

DHRUVA – SCHEMES

NEWS: The **Department of Post** has released a comprehensive policy **document** titled **DHRUVA (Digital Hub for Reference and Unique Virtual Address)** laying out the **framework for a national Digital Address Digital Public Infrastructure (DPI)**.

WHAT'S IN THE NEWS?

Overview of DHRUVA

- **DHRUVA (Digital Hub for Reference and Unique Virtual Address)** is a visionary initiative aimed at creating a **national-level standardized digital addressing system**.
- It proposes to establish a **Digital Address Digital Public Infrastructure (DADPI)** that is **interoperable, secure, geo-coded**, and designed for seamless use across **public and private sectors**.

Core Concept: Address-as-a-Service (AaaS)

- DHRUVA is built upon the model of **Address-as-a-Service (AaaS)**, which treats address management as a **public utility**.
- AaaS provides a **comprehensive suite of services** related to **address data management**, enabling secure, efficient, and standardized interactions between:
 - **Citizens**
 - **Government departments**
 - **Private enterprises**
- The AaaS framework supports **data validation, standardization, real-time updates**, and **consent-based sharing**.

Aims and Objectives of DHRUVA

- To **establish address data management** as a **core component of public infrastructure**.
- To build a **resilient and inclusive ecosystem** for **address data sharing**, enabling **interoperability** between multiple systems and stakeholders.
- To ensure **smooth integration** of address data across:
 - Governance frameworks
 - E-governance platforms
 - Private sector services
- To promote **data-driven governance** while preserving **citizen privacy and autonomy**.

Key Features of DHRUVA

a. Digital Postal Index Number (DIGIPIN)

- A **geo-coded national addressing grid**, dividing India into **approx. 4m x 4m squares**.

- Each square (grid) is assigned a **unique 10-character alphanumeric code**, generated from its **latitude and longitude coordinates**.
- DIGIPIN functions as a **precise digital location identifier**, enabling high-resolution mapping of address points across India.

b. Interoperability

- The system is **interoperable across stakeholders**—government departments, citizens, and private enterprises.
- Facilitates **co-development of services** by multiple actors, promoting **inclusivity and efficiency** in governance and commerce.

c. Privacy and Security

- Ensures **consent-based data sharing**, meaning users maintain control over how and when their address data is shared.
- Integrates **privacy-by-design architecture**, reducing risks of surveillance, misuse, or unauthorized access.

Significance and Potential Impact

- **Improves data quality and consistency** by eliminating duplications, discrepancies, and informal addressing systems.
- Facilitates **seamless integration** of address data across various administrative systems and digital platforms.
- Promotes **citizen autonomy** through a **user-centric model** that allows individuals to manage their digital addresses.
- Enables **efficient delivery of public welfare schemes**, including targeted subsidies, pensions, and emergency relief.
- Enhances the capabilities of **e-commerce platforms, logistics providers, and financial services** through precise address resolution.

Applications Across Sectors

a. Catalyst for Innovation

- DHRUVA acts as a **digital backbone** for innovation in:
 - Urban planning and smart cities
 - Financial inclusion models
 - Address-linked digital identity frameworks
 - Tech startups offering location-based services

b. Improved Service Delivery

- Makes address data **publicly accessible and verifiable**, helping improve:
 - **Emergency services** like ambulances, police response, and disaster relief.

- **Citizen grievance redressal** through accurate identification of address locations.

c. Emergency Response

- The precise geo-coded addresses enable **faster dispatch and arrival** of emergency services to the correct location, especially in urban and rural remote areas.

d. Logistics and Last-Mile Delivery

- Solves **logistics bottlenecks** caused by ambiguous or incorrect addresses.
- Facilitates **timely and accurate deliveries** for e-commerce and courier services.

Digital Public Infrastructure (DPI): Foundational Context

a. Definition

- DPI refers to the set of **foundational digital platforms and services** provided by the public sector to enable:
 - **Essential public services**
 - **Digital inclusion**
 - **Seamless interactions** between individuals, businesses, and the state

b. India's DPI Architecture – India Stack

India has successfully built all **three pillars of DPI**, creating a model adopted by several other nations.

i. Digital Identity (Aadhaar)

- A unique, verifiable digital identity assigned to every citizen.
- Enables access to services such as banking, subsidies, healthcare, and digital signatures.

ii. Payments Infrastructure (UPI)

- Facilitates **real-time, secure, low-cost** digital transactions.
- Empowers **financial inclusion** and supports micro and macro economic activities.

iii. Data Exchange Systems (DigiLocker)

- Allows for **secure digital storage and sharing** of documents and records.
- Enables **interoperability across departments** and reduces paper-based bureaucracy.

DHRUVA as the Fourth Layer of DPI

- With its **DIGIPIN-based digital addressing grid**, DHRUVA is being seen as a potential **fourth foundational layer** of India's DPI stack.
- It complements **Aadhaar (identity)**, **UPI (transactions)**, and **DigiLocker (data exchange)** by providing a **precise, digital location infrastructure**.

Source: <https://www.theweek.in/wire-updates/business/2025/05/30/dcm114-biz-postal-dhruva.html>