सुजलाम् भारत

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जल जीवन मिशन

AI, DPI & Emerging Technologies

Building the Future of Rural Governance through Sujalam Bharat

Swati Meena Naik, Joint Secretary
National Jal Jeevan Mission

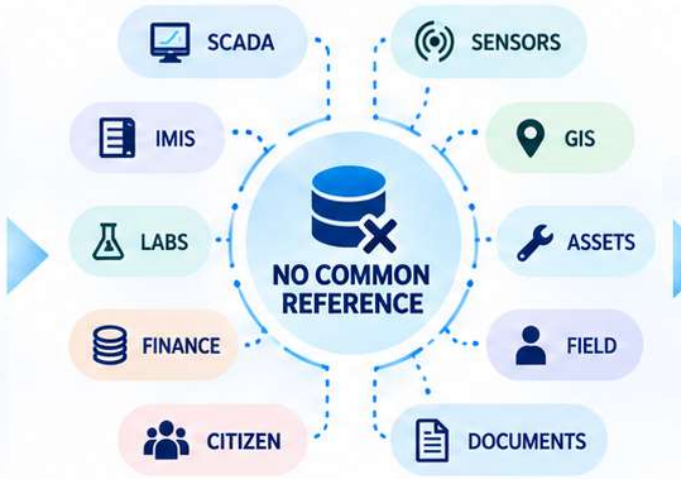
सत्यमेव जयते
पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार
Department of Drinking Water & Sanitation
Ministry of Jal Shakti
Government of India

25th September - 2026

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Why DPI for Drinking Water





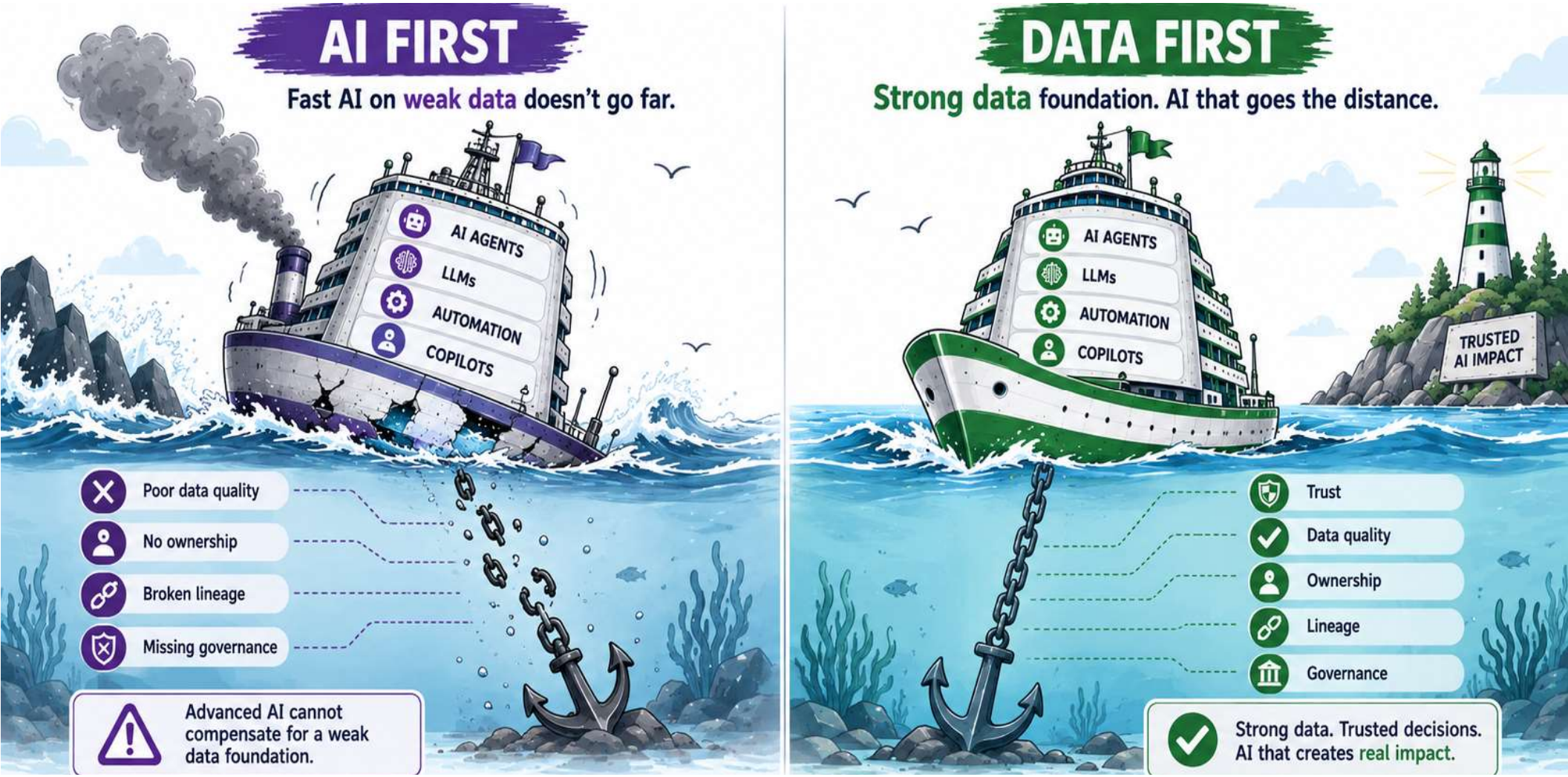
Fragmented Datasets?



