Digital Public Infrastructure

Why in news?

Recently held G20 meet adopted New Delhi Declaration, which recognised safe and trusted deployment of Digital Public Infrastructure (DPI) for enabling service delivery and innovation.

To know about G20 summit 2023, click here

What is DPI?

- Digital Public Infrastructure (DPI) is a set of technology building blocks that drive innovation, inclusion, and competition at scale, operating under open, transparent and participatory governance.
    - Examples – Internet, powered by common protocols like HTTP, HTML, and SMTP.
    - Telecom, with standards like GSM, SMS, CDMA, and IEEE 802.11.
- Digital system can be developed *either as all government or all private.*
- Interoperability, security, maintaining registries and continuous updates are its vital aspects.
- A strong DPI has 3 foundational systems—*identity, payments, and data exchange.*

Over 45% of global real-time payments happen in India and over 10 billion transactions happen on UPI each month.

State of India's Digital Economy Report 2023

It is released by ICRIER-Prosus Centre for Internet and Digital Economy (IPCIDE).

- Mobile Broadband Subscription – From 2014 to 2021, the rate of increase was over 40% annually.
- Disparity in digital tools usage – Its adoption is more prevalent among larger businesses.
- Usage of 3G mobile broadband - Despite the availability to 99% of Indians, not everyone is utilizing it.
- Rural-Urban divide - The number of active internet users in rural is only about half that in urban areas
- Gender divide- Only 29% of rural women use the internet while it is 40% for men.

Why DPI is crucial for India's digital future?

- **Higher growth potential** – India is the *2nd largest online market* in the world, providing cheapest data rates and has the *fastest growing fintech* landscape.
- **Digital storage and verification** - Products like the *Digital Locker, electronic KYC (eKYC)* and digital signature on demand (e-Sign) simplifies data storage and authorisation.
- **Digital Inclusion** - *UPI123Pay of RBI* gives feature phone owners an app that enables them with most UPI features.
- **Financial Inclusion** – The World Bank estimates that Aadhaar has facilitated financial inclusion.
    - The RBI has even enabled cardless cash withdrawals at ATMs through the UPI app.
- **Interoperable electronic payment system** – *Unified Payments Interface like BHIM app* has empowered for convenient transfer money from one bank account to another bank account digitally and in real-time.
- **Integration of global payments systems** - By early 2023, UPI was connected with Singapore's PayNow system and also with the United Arab Emirates, through Mashreq Bank's NEOPAY system
- **Direct Benefit Transfer (DBT)** – The *Jan Dhan-Aadhaar-Mobile trinity* has played a pivotal role in DBT of welfare subsidies thus reducing the leakages of money from government treasury.
- **Eliminates black markets** - DBT has eliminated the black marketing of commodities, with LPG cylinders being the most visible examples.
- **Economic Growth** – Digital economy dominates market factors and thereby driving India's economic growth.
    - The Economic Survey of 2023 suggested that India's DPI can add around 60-100 basis points to the country's potential GDP growth rate.

What are the challenges associated with digital transformation?

- **Lack of social infrastructure** – Usage gap is driven by poor levels of literacy, affordability and lack of digital skills.
- **Lack of physical infrastructure** – Deprived power supply impacts the quality of internet access.
- **Exclusion error** – Systemic lacunae in Aadhaar-based digitisation of social security programmes like biometric mismatches or non-possession of Aadhaar can result in denial of benefits.
- **Cyber-crimes and financial frauds** – This is due to weakness in the India DPI.

What are the initiatives taken by India in digital sphere?

- **Aadhaar** – Launched in 2009, Aadhaar is a 12 digit unique-identity number issued to all Indian residents based on the biometric and demographic data, and acts as a proof of residence.
- **Digital India initiative** – In 2015, the 'Digital India' initiative was launched to improve online infrastructure and increase internet accessibility among citizens.
- **PM-WANI** – It was launched in 2020 to provide ubiquitous and affordable internet

connectivity.

- **Unified Payments Interface –** UPI is a system that powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood.
- **CoWin –** CoWIN is a cloud-based IT solution for planning, implementation, monitoring, and evaluation of Covid-19 vaccination in India.
- **Network to villages** – The government has set a target to provide *4G network to all uncovered villages by 2024*.
- **Bhashini** – The government is building Bhashini, an AI powered language translation platform which will support digital inclusion in India's diverse languages.
- **India Stacks** – It is an online global public digital goods depository to ensure no one is left behind.
- **Sanchar Saathi portal** - It is an initiative of Department of Telecommunications to empower mobile subscribers and increase awareness about citizen centric Government initiatives.
- **Future prospects** – Sector specific DPIs such as account aggregators, Open Network for Digital Commerce, Ayushman Bharat Digital Mission and Agristack.

*India plans to build and maintain a **Global Digital Public Infrastructure Repository (GDPIR)**, a virtual repository of DPI for use by other G20 members and beyond.*

*India proposed the **One Future Alliance (OFA)**, a voluntary initiative aimed to build capacity, and provide technical assistance and funding support for implementing DPI in low and middle income countries.*

What lies ahead?

- Scale up local DPI initiatives by accelerating knowledge and resource sharing to ensure that no one is left behind.
- Prioritise user-centric design to reduce the risks arising from the use of technology.
- Foster equitable growth by monitoring the impact of DPIs on vulnerable consumers to prevent the deepening of gaps.

References

1. IE| Story of India's Digital Revolution
2. IE| Digital Inclusion

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