

(A No. 135) Digital Public Infrastructure (DPI) & Data Sharing

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Agricultural data—from weather and soil quality to market prices—is often fragmented and locked in disparate systems. **Digital Public Infrastructure (DPI)** for agriculture aims to create a shared, open, and interoperable digital platform that facilitates the seamless, secure, and **consent-based exchange of data** among all stakeholders. This is a foundational, non-exclusionary digital ecosystem designed to unlock the true value of agricultural data for the benefit of the farmer.

The Indian DPI Framework: The AgriStack Vision

The Indian model (often referred to under the umbrella of **AgriStack**) is built on foundational digital registries and a robust data exchange layer:

The Three Foundational Registries

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1. **Farmers' Registry (Digital ID):** A comprehensive, verified database of farmers linked to demographics and land holdings, enabling targeted service delivery.
2. **Geo-referenced Village Maps:** Digitized, geo-spatial cadastral maps providing the essential **location layer** for every piece of agricultural data.
3. **Crop Sown Registry:** A dynamic, real-time database of crops sown on every land parcel, captured via mobile interfaces, crucial for yield estimation and insurance.

The Data Exchange Layer: ADex

- The **Agriculture Data Exchange (ADex)** acts as a **neutral data broker**.
- It facilitates the secure exchange of data between data providers (government, private companies) and data users (AgriTech startups, banks).
- It enforces a strict **consent-based mechanism** and adheres to the **Agriculture Data Management Framework (ADMF)** to protect farmer privacy.

The Transformative Value of Interoperable Data

By creating a standardized platform, DPI enables highly impactful, data-driven outcomes:

- **Financial Inclusion:** Banks gain access to verified data (land records, crop history) via the DPI, allowing for **data-driven credit assessment** and faster loan disbursement, reducing reliance on informal sources.
- **Precision Insurance:** The Geo-referenced Crop Sown Registry allows for accurate, **plot-level yield assessment**, enabling objective and quick settlement of crop insurance claims.
- **Targeted Advisory:** AgriTech companies can combine weather, soil, and pest data from the DPI to deliver **ultra-targeted, real-time advisories** to farmers on their mobile devices.
- **Innovation Catalyst:** By providing standardized, accessible data, DPI lowers the barrier to entry for AgriTech startups, fostering the development of new, farmer-centric solutions (Digital Public Goods).

Challenges to Universal Adoption

- **Trust and Privacy:** Overcome by implementing robust, technical and legal **consent frameworks** (ADMF) that ensure farmers retain data ownership.
- **Digital Literacy:** Addressed by designing simple, vernacular, and **voice-based mobile applications**.
- **Data Interoperability:** Solved by enforcing **open data standards** and protocols within the DPI framework.

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