How to understand Water as one data?

Data exists, Technology exists. But is the system interoperable?

AI IS ONLY AS STRONG AS THE DATA BENEATH IT



THE SCALE OF DRINKING WATER GOVERNANCE

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SUJALAM BHARAT

END to END mapping of rural water supply infrastructure

Digital Public Infrastructure for Rural Water Governance.



- **End-to-end mapping - from source to tap.**
- **Sujalam Bharat ID - water supply system and linked to one or more Sujal Gaon IDs / Service area ID**
- **National visibility of water supply assets**
- **Data driven governance**
- **National Asset Registry**
- **Data Sharing Policy**

DRINKING WATER STACK – DATA TO INTELLIGENCE

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5 Jal Seva Ankalan Intelligence Layer
Self assessment of functionality by the Community leading to continuous improvement

Governance Analytics | Real-time Dashboards | Alerts & Notifications | KPIs & Scorecards | AI Predictions & Risk Detection

4 Transaction Layer
Digital records powering operations and accountability

Daily Operations (O&M Logs) | Water Quality Monitoring | Asset Changes & Maintenance | User Grievances & Feedback | Event Streams & Audit Trail

3 Core DPI Layer
Registries & Digital Identities for trusted governance

- **RPWSS Infrastructure ID** — Digital identity for schemes, WSS, plants, reservoirs, pipelines & related infrastructure
- **Sujal Gaon ID** — Digital identity for villages / service communities
- **Asset Registry** — Registered and geo-tagged assets
- **Service Registry** — Service areas, communities served, and delivery relationships

2 Source-to-Tap Mapping
GIS-enabled view of the complete water journey

Source (River / Well) → Treatment Plant → Transmission (Pipelines) → Storage (Reservoir) → Distribution (Network) → Household Connections

1 Physical Water Supply System
The real-world foundation we digitize and empower





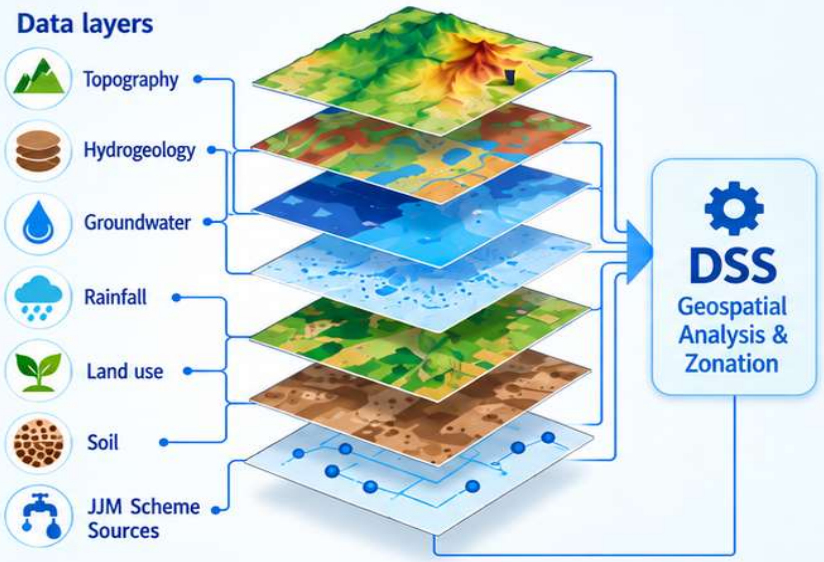
Sujalam Bharat

Foundational DPI capable of supporting AI and enabling participatory governance through citizen participation in decision-making process.

