the **Universal Service Obligation Fund (USOF).**
    - **USOF** ensures that there is **universal non-discriminatory access** to quality ICT (Information and Communications Technology) services at **economically efficient prices** to people in rural and remote areas.
    - It was created under the Ministry of Communications in 2002.
- **Objective**:
  - The project aims to **compete with private operators like Jio and Airtel** by leveraging its presence in rural areas where these private operators are less prominent.
  - The quality of service provided by BharatNet is **expected to play a role in attracting users.**
  - It aims to **connect all 640,000 villages** across India with high-speed internet access.
  - It seeks to bring broadband internet connectivity to each of the more than 2.5 lakh gram panchayats across the country.
  - The government intends to provide a minimum of **100 Mbps bandwidth at each Gram Panchayat through BharatNet** so that everyone, especially those in rural India, can access online services.

- **Revamped Approach:**
  - Similar to private telecom companies like **Airtel and Jio**, the revamped BharatNet model will **collaborate with Village Level Entrepreneurs (VLEs)** for the implementation of **fiber connections.**
  - Under this approach, the **government will bear the cost of extending the infrastructure** to homes, while the entrepreneurs **will contribute to the maintenance** and operation of home connections.
    - This partnership will work on **a 50:50 revenue-sharing basis.**
- **Phases of the Project:**
  - **First Phase:**
    - Provide more one lakh gram panchayats with broadband connectivity by laying **underground Optic Fibre Cable (OFC)** lines by December 2017.
  - **Second Phase:**
    - Provide connectivity to all the gram panchayats in the country using an optimal mix of underground fibre, fibre over power lines, radio and **satellite media by March 2019.**
  - **Third Phase:**
    - From 2019 to 2023, a state-of-the-art, future-proof network, **including fibre between districts and blocks**, with ring topology to provide redundancy would be created.

What are the Progress and Milestones of BharatNet Project?

- Previously, the challenge was to **extend fiber-based internet connections to households** after laying the infrastructure under the BharatNet project.
- To address this, a successful pilot was conducted in 60,000 villages, involving local partners to connect households.
- This success paved the way for the **involvement of Udyamis** in the project, expected to generate employment opportunities for around 250,000 people.
- Up to this point, the government has connected approximately 194,000 villages, providing internet **access to around 567,000 households.**
- Notably, 351,000 fiber connections have been **established using the new BharatNet Udyami project.**

What are the Challenges to the BharatNet Project?

- **Slow Progress and Implementation Delays:**
  - The project has faced significant delays in implementation, with the pace of progress being slower than anticipated.
  - Despite the government's efforts to connect villages, **only about 194,000 out of the targeted 640,000 villages** have been connected so far. This slow progress has hindered the **project's ability to bridge the** Digital Divide in rural areas.
- **Infrastructure and Connectivity Issues:**
  - The challenging terrain, **lack of proper roads, and logistical difficulties** have all contributed to delays in connecting villages. Connectivity issues have also led to poor service quality and interrupted internet access in some areas.
- **Technical and Operational Issues:**
  - Technical challenges such as signal quality, bandwidth limitations, and network downtime **have affected the overall user experience.**
  - Moreover, managing the operations, maintenance, and complaint resolution processes in a decentralized manner involving local entrepreneurs has proven to be complex and requires effective coordination.
- **Competition from Private Operators:**
  - The presence of private telecom operators like Jio and Airtel in some rural areas poses a challenge for BharatNet. These private operators have established their own network infrastructure and services, making it important for BharatNet to offer competitive pricing and reliable service quality to attract users.

Way Forward

- The BharatNet Project faces a combination of technical, financial, operational, and awareness-related challenges.
- Addressing these challenges is essential for the project's success in achieving its goal of providing digital connectivity to every corner of rural India.
- Efforts should be made to expedite the **implementation process by addressing bottlenecks and streamlining** the deployment of infrastructure. Collaborative efforts between government agencies, local bodies, and private partners can help speed up the process.
- Ensuring a consistent and sustainable **flow of funds is crucial for the project's success.** Clear financial planning, allocation, and management are necessary to support the project's expansion and maintenance activities.
- Focusing on improving the quality of service is vital to attract and retain users. This involves addressing technical issues, ensuring consistent bandwidth, and minimizing network downtime.