USE CASE : DECISION SUPPORT SYSTEM (DSS) FOR SOURCE SUSTAINABILITY

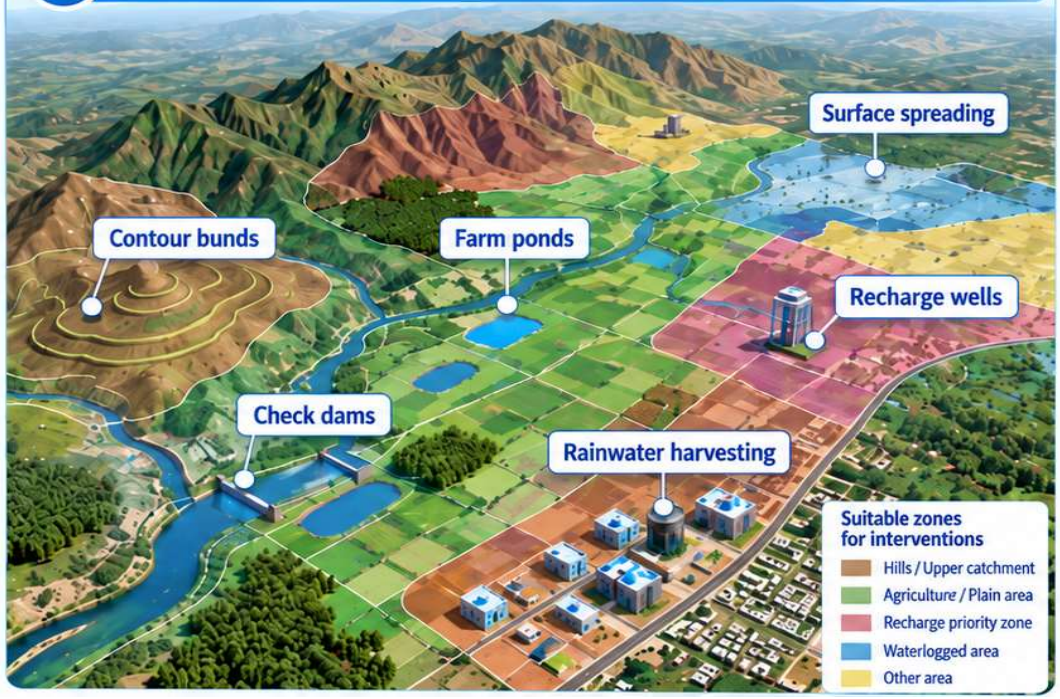
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1 Integrate & Analyse Geospatial Data



Analysis → Zonation → Planning

2 Zonation to Location-Specific Interventions



DSS Process Flow

1. Source criticality assessment
2. Alert on DSS
3. Field validation data entry
4. Time-series analysis for predictive source yield
5. Generating AR plans where action is to be taken

THE POWER OF A COMMON DIGITAL FOUNDATION

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One foundation. Multiple water ecosystems.

The value of DPI compounds through reuse.



DRINKING WATER	SANITATION	WASTEWATER	WATER QUALITY	SOURCE SUSTAINABILITY	CLIMATE RESILIENCE
Safe and reliable water for every home	Cleaner communities and healthier lives	Treatment and reuse for a cleaner environment	Monitoring for safe and healthy water	Conserve, recharge and protect our sources	Build resilience for a water-secure future

FROM PROGRAMME INFRASTRUCTURE → TO PUBLIC UTILITY INFRASTRUCTURE



INTELLIGENT PUBLIC DATA SYSTEMS

The highways for AI.

AI needs trusted, structured, contextual and continuously updated data.



FUTURE ROADMAP TO AGENTIC GOVERNANCE

From Information to Intelligence – From Intelligence to Impact



Potential Applications in Rural Water Governance

DTU Copilot
diagnoses functionality issues and likely causes

DWSM Validation Assistant
evidence-based validation support

Citizen Service Assistant
multilingual, voice-enabled service access

Predictive Risk Engine
flags vulnerable villages, schemes and assets

Digital Twin & Scenario Engine
simulates impacts before intervention



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"The value of a public data system is realised when data changes decisions, and decisions change outcomes."

THANK YOU